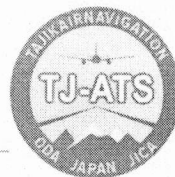


# TASKFORCE 3

## Minutes of Meeting



**Minutes of The First taskforce-3 Meeting (TF3M/1) for  
“The Project for Capacity Development in Air Traffic Services” in Tajikistan  
Dushanbe, 2 February 2017**

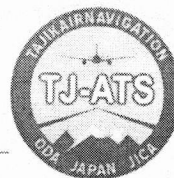
1. The First Taskforce-3 Meeting (TF3M/1) for “The Project for Capacity Development in Air Traffic Services” (hereinafter “the Project”) was held at Meeting room in ACC in Dushanbe at 14:00 to 16:00 on 2 Feb, 2017.
2. Mr. Khumorov Bakhtiyor, Taskforce-3 Leader and ATFM Center of TAN, and Project AIS Expert Mr. Tsuyoshi Shirai organized the meeting. Mr. Sheraliev Bakhtiyor (PM), Mr. Davlyatov Davlat (TF-1 Leader), Mr. Ilhom (TF-3 Sub-leader), and other four ATC officers and Mr. Yoshida (CA/TF-1/-3 Expert), Mr. Orita (PC) and Mr. Safovudin as interpreter attended this meeting.
3. Mr. Shirai as AIS Expert explained his activities as below.
  - a) Self-introduction of his background and expertise in Japan by Mr. Shirai.
  - b) Mr. Shirai oral explained an outline of AIS seminar on 9 February. Experts confirmed progress of the country report by Mr. Ilhom, venue arrangement, 10 to 20 audience will be expected.
  - c) Detail contents of “Catchup exercise on Aeronautical Chart drawing -1” from 13 to 17 February using En-route chart in Japan as sample. TF-3 Expert and CP confirmed 4 AIS officials those who were trained by GroupEAD will participate this training and maximum 4 observe could be accepted. Mr. Yoshida requested to assign En-Ru interpreter by TAN side and bring at least one lap-top for four participants.
  - d) Detail contents of “AIP Procedure Manual Development W/S” from 27 February to 2 March, as attached Program. TF-3 Expert and CP confirmed participant list, training venue, training materials, interpreters issue and other all necessary things for implementing this activity successfully.
4. Mr. Yoshida as TF-1/-3 Expert explained detail of FPD series trainings instead of FPD Expert.
  - a) Mr. Yoshida explained that there is strong relationship between series of AIS trainings and FPD trainings. TF-1 and -3 counterparts recombined the concept of those trainings.
  - b) Mr. Yoshida explained program of “Training on basic PANS-OPS Flight Procedure Design” from 10 April for 6 weeks, training will use Japanese sample maps due to WGS-84 map is not available in Tajikistan, and at the training, Flight Procedure will be designed by hand writing. He also explained the condition of certificate.
  - c) Mr. Yoshida explained PBN training opportunity for two officials in Japan. Completed successfully this basic PANS-OPS FPD training is condition to nominate this training.
  - d) Mr. Khumorov and Mr. Davlyatov have decided to assign Mr. Kuliev Ilkhom, Mr. Majidov Bekhruz, Mr. Tajibaev Akbarjon and Mr. Sativaldiev Sergey as candidate of PANS-OPS FPD training.
  - e) Mr. Yoshida provided sample GI of PBN training, and show the schedule (11 June to 29 July, 2017 for 2 Tajik officer) of PBN training in Japan, and he also explain nomination process will be start at middle of April 2017.
5. Mr. Yoshida as TF-1 Expert clarified the progress of preparation for his “Operation Manual Review Working Group formation meeting” and “Task Assignment Meeting for shearing knowledge of MAVA trainings” on 8 February and explained outline of “Follow-up training on aerodrome control” from 21 to 24 February. Mr. Davlyatov agrees to cooperate it accordingly.
6. Mr. Davlyatov confirmed the simulator room will be ready by 6 February for diverting Experts deskwork.

Dushanbe, 2 February, 2017

Khumorov Bakhtiyor  
Taskforce-3 Leader  
State Unitary Enterprise “TAJKAIRNAVIGATION”

Tsuyoshi Shirai  
TJ-ATS Project AIS Expert  
ATCA-Japan

Поиҳа оид ба баланд намудани потенциал дар самти хизматрасонии ҳаракати ҳавоӣ  
Проект по повышению потенциала в сфере обслуживания воздушного движения  
The Project for Capacity Development in Air Traffic Services



<http://www.tj-ats.com>

### **List of Attachment**

Attachment-A: Program of "Training on basic PANS-OPS Flight Procedure Design"

Attachment-B: Sample GI of Air Traffic Services Route and PBN Procedure Design in 2016

Training on Basic PANS-OPS Flight Procedure

Month	day	litems	Remarks	
April	2	Sun	Departing Japan	
	3	Mon	Arriving Dushanbe	
	4	Tue	Preparation for Training (1)	
	5	Wed	Preparation for Training (2)	
	6	Thu	Site Observation	To understand present activity
	7	Fri	Meeting with CP:	To get their knowledge level
	8	Sat		
	9	Sun		
	10	Mon	Introduction to FPD Basic course	Start Training
	11	Tue	Conventional Navigation (General) 1	
	12	Wed	Conventional Navigation (General) 2	
	13	Thu	Conventional Navigation (Approach) 1	
	14	Fri	Conventional Navigation (Approach) 2	
	15	Sat		
	16	Sun		
	17	Mon	Conventional Navigation (Approach) 3	
	18	Tue	Conventional Navigation (Approach) 4	
	19	Wed	Conventional Navigation (Approach) 5	
	20	Thu	Conventional Navigation (Approach) 6	
	21	Fri	Conventional Navigation (Approach) 7	Practice
	22	Sat		
	23	Sun		
	24	Mon		
	25	Tue	Conventional Navigation (Approach) 7	Practice
	26	Wed	Midterm Review	Test and Follow-up
	27	Thu	Alternative date	Follow-up
	28	Fri	Conventional Navigation (Departure) 1	
	29	Sat		
	30	Sun		
	May	1	Mon	Conventional Navigation (Departure) 2
2		Tue	Conventional Navigation (Departure) 3	
3		Wed	Conventional Navigation (Departure) 4	Practice
4		Thu	Conventional Navigation (Departure) 5	Practice
5		Fri	Conventional Navigation (Departure) 6	Practice
6		Sat		
7		Sun		
8		Mon	ILS Approach 1	General standards
9		Tue	ILS Approach 2	
10		Wed	ILS Approach 3	
11		Thu	ILS Approach 4	
12		Fri	ILS Approach 5	Practice
13		Sat		
14		Sun		
15		Mon	ILS Approach 6	Presentation of work
16		Tue	Others, SARPs 1	Airways
17		Wed	Others, SARPs 2	Wether Minimum
18		Thu	Others, SARPs 3	Publication
19		Fri	Final Exam.	Assessment
20		Sat		
21		Sun		
22		Mon	Review, Follow-up	
23		Tue	Expert's Comment, Presentation of Certification	
24		Wed	Guidline for next OJT Session	
25		Thu	Report to PM, JICA	
26		Fri	Pack up for returning	
27		Sat	Departing Dushanbe	
28		Sun	Retuning Japan	



# Knowledge Co-Creation Program (Group & Region Focus)

## GENERAL INFORMATION ON

### Air Traffic Services Route and PBN Procedure Design 課題別研修「高性能・高効率な飛行方式の設計」 JFY 2016

NO. J16-04417 / ID. 1684553

Course Period in Japan: July 31<sup>st</sup> 2016 to September 17<sup>th</sup> 2016

This information pertains to one of the JICA Knowledge Co-Creation Program (Group & Region Focus) of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

'JICA Knowledge Co-Creation Program (KCCP)' as a New Start

In the Development Cooperation Charter which was released from the Japanese Cabinet on February 2015, it is clearly pointed out that *"In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together."* We believe that this 'Knowledge Co-Creation Program' will serve as a center of mutual learning process.



## Minutes of The Taskforce-1/3 Meeting for “The Project for Capacity Development in Air Traffic Services” in Tajikistan Dushanbe, 03 March 2017

The TF1 and 3 Meeting for “The Project for Capacity Development in Air Traffic Services” (hereinafter “the Project”) was held at 10:20-13:11 on 03 March 2017 in the ACC Meeting Room.

Mr. Shambiev Alisher, First Deputy Director of TAN, Mr. Sheraliev Bakhtiyor (Project Manager), Mr. Davlyatov (TF-1 Leader), Mr. Khumorov (TF-3 Leader), Mr. Yoshida (CA, TF-1/-3), Mr. Shiral (TF-3), Mr. Kjuseynov Payrav, Mr. Rajabov Davron, Mr. Mansuri, Mr. Orita(PC), Mr. Safovudin have attended this meeting.

This meeting was the reporting opportunity of implemented TF-1 and 3 activities by Experts and coordinate their next mission schedule by Taskforces in accordance with the Sub-activity list and AWP.

### Agenda 1 (45 Min.):

Mr. Yoshida briefly mentioned that he had a Manual Review related meetings on 8 Feb.

He explained the Follow-up training on Aerodrome Control from 21 to 24 Feb. The positioning of this "training" with a certificate was changed to the “seminar” without certificate for keeping equality with participants due to the cancelation of a flydubai, and training time was shortened from full to half day without brakes by PM's request at the Project Coordination Meeting on 20 Feb. He minutely explained several contents on “Introduction of ATS seminar in Japan” with using ppt materials. (This part has taken 35 Min.)

He briefly mentioned that Mr. Shiral had one day AIS seminar on 9 Feb.

He explained that Mr. Shirai's had the Catch-up exercise on aeronautical chart drawing-1 from 13 to 17 Feb. He explained AIP chart has a lot of varieties, but Mr. Shirai used Japanese AIP data in DVD for making an En-route chart as exercise. Mr. Yoshida said that this training was very nice session despite the participants have had difficulties for using a pencil, compass and divider something like that at beginning, but Mr. Shirai taught them it. DDG insisted on different opinions that all TAN's ATC had knowledge and skills of such chart. This differential on understanding between Mr. Yoshida and DDG was not settled at the meeting. DDG asked him about that after this training participants can draw the AIP chart? Mr. Yoshida answered him Yes.

He said that the Agenda-1 has several more activities, but he skipped a report on the outcome of "Manual Review related meetings", "AIS seminar" and "NOTAM/AIP Procedure Development Workshop", because he said that “today is the final day of experts in their assignment term”, then moved on to the Agenda-2.

Mr. Yoshida and Mr. Shirai didn't prepare the written reports or memos of activities at this meeting, but those reports will be attached as appendix-A to E to this M/M.

### Agenda-2,3,4 (10 Min.):

Mr. Yoshida provided his next mission schedule on a paper and verbally explained it.

He explained that the OJT-I instructor training was initially planned for 5 days long, but he has tried to shorten this for 3 days without contents changes for participant's conveniences. He said that this is hard for participants and for Experts, too.

Mr. Mansuri said that he has comments and request changes on TF1 Expert activities, he promised to send it by e-mail later. He asked Mr. Yoshida that may he give comments on TF-3 part instead or Mr. Khumorov. Mr. Yoshida answered him “ATC also”.

Mr. Yoshida provided Mr. Yamane's next mission schedule on paper, then briefly explained it.

Mr. Yoshida explained that Mr. Shirai is planning to have twice exercises and twice workshops in his next mission, and he will send the detail activity plan (next mission schedule?) one month before his arrival in June 19. No written information was provided for his next mission schedule.



### Agenda-5 (20 Min)

Mr. Yoshida requested TAN to choose one software from MS VISIO 2016 or CorelDraw Graphic Suit for drawing the map and making up the AIP in the further AIS Expert's activities. PM answered that TAN has had both software, therefore TAN side has frequently asked that Expert side may select appropriate one. DDG again asked which software AIS Experts can recommend or most suitable for TAN or familiarized by him. Mr. Yoshida answered that AIS expert in Japan uses Adobe illustrator, and TAN side may select one from VISIO or CorelDraw by the end of June.

This explanation confused TAN side, then PM and DDG directly asked Mr. Shirai which software you have a skill to teach and could be recommended. Expert team talked in Japanese for a while, then finally they selected VISIO on 3rd time mission of Mr. Shirai in February 2018. TAN side expressed their anxiety of late training timing, but accepted this software selection, and this issue was settled.

In the plan of Sub-activity list which was agreed by TAN and Expert team on 20 Feb meeting, this software will be determined by Expert side at the Catch-up exercise on aeronautical chart drawing-2 in July 2017.

It will be revised by AIS Expert before JCC/2.

### Q&A session (1H 40 Min.)

a) PM notified Mr. Yoshida that Khumorov team had complains about very late request on an airport entering pass for Ms. Nilfal (Jp/Ru interpreter) for AIP/NOTAM Procedure Development Workshop, because Expert team requested it at late afternoon on Friday in previous week for next Monday morning entrance, though usually it takes one or two weeks even one day pass. Mr. Yoshida made an excuse for Nilfal case, it was very special because just few days before Experts had made a contract with her and he thought that one day pass is easy to get. TAN side explained again that it takes one to two weeks for obtaining the entering pass, because it is airport company procedure, not TAN internal procedure. TAN and Expert team agreed that it should be done at least two weeks before for all visitors (not only Experts), and this issue was settled.

b) PM and DDG asked presentation materials, contents and detail information on each activities by 3 weeks before for preparing proper participation by TAN's administration side, because TAN's management need to clarify the value by the training contents for allocating proper participants.

Mr. Yoshida answered that now Expert has a rule to send the detail activity plan (next mission schedule?) before one month, but PM requested him that the activity plan (a schedule for next Expert's mission) in accordance with agreed Sub-activity list is required 1.5 months before. It is not difficult because the Expert mission term will be scheduled in accordance with agreed Sub-activity list, and Mr. Yoshida said Yes it based on AWP (Annual Working Plan). PM again requested him that the training materials (presentation files or contents) and detail information (program and who is expected to attend, equivalent as an invitation/notification letter) are required 3 weeks before for proper coordination by TAN.

PM asked Mr. Orita that the Sub-activity list is changeable or not. Mr. Orita answered him Yes, it is possible to change after making consensus by taskforce.

Mr. Yoshida confirmed that Expert team send a draft schedule 6 week before and finalized it with each taskforce until 4 weeks before and the detail information will be informed by Experts 3 weeks before.

Due date of the training materials (presentation files or contents) is not confirmed at this time, but at the end Q&A session, both side agree it will be sent 3 weeks before for TAN management needs.

c) PM requested Mr. Yoshida to make written reports on their activities instead of orally reporting like today's Agenda-1, because TAN have to submit monthly report to MoT and it is required to involve the project outcome. Mr. Yoshida said that "all right you need the progress report, we are working here please request us directly". PM said that "No, No, we need written reports on what you have done when you finished your mission". Mr. Yoshida replied that we have rule to make such a reporting meeting and send M/M to JICA HQ at each mission. PM again requested that TAN needs the written reports from the Experts immediately after each activities and full report by each Expert at the end of their mission. Mr. Yoshida said that "usually we Experts have made a memo on each activity, so we can".

PM said "good", then this issue was settled.



d) PM requested Experts to disclose the evaluation list (result of examination for the certification) of participants in each training to TF leaders, however, Mr. Yoshida misunderstood it and handed out the evaluation form (questioner for evaluating training and lecture by participants) which Experts did.

It confused PM and he said it is evaluation the training contents and lecture by participants, we need it.

PM again requested him to submit the test result to TF leaders, Mr. Yoshida explained that we usually do the test examination, if participants didn't get 70% pass Expert didn't provide certificates.

Mr. Orita clarified that Expert should include the result of test for certification (Expert evaluated participants) and summary of questioner (Participant evaluated Training contents and Experts) in the report on each activity. Mr. Yoshida said it is very good idea, but as for the test evaluation in activities in February, there was no examination, just evaluate "good" or "no good" at the outcome of the chart drawing-1 training, and the F/U training AD control was changed one way information seminar, due to the flydubai "accident" (it was a cancelation) and snow. TAN-side understood that the questioner summary for five activities in February will be reported soon by written report which Mr. Yoshida said that "we can" at previous discussion c), but the test result for certification was not applicable at those activities.

e) Mr. Orita asked that newly repeating "F/U training AD control" in 11-14 April will be same contents as the seminar in February? Mr. Yoshida answered "Yes", only the positioning was changed from "training" to "seminar" because of several persons cannot attend it due to the flydubai "accident"(cancelation), if this F/U training with certificate were opened in February, 6 persons cannot attend it, it was not an equal.

Mr. Yoshida also said that he is trying to provide fairly same chance to all 18 ATCs.

Mr. Mansuri recognized the contents of both of "seminar" in February and "training" in April are same.

DDG ask Mr. Yoshida what kind of trainings you are planning and whom are expected to attend it.

Mr. Yoshida explained that 18ATCs expected to attend for F/U training AD (repeating in April), Approach and ACC. Mr. Orita supplemented that the trainings in MAVA are 2 to 3 Months training, however, Mr. Yoshida is planning to compress it to 4days lecture for teaching his experience in Japan and result of his study on TAN's procedure, therefor he is expecting all 18ATCs participations for three F/U trainings.

Mr. Mansuri said your presentation contents in F/U "seminar" AD was good, but it was just introducing Japanese system and history. Our organization need what is different among our system, ICAO system and Japanese system. Our ATC doesn't need to know the history of Japanese system because there is quite differentials in technology and volume of traffic. Also, it is difficult how you can evaluate and certify the participants at the end of training which was only introducing Japanese system.

Mr. Yoshida answered that teach me from your side how different the procedure between TAN and ICAO system, and the training program will be flexible and changeable.

Mr. Mansuri said that such training is one day or two days enough. DDG said that one day is possible for ATC those who on the shift, but more days are difficult, and we TAN management need to evaluate training contents 3 weeks before for appropriate coordination on participation.

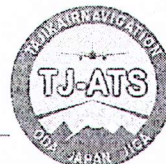
Mr. Yoshida said that It is difficult to shorten 5days session to 1day, but I can divide it 2days here and rest of 2days there, this is I mean "flexible".

PM asked Mr. Yoshida that the certification (usually participants will be evaluated by the test for obtaining new knowledge or increase capacity comply with something standard) is necessary for such training which is mainly consisted introduction of Japanese system? Mr. Yoshida didn't straightly answer it, but he said that "this certification means participants got my idea".

DDG asked Mr. Yoshida that during this lecture (F/U seminar AD in February), our participants how working with you, active participation or just sitting silent? Mr. Yoshida replied that talking each other is important, but everyone said we have no responsibility to revise the procedure something like that. The Workshop and Seminar, no responsibility we have, but we need to talk about it.

Due to his un-straight answer, TAN management was not able to grasp what kind of discussion and Q&As participants and Experts had. DDG finally concluded it TAN management needs more information and needs some steps for getting more result from TF1 activities.





f) DDG pointed out that due to the English language barrier in Experts side, he recommended to use the interpreter somebody from our (TAN) persons for translating some technical words for full understanding by participants. Mr. Yoshida said that "how about the TAN's interpreter?". DDG answered, no we have only two English teachers (the meaning is they are difficult to translate technical word), and one is pregnant now. This discussion was not reached conclusion.

g) Mr. Yoshida said that our Expert activities is increasing. You have better to keep good coordination for each expert no overwrapping, I am requesting 18ATC here, maybe AIS four, PBN four and training start more, it very basic issue avoiding shortage of working ATCs.

h) Mr. Yoshida said that this is my plan for next mission, I want to confirm these draft activity plan (next mission schedule), I will send you 6 weeks before.

Please return your opinion before 4 weeks, then I send it to JICA HQ and we need finalized it 3 weeks before.

The Contents is 1 week? or 3-4 days you said?

PM strongly denied it as "Contents with Training program and Materials are 3 weeks before".

Mr. Yoshida said that the detail plan (program) is 3 weeks I understood, the contents is just few days before.

PM strongly denied it again "Not, few days, 3 weeks before".

Mr. Yoshida said that "all right", detail activity plan (schedule) and training contents same 3 weeks before?

PM again said that not only activity plan (schedule), the training program (equivalent of invitation/notification letter) and the training materials (contents in ppt or pdf) are 3 weeks before.

Mr. Yoshida finally said "Yes", and the pass request (airport entering pass for all visitors) is 2 weeks before.

PM said "Yes".

Mr. Yoshida said that "all right", and after finalizing with JICA HQ, it will be 3 weeks before, we have to buy very expensive air ticket something like that.

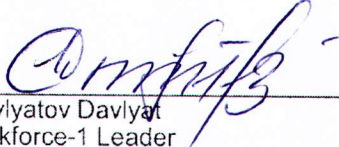
This issue which was starting from discussion b) was finally settled as above.

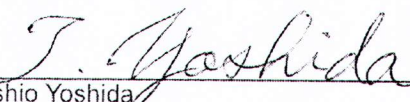
Mr. Yoshida requested shift working assignment in March for ATFM and briefing section staffs only.


Mr. Yoshida made closing the meeting and he stated that it was long long time but very fruitful meeting.

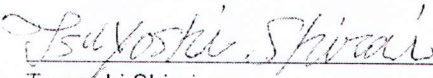
Expert team didn't coordinate how to agree on this Meeting Minutes by taskforce leaders in the meeting.

Dushanbe, 03 March 2017

  
\_\_\_\_\_  
Davlyatov Davlyat  
Taskforce-1 Leader  
TAJIKAIRNAVIGATION

  
\_\_\_\_\_  
Toshio Yoshida  
TJ-ATS Project Chief Advisor, TF-1/3 Expert  
ATCA-Japan

  
\_\_\_\_\_  
Khumorov Bakhtiyor  
Taskforce-3 Leader

  
\_\_\_\_\_  
Tsuyoshi Shirai  
TF-3 AIS Expert

Attachment:

1. Draft schedule on TF1 ATC-1 Expert (Mr. Yoshida)
  2. Draft schedule on FPD Expert (Mr. Yamane)
  3. Activity Evaluation Form
  - A. Report on activity "Operation Manual Review Working Group formation meeting + Shearing findings"
  - B. Report on activity "Follow-up training on Aerodrome Control"
  - C. Report on activity "AIS Seminar"
  - D. Report on activity "Catchup exercise on Aeronautical Chart Drawing -1"
  - E. Report on activity "NOTAM & AIP Procedure Manual Development Workshop"
- (1-3: distributed on paper at the meeting, A-E: submitted later with this M/M)

Attachment - 1  
 This is not provided version on 13 Mar  
 (updated version on 13 Mar)

## TF-1 Activity Plan

By TF-1 ATC Expert (1): Mr. Yoshida

Month	day		Items		Remarks
			AM	PM	
Mar	26	Sun	Departing Japan		
	27	Mon		Arriving Dushanbe	
	28	Tue	Contract with Local Company		
	29	Wed	Pre Coordination for Workshop	TF1/2M	TF Meeting
	30	Thu	Workshop on Op. Man. Review and Task Assig. (AD)		Workshop
	31	Fri	Report making and Planning for next Workshop		
April	1	Sat			
	2	Sun			
	3	Mon		Orientation for New Expert	(Mr. Yamane Arrival)
	4	Tue	TF3M (TF3CP, Yamane, Yoshida)		
	5	Wed	OJT-Instructors Training, Day-1	OJT-Instructors Training, Day-1	Lectures
	6	Thu	OJT-Instructors Training, Day-2	OJT-Instructors Training, Day-2	
	7	Fri	OJT-Instructors Training, Day-3	OJT-Instructors Training, Day-3	Exercise, Certification
	8	Sat			
	9	Sun			
	10	Mon	TF-3/PBN Opening		(PANS OPS TRN Start)
	11	Tue	Follow up Training (Aerodrome), Day-1		Lectures
	12	Wed	Follow up Training (Aerodrome), Day-2		
	13	Thu	Follow up Training (Aerodrome), Day-3		
	14	Fri	Follow up Training (Aerodrome), Day-4		Certification
	15	Sat			
	16	Sun			
	17	Mon	2nd Joint Coordination Committee		JCC2
	18	Tue	Report making		
	19	Wed	Pre Coordination for Workshop		
	20	Thu	Workshop on Op. Man. Review and Task Assig. (APC)		Workshop
	21	Fri	Report making and Planning for next Workshop		
	22	Sat			
	23	Sun			
	24	Mon	Follow up Training (Approach), Day-1		Lectures
	25	Tue	Follow up Training (Approach), Day-2		
	26	Wed	Follow up Training (Approach), Day-3		
	27	Thu	Follow up Training (Approach), Day-4		Certification
	28	Fri	TF1/2M (TF1/2 CP, Experts)	Report/JICA Office	TF Meeting
	29	Sat			
	30	Sun			(Mr. Watanabe Leave)
May	1	Mon	(Holiday)		
	2	Tue	Pre Coordination for Workshop		
	3	Wed	Workshop on Op. Man. Review and Task Assig. (ACC)		Workshop
	4	Thu	Report making and Planning for next Workshop		
	5	Fri		Payment for Local Company	
	6	Sat			(Pack up for returning)
	7	Sun	Departing Dushanbe		
	8	Mon	Retuning Japan		

Attachment -2  
 This is not provided version on  
 (updated version on 13 Mar) 3 Mar

TF-3 Activity Plan

By TF-3 FPD Expert: Mr. Yamane

### Training on Basic PANS-OPS Flight Procedure

Month	day		Items	Remarks
April	2	Sun	Departing Japan	
	3	Mon	Arriving Dushanbe	
	4	Tue	Preparation for Training (1)	
	5	Wed	Preparation for Training (2)	
	6	Thu	Site Observation	To understand present activity
	7	Fri	Meeting with CP:	To get their knowledge level
	8	Sat		
	9	Sun		
	10	Mon	Introduction to FPD Basic course	Start Training
	11	Tue	Conventional Navigation (General) 1	
	12	Wed	Conventional Navigation (General) 2	
	13	Thu	Conventional Navigation (Approach) 1	
	14	Fri	Conventional Navigation (Approach) 2	
	15	Sat		
	16	Sun		
	17	Mon	Conventional Navigation (Approach) 3	
	18	Tue	Conventional Navigation (Approach) 4	
	19	Wed	Conventional Navigation (Approach) 5	
	20	Thu	Conventional Navigation (Approach) 6	
	21	Fri	Conventional Navigation (Approach) 7	Practice
	22	Sat		
	23	Sun		
	24	Mon		
	25	Tue	Conventional Navigation (Approach) 7	Practice
	26	Wed	Midterm Review	Test and Follow-up
	27	Thu	Alternative date	Follow-up
	28	Fri	Conventional Navigation (Departure) 1	
	29	Sat		
	30	Sun		
May	1	Mon	(Holiday)	
	2	Tue	Conventional Navigation (Departure) 2	
	3	Wed	Conventional Navigation (Departure) 3	Practice
	4	Thu	Conventional Navigation (Departure) 4	Practice
	5	Fri	Conventional Navigation (Departure) 5	Practice
	6	Sat		
	7	Sun		
	8	Mon	ILS Approach 1	General standards
	9	Tue	(Holiday)	
	10	Wed	ILS Approach 2	
	11	Thu	ILS Approach 3	
	12	Fri	ILS Approach 4	Practice
	13	Sat		
	14	Sun		
	15	Mon	ILS Approach 5	Presentation of work
	16	Tue	Others, SARPs 1	Airways
	17	Wed	Others, SARPs 2	Wether Minimum
	18	Thu	Others, SARPs 3	Publication
	19	Fri	Final Exam.	Assessment
	20	Sat		
	21	Sun		
	22	Mon	Review, Follow-up	
	23	Tue	Expert's Comment, Presentation of Certification	
	24	Wed	Guidline for next OJT Session	
	25	Thu	Report to PM, JICA	
	26	Fri	Pack up for returning	
	27	Sat	Departing Dushanbe	
	28	Sun	Retuning Japan	



Attachment A-E are not finalized on 24 Apr!

## Minutes of The Taskforce-3 Meeting for “The Project for Capacity Development in Air Traffic Services” in Tajikistan Dushanbe, 17 April 2017

The 3<sup>rd</sup> TF-3 Meeting for “The Project for Capacity Development in Air Traffic Services” (hereinafter “the Project”) was held at 15:00-18:00 on 17 April 2017 in the ACC New Simulator Room.

Mr. Shambiev Alisher, First Deputy Director of TAN, Mr. Sheraliev Bakhtiyor (Project Manager), Mr. Khumorov (TF-3 Leader), Mr. Ilhom (TF-3 Sub-leader), Mr. Yamane (TF-3 FPD Expert), Mr. Mansuri (TF-1 Sub-leader), Ms. Pegushina Tatyana (Chief Engineer of Airdrome Dushanbe), Mr. Mehrabonov Aslam (Engineer of Airdrome), Mr. Orita (PC), Mr. Safovudin as an interpreter and all participants and observers of PANS-OPS FPD training attended this meeting.

### Agenda;

- a) Explanation of the whole picture of TF3 activities
- b) What is WGS-84 and RTK-GPS
- c) Explanation of Request of quotation for Step-1 and Step-2 (including Map) to TajikGeodegy
- d) Discussion on WGS-84 among TAN, Project Experts and Airport Company
- f) TF3 Sub-Activity List

The first part of this meeting was decision making opportunity by TAN for remaining TF-3 activities and evaluating TAN’s requests (SID/STAR, VISIO earlier), and discussing newly considering WGS-84 survey components introducing into TF-3 activity 3-5 (OJT-FPD) for improving outcome quality of FPD Expert’s activities.

Mr. Orita explained Agenda-a) as attachment-1 for focusing harmonization between AIS (AIP chart drawing part) and FPD activities based on TAN’s training needs which had been requested by TF3 Leader by e-mail on 10<sup>th</sup> March, and evaluation of three AIS activities in February by AIS Expert reports. Due to the completion reports on three AIS activities in February and up-dated Sub-Activity List on TF3 were not provided by AIS Expert timely, TAN management couldn’t evaluate the actual outcomes of his activities and his further plans. Thus, TF3 determined to revise the Sub-Activity List by TAN side, based on participant’s comments, TF3’s requirements and JICA’s evaluation on the performance of TF3 Experts.

TF3 hoped that the AIP chart exercise for SID/STAR, missed approach and holding charts using by VISIO for draft AIP in DYU by FPD Expert (Mr. Yamane) on late August 2017 instead of the En-route chart by hand writing in June-July, and VISIO in Feb 2018 by AIS Expert (Mr. Shirai), because of the En-route chart by hand writing again is not appropriate approach to the participants those who will be required to making Project outcomes as draft AIPs in model airport (AIP for En-route (RNAV route) is not required).

On behalf of JICA, Mr. Orita has promised to coordinate it accordingly with consultants through JICA HQ, as soon as possible. TF3 confirmed that the VISIO software for participants will be prepared by TAN side, then candidates will try to familiarize with it before late August training by FPD Expert.

Regarding newly requested WGS-84 issue as Agenda-d), triple sides clarifications such as “Potential of Tajik Geodegy (TG) and cost for surveillance works and map” at first, “TAN’s actual needs” at second and “Resource of consultant” at the last are required by JICA HQ side before making decision as a Table-1 below.

Table-1: Clarifications and Time Line for WGS-84

Pre-Conditionality in Tajik Geodesy			TAN’s needs		JICA HQ	Expert Resources	FPD Expert	Coordinate by JICA HQ	Additional Cost for Consultant	Project Result
GPS-Origin & PRK-GPS	Budget constraint	1/50k, map	Scale	Target airports	Decision (if)		M/M	JICA HQ		TF3 AIS/FPD Outcomes
No available	Expensive	Expensive	eTOD	All 4	No Accept	N/A	N/A	N/A	0	low quality
Available	Expected	Expected	PCAS	Model	Accept	Other consultant	N/A	Contract	50.000\$?	fare /cost
	Fair or low	Fair or low	+A3&2 obstacle	Airport Only		TF3 FPD Expert	Add	negotiation	1.5 M/M?	fare /cost
						ATCA=J	Offset	w/ATCA-J	0	hi quality
Time Line:		13 Mar - 4 April	5 - 7 April			11-16 April		17-18 April	(official estimation by 1 May )	

Mr. Orita explained Agenda-b) as attachment-1 based on his preliminary survey on TG in 4th April about possibility of RTK-GPS and reliability of GPS origin in Dushanbe. Also, he reported that JICA HQ has positive position to allocate budget for introducing minimum part of WGS-84 components into TF3 activity 3-5 (OJT FPD) for improving the quality of FPD Expert's outcome. Mr. Orita explained that if TAN' needs could match the JICA side officer and additional cost will be affordable, we can forward next step to make a Request for Quotation (RFQ) to TG by him and coordinate consultant resources by JICA HQ side. TAN Management welcomed this appropriate decision by JICA HQ and TF3 (CP & FPD Expert) agreed to proceed it for improving quality of draft AIP in the model airport Dushanbe. The representative of Dushanbe International Airport Company (DIA) had been shared background what TAN and Project planning to do thorough this discussion

Mr. Orita explained Step-1 in agenda-c) as the attachment-1 to DIA for implementing WGS-84 activity smoothly by the Project and TG, then the representative of DIA had promised to provide necessary support for making PACS from the 1<sup>st</sup> week of June, if JICA side coordination will be successfully done. DIA requested Mr. Orita that a data format of PACS to be translated in Russian for understanding geodesy Expert in DIA side. Mr. Orita promised to provide it within this week. DIA recommended Mr. Orita to obtain the several data from consultant of JICA's grant Project on installing ILS and constricting a cargo terminal. Mr. Orita immediately obtained information from NIPPON KOEI field office on 18 April. All participants agreed the contents of Step-1, and meeting made consensus to proceed it. Mr. Yamane agree to support this activity by extending his stay for 2weeks in this mission, because of the output of WGS-84 survey is mandatory required for improving quality of his outcome.

Mr. Yamane explained Step-2a(Area3) and 2b(Area2) in Agenda-c) as the attachment-A to the TF2 counterparts based on his filed observation on the obstacles under the approach and departure pass in the last Sunday. He has estimated 20 obstacles on the West and 30 obstacles on the East of the runway should be measured the geoid height by GPS receiver and Total Station (TS). Also, he estimated around 30 reference points and obstacles in aerodrome Dushanbe should be measured by TS from PACSs. Mr. Yamane explained that he can provide technical cooperation to TAN, TG and DIA's counterpart in coming September, if JICA HQ allowed his additional missions. After confirming JICA side coordination, He promised to prepare the format (Obstacle Database by Excel) for reference points and obstacles in Area-3 and obstacles in Area-2. All participants agreed the contents of Step-2a/b, and meeting made consensus to proceed it.

TF3 discussed revised Sub-activity list accordingly the discussion above. DDG requested to conduct Step-2 earlier, but for avoiding participant's overwrap, Step-1 in early June, PBN IFPD training in Japan from 11 June to end of July, next AIS series W/S on first half of August, AIP chart drawing for SID/STAR by VISIO on last half of August, Step-2 in September and FPD-OJT in November to December were agreed by TF3 as an Attachment-2. Regarding "WGS-84 data survey remote oversight" for three regional airports, implementation date will be changed due to TAN's budget situation and estimation by TG. Responding this, Mr. Orita explained that it is possible within Project term till end of 2018, Expert will support it remotely from Dushanbe or Japan.

Mr. Orita promised to make RFQ for Step-1 and Step-2 to TG before 24 April, and TAN will request them to reply no later than 1<sup>st</sup> May with Mr. Yamane's help. TAN Management, Project and TF3 expected final decision by JICA for WGS-84 issue immediately after the TG's estimation available, then necessary budget for Step-1 and 2 will be allocated to Project.

Dushanbe, 17 April 2017



Khumorov Bakhtiyor  
Taskforce-3 Leader  
TAJIKAIRNAVIGATION



Atsushi Yamane  
TJ-ATS Project TF-3 Expert  
ATCA-Japan

Attachment:

1. Presentation file by Project
2. TF-3 Sub-Activity List



## Minutes of The Taskforce-3 Meeting for “The Project for Capacity Development in Air Traffic Services” in Tajikistan Dushanbe, 08 June 2017

The 4<sup>th</sup> TF-3 Meeting for “The Project for Capacity Development in Air Traffic Services” (hereinafter “the Project”) was held at 14:00 – 16:00 on 8 June 2017 in the ACC New Simulator Room.

Mr. Sheraliev Bakhtiyor (Project Manager/TF-2 Leader), Mr. Davlyatov Davlyat (TF-1 Leader), Mr. Muhamadaminshoev Firuz (Replacement of TF-3 Leader), Mr. Ilhom Kuliev (TF-3 Sub-leader), Mr. Atsushi Yamane (TF-3 FPD Expert) and Mr. Orita (PC) attended this meeting.

This meeting was the reporting and coordinating opportunity of TF-3 activities by Expert with TF-3 members for implemented activities in the due period and next mission in the Sub-activity Plan and AWP 2017, according to the agenda below.

### **Agenda:**

- a) Summary of Activity by TF-3 FPD Expert from 12nd April till 8 June
- b) Summary report about “Training on Basic PANS-OPS Flight Procedure Design”
- c) Summary report about “WGS-84 data survey Step-1”
- d) Introduction and explanation about next activities by FPD Expert of “Catchup exercise on Aeronautical Chart Drawing-2” and “WGS-84 data survey (Step-2a/b)”,
- e) Introduction and explanation about next activities by FPD Expert of “OJT on Flight Procedure Design”,
- f) Introduction and explanation about next activities by AIS Expert of “NOTAM & AIP procedure Manual development W/S”, and
- g) Other business

### **Agenda a)**

JICA Expert, Mr. Yamane explained the summary of activities in this period in TF-3 by showing the attachment-1, such as “Training on basic PANS-OPS Flight Procedure Design” and “WGS-84 data survey Step-1” which were conducted with proper attendances on schedule and completed successfully.

### **Agenda b)**

Mr. Yamane explained summary of basic PANS-OPS FPD training by showing report sheets of attachment-1. The training consisted of lectures and exercises to read and understand basically PANS-OPS which are international standards of flight procedure design. The project have targets that four flight procedure designers will be trained to construct conventional flight procedures such as SID, STAR, NDB or VOR approach, ILS approach, Holding, MSA and others based on ICAO standards, PANS-OPS at the model airport, Dushanbe up to creating AIP demonstration of flight procedures or other materials by FPD activity.

Four participants of three ATC controllers, Mr. AKBARDZHON TADZHIBAEV, Mr. CHORSHANBE MUBASHIROV, Mr. BEHRUZ MAJIDOV and 1 AIS Officer, Mr. ILHOM KULIEV attended almost all days, likely acquired fully competency on basic level as a result, and they are granted to get certificates by



appropriate evaluation and proceed on the next OJT of FPD accordingly. Two of them also reached the higher level to participate in the training course of PBN flight procedure design starting soon in Japan in the coming June. Two observers of AIS Officers, Mr. RUSTAMJON SAFAROV and Mr. FARRUH ASROROV also attended several days. Training course provided attendances to read PANS-OPS and understand basic criteria of flight procedure design, and they were aggressive to involve classes and develop their abilities, in particular it is effective to conduct exercises of flight procedure design work well to let them practice main process of general flight procedure designs of general criteria, conventional approach including missed approach, departure, ILS approach and MSA based on the terrain maps in reference to Japanese airport.

Mr. Yamane reported that he recognized proper SKA(Skill, Knowledge, Attitude) of all participants who are ranking and provided the certificates by assessment at three times general exercises as conventional approach procedure design, departure procedure design and ILS approach design as well as a final comprehensive test to consider an important step of FPD training, and finally all four participants had got certificates well.

Mr. Yamane provided reference materials which were used in lectures and exercises to require attendances to review contents of PANS-OPS FPD and utilize the succeeding OJT, and explained basic PANS-OPS training was a first step and in the next OJT more practical FPD exercise will be conducted.

Mr. Yamane summarized above and finalized that the training resulted fruitfully, then TF-3 members accepted the report.

Mr. Sheraliev Bakhtiyor advised that it may be requested to design ILS approach RWY27 procedure and participants on FPD training will be expected to address it soon with assistance of FPD Expert, so that PANS-OPS should be regularized first as the state regulation.

Mr. Yamane at last admired attendances of the training to continue more than 6 weeks to conduct hard both working and training at once, and appreciated the support from TAN totally.

#### **Agenda c)**

Mr. Yamane explained the progress of WGS data survey Step-1 by showing report sheets of attachment-2. In Step-1, Two PACS were constructed in the Dushanbe airport, preliminary research to formulate specifications of survey on the international standards for facilities or obstacles inside / outside of the airport was conducted, and the specifications of maps which will be used for FPD works and AIP chart drawing were coordinated with the map product company, FAZO to fix scale, type and necessary information on the terrain map.

Mr. Yamane and selected two training members of TF-3, Mr. AKBARDZHON TADZHIBAEV and Mr. ILHOM KULIEV conducted activities together and Expert instructed significant procedures as contents below;

- The location of PACS at two sites were reviewed with an engineer of airport company to consider the view for survey work, condition of GPS signal receiving, safety for aircraft movement and avoidance of cables underground, and finally determined PACS-1 near, about 100m off THR09 and PACS-2 near a sub-control tower, at intermediate between THR27 and E-TWY, and two PACSs were constructed by the airport company with small metal markers which were ordered specially as the coordinate station, while Expert and two members of TF-3 watched their works well to advice or coordinate properly..



- The survey points about 30 inside the airport were picked up such as both RWY THR, ARP, aircraft parking stands, ILS GP antenna, Control TWR, apron-light poles and others, and the survey points outside the airport about 50 outside the airport were picked up such as defined high buildings, power cable towers, mobile phone antennas around the airport, along the RWY extended center-line in detail. Finally, the survey points were grouped to coordinate with the survey company, FAZO to estimate for order of survey works in Step-2.
- GPS receiving measurements were conducted simultaneously at two PACS and the established geodetic point outside through 8 hours by FAZO, and they are being analyzed well.

Mr. Yamane reported concerning a procurement of maps to coordinate with FAZO as well to accommodate scale type of 1/50,000 and 1/200,000 with terrain contour type, information on maps, and finally fix the specifications for order of printing maps.

Mr. Yamane summarized above and finalized that the activity resulted fruitfully, then TF-3 members accepted the report.

#### **Agenda d)**

Mr. Yamane explained the next activities of “Catchup exercise on Aeronautical Chart Drawing-2” organized in the latter August and “WGS-84 data survey (Step-2a/b)” successively until the end of September by showing a sheet of tentative schedule of the attachment-4 as below;

- The chart drawing-2 was confirmed to conduct exercises for airport flight procedures such as SID, STAR, approach and holding and others necessary for AIP charts in the aerodrome, because only en-route chart drawing exercises were conducted while the last exercise in February, to use computer SW, VISIO.
- The activity of WGS-84 step-2a/b will be mainly survey works of facilities and obstacles which will be conducted by FAZO, and basically expert and some members of TF-3 will provide instruction or supervision of their works to assure obtaining the exact point and data and understand the survey process, method, coordination or management and others about WGS-84 survey activity, therefore Expert will review them to conduct these managements of WGS-84 data survey at other airports by themselves.

Therefore it is confirmed that two sets of VISIO software will be prepared by TAN, one set of computer hardware will be prepared by PJ respectively and Expert will bring one by himself.

Mr. Sheraliev Bakhtiyor advised that WGS-84 data survey activity is very important and participants more than two officers should accompany survey works by FAZO to learn practices and coordination at variety of situations under the supervision of Expert.

#### **Agenda e)**

Mr. Yamane explained the summary of next OJT on Flight Procedure Design by showing a sheet of schedule of the attachment-5, in particular to conduct more practical works of FPD for the model airport, Dushanbe in more than 7 weeks to construct at least one conventional approach procedure, SID and ILS approach respectively including coordination practices with stakeholders and collecting information or requirements, situation awareness, ground validation, verification of design result, preparation for tentative flight inspection and AIP data creation, VISIO drafting and others according to the actual FPD process, by using terrain maps with scale of 1/50,000 procured from FAZO, handy GPS receiver and handy laser measurement for

easy obstacle research.

Mr. Yamane told in this period that Expert organize the PBN seminar on 24 November tentatively to provide progress and circumstances of PBN in the world, about not only flight procedures but also avionics, aircraft performance, ground facility, ATC system and others.

**Agenda f)**

Mr. Yamane explained summary of the next activity concerning TF-3 of "NOTAM & AIP procedure Manual development W/S" being conducted by AIS expert by showing a sheet of schedule of the attachment-6. AIS Expert was changed to Mr. Sukegawa from Mr. Shirai, and this is the first activity of a new expert, and he will plan it from 7 to 23 August with first week of NOTAM issues and second week of AIP issues generally, and enforce to prepare well on coordination with officers concerned of TF-3.

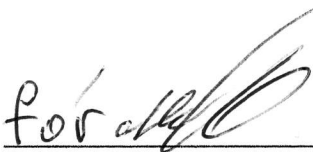
TF-3 members agreed these three activity plans and dispatches of Expert through agenda d) to f).

**Agenda g)**

Mr. Orita informed TF-3 that including SAR activities in 3-1 were agreed by JICA as the latest Sub-activity Plan which was modified in accordance with discussions in JCC/2.

As the result, members in the 4th TF-3 Meeting confirmed the matters referred to in the documents attached hereto;

Dushanbe, 08 June 2017



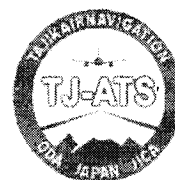
Mr. Khmorov Bakhtiyor  
Taskforce-3 Leader  
TAJIKAIRNAVIGATION



Mr. Atsushi Yamane  
TJ-ATS Project TF-3 Expert  
ATCA-Japan

**Attachment:**

1. Expert schedule and activities (Final)
2. The TF-3 activity report \_ Training on Basic PANS-OPS Flight Procedure Design
3. The TF-3 activity report \_ WGS-84 data survey Step-1
4. TF-3 Activity Plan of FPD Expert, August and September 2017
5. TF-3 Activity Plan of FPD Expert, November and December 2017
6. TF-3 Activity Plan of AIS Expert, August 2017



**Minutes of The Task Force-3 Meeting**  
**for**  
**“The Project for Capacity Development in Air Traffic Services”**  
**in Tajikistan**  
**Dushanbe, 23 August 2017**

The 5<sup>th</sup> Task Force-3 (TF-3) Meeting for "The Project for Capacity Development in Air Traffic Services" (hereinafter "the Project") was held on 23 August 2017, 09:00 am -11:00 am, at the Teaching Laboratory in Tajikairnavigation.

The Meeting was composed of, Mr. Khumorov Bakhtiyor (TF-3 Leader), Mr. Sheraliev Bakhtiyor (Project Manager), Mr. Muhamadaminshoev Firuz (TF-3 Sub-Leader), Mr. Shinichiro Sukegawa (TF-3 Aeronautical Information Service (AIS) JICA expert) and Mr. Orita (Project Coordinator in JICA).

This meeting was also the reporting and coordinating opportunity of the TF-3 activities by JICA expert with TF-3 activities members who were composed of Mr. M. Firuz, Mr. K.Timur, Mr. S.Habibi, Mr. Abdujamol, Mr. K Ilhom, implemented activities in the due period and the next mission in the Sub-activity Plan and the AWP 2017, according to the following agenda.

**Agenda;**

- a) Summary of Activity by TF-3 AIS Expert from 7th August to 23rd August
- b) Summary report about "the Compile of NOTAM operating procedures manual Tajikistan"
- c) Summary report about "the AIP manual development of Tajikistan, Phase I "
- d) Introduction and explanation about next activities by AIS Expert of "the AIP manual development of Tajikistan, Phase II : the draft of AIP operating procedures manual Tajikistan"
- and
- e) Other business

**Agenda a)**

JICA Expert who is Mr. Sukegawa, explained the summary of activities in this period in TF-3 by showing the attachment-1, such as "the NOTAM operating procedures manual of Tajikistan and AIP manual development-Ph.1 " which was conducted with proper attendances on schedule and completed successfully.

**Agenda b)**

This syllabus was conducted by a team led by the member of Tajikairnavigation's AIS and Mr.Sukegawa as the Workshop.

Workshop was held as at first, Mr.Sukegawa provided reference materials which were used to review about any knowledge in the Workshop attendance (AIS members), then introduced some operating procedures under the ANNEX15 and Doc.8126.

AIS members and Mr.Sukegawa had facilitated substantive exchange of views on current Tajikairnavigation's NOTAM operations for the independent work to future with some useful comments and ideas by Mr.Sukegawa.

Mr.Sukegawa introduced a draft of "the NOTAM operating procedures manual of Tajikistan" which was based on ICAO document's Annex15 ,Doc.8126 and OPPAD(Operating Procedures for AIS Dynamic Data) Ver.4.

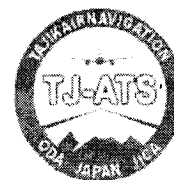
Mr.Sukegawa and AIS members were discussed and considered each items of the draft of NOTAM for to get approvals by the Authority of Tajikistan.

This compiled draft has a useful feature such as many examples of enrollment regarding Airport NOTAM on Tajikistan.

The NOTAM operating procedures manual development was completed.

**Agenda c)**

This syllabus was conducted by a team led by the member of Tajikairnavigation's AIS and Mr.Sukegawa as the Workshop, too.



This workshop focused to review of knowledge about AIP in AIS and working flow, to approach the complex task of all items regarding the AIP operating procedures manual development of Tajikistan as phase 1.

AIS member's daily work included AIP work is grossly evident what their operation is restricted work under the Caiga. So, they have no experienced of generally working flow of AIP. It can be argued that they must require any knowledge of AIP as well as operational experience.

Mr.Sukegawa told them that I'll be continue any support you as far as possible.

Agenda d)

Mr.Sukegawa explained summary of the next activity concerning TF-3, the sub-activity title is "the AIP Procedure Manual Development Workshop " as for "AIP operating procedures manual development of Tajikistan, Phase II " being on middle of November 2017, conducted by AIS expert.

At this workshop, it will be completed the task on the AIP Procedure Manual Development

Agenda e)

Confirmation of TF-3, 3-6, Sub-activity title is the AIP Design Exercise on Dushanbe airport, which is exercised for making the draft of AIP in Dushanbe airport by integrating outcomes on AIS and FPD activities.

It is included the useful information which is the reference documents of the Aerodrome, Standard Instrument Departure, Standard Terminal Arrival Route, Obstacle data, etc. by based on PDF format.

As the result, members in the 5th TF-3 Meeting confirmed the matters referred to in the documents attached hereto;

Dushanbe, 23 August, 2017

Khumirov BAKHTIYOR  
Taskforce-3 Leader  
State Unitary Enterprise "TAJIKAIRNAVIGATION"

Shinichiro SUKEGAWA  
TJ-ATS Project AIS Expert  
ATCA-Japan

**List of Attachment:**

1. Expert schedule and activities with the daily work memo for Workshop
2. Work shop concept by Sukegawa
3. The TF-3 activity report \_Compile of the NOTAM operating procedures manual and AIP operating procedures manual development Phase 1
4. Sample of the Dailywork Memo for Workshop
5. Completed document of the draft of NOTAM operating procedures manual Tajikistan
6. Schedule of the AIP Procedure Manual Development Workshop Phase II

TF-3 Workshop for the NOTAM Manual and the AIP manual development phase 1

Date		Time		Work Descriptions	Remarks
5					Arrive by SZ202
6					
7	Mon	09:00-12:00		TF-3 Meeting	Attended 13 persons
		13:00-16:00		Site-survey concerning NOTAM Dushanbe Facility tour on ATC, ATFM, NOTAM office.	
8	Tue	09:00-12:00	Workshop①	Primary aimed at Workshop, and Goal.	Necessity of Manual
				Overview of AIS/NOTAM: Review the things that one has learned in other class regarding Aeronautical Information Services(AIS).	
		13:00-16:00	Workshop①	Organization structure	Annex 15 and Doc.8126
				Introduction of ICAO doc.8126 for effective framework. Discussion	
16:00-16:30		Review: Evaluation of daily work	Daily work Memo for Workshop		
9	Wed	09:00-12:00	Workshop②	Terminology of NOTAM and Working Process Check useful any terminology of NOTAM and Working process.	Doc.8126
		13:00-16:00	Workshop②	Quality Management of NOTAM NOTAM operating procedures include the quality management . Discussion	Annex 15, Doc.8126
		16:00-16:30		Review: Evaluation of daily work	
10	Thu	09:00-12:00	Workshop③	ICAO trend and Euro-control on OPADD Introduction of ICAO trend and OPADD by Euro-Control with discussion.	OPADD Ver.4 is latest
		13:00-16:00		Preparation draft of TAN's manual	
		16:00-16:30		Review: Evaluation of daily work	
11	Fri	09:00-12:00	Workshop④	Compiling a draft of the Tajikistan NOTAM operating procedures manual: Using ICAO doc.8126 as a reference.	Final Check and Discussion
		13:00-16:00		The detailed regulation is no longer considered set up to make it while in this Workshop. Thinking about how do Tajikistan institute the operating procedures with authorizer's signature.	
		16:00-16:30		Review: Evaluation of daily work	
12	Sat				
13	San				
14	Mon	09:00-12:00		Screening of the draft of NOTAM operation procedures manual	
		13:00-16:00		Amendment of draft manual	
		16:00-16:30		Review: Evaluation of daily work	Daily work Memo for Workshop
15	Tue	09:00-12:00		Documents-survey concerning AIP, TF-3 Internal Meeting with TF-3 Leaders	
		13:00-16:00		Site-survey, Metrological office, Briefing office, ATC Control Tower	
		16:00-16:30		Review: Evaluation of daily work	Daily work Memo for Workshop
16	Wed	09:00-12:00	Workshop⑤	Overview of AIP Definition and Composition by ICAO document	AIP Manual Development Phase 1
		13:00-16:00		AIP in Annex 15 : Functions, Responsibilities, Aeronautical data chain	
		16:00-16:30		Review: Evaluation of daily work	
17	Thu	09:00-12:00	Workshop⑥	Introduction of Japanese operation ①	AIP Manual Development Phase 1
		13:00-16:00		Introduction of Japanese operation ②	
		16:00-16:30		Review: Evaluation of daily work	
18	Fri	09:00-12:00	Workshop⑦	Operational standard of AIP: AIP General	AIP Manual Development Phase 1
		13:00-16:00		Operational standard of AIP : AIP Aerodromes Tajikistan's current procedure with discussion	
		16:00-16:30		Review: Evaluation of daily work	
19	Sat				
20	San				
21	Mon	09:00-12:00	Workshop⑧	Operational standard of AIP : AIP En-Route	AIP Manual Development Phase 1
		13:00-16:00		Quality management of AIP ①	
		16:00-16:30		Review: Evaluation of daily work	
22	Tue	09:00-12:00	Workshop⑨	Quality management of AIP ②	
		13:00-16:00		Preparation of effective manual for next step	
		16:00-16:30		Review: Evaluation of daily work	
23	Wed	09:00-12:00		Wrap-up Meeting TF3,	
		13:00-16:00		Workshop report/ Signature to MM, Report to JICA office	
24	Thu	09:00-12:00		Preparation for the next step planning	Return the Entering Pass
		12:00-16:00			
25	Fri	09:00-12:00			Departure by KC132
		13:00-16:00			
26	Sat				

## Workshop Concept for the development manuals in Tajikairnavigation

August 21, 2017

S.Sukegawa

AIS Expert/JICA

### Opportunity Planning Workshop

Opportunity planning is perfect for the development-related persons who are failing to see the benefit and results of the countless similar training exercises their companies have put them through.

In modular sessions, we can help the individual related persons or small account teams of 2-4 people plan specific opportunities. We use the company's existing work and training to help the related persons qualify, disengage, invest resource and generally generate action plans. Opportunity Planning is perfect for smaller sections who do not see the value in heavy training investment, but DO see the value of having their related persons going through a regular, structured planning process that is relevant to their business environments.

#### PARTICIPANTS WILL:

- LIST AND PRIORITISE THEIR EXISTING OPPORTUNITIES
- DISENGAGE FROM OPPORTUNITIES WHERE APPROPRIATE
- IDENTIFY THE NEEDS OF AIS SECTION AND CONSIDER THEIR INFLUENCE OVER THE RERATED COMPANY'S CRITERIA
- IDENTIFY AREAS FOR THOUGHT LEADERSHIP, TO CREATE NEW WORKING PROCESS

#### <Description>

This workshop will strip away the basic confusions that hold down production, efficiency and teamwork in the shop.

It will give you and your manager the tools and knowledge needed to get the work done right. The workshop is designed to improve not only other your efficiency and production but your entire team's as well.

This Workshop includes useful the ICAO documents and related materials and some additional information to give you the practice to ensure you can apply what you learn.

The result of applying the know-how learned in this workshop is increased efficiency and effective on daily work.

## Activity Report

## General:

TF and Activities	TaskForce -3, AIS Activity 3-3
Title	NOTAM & AIP Procedure Manual Development
Terms	8 August to 23 August 2017, 9:00-16:00 (12 days)
Type	Workshop
Expert	Shinichiro SUKEGAWA

## Participants:

Name	Department	Attendance	Certificate
Mukhamadamshoev Firuz	ATFM	Attended all assigned days	Attendance
Khodzhaev Timur	ATFM	Attended all assigned days	Attendance
Habib Shamsov	ATFM	Attended all assigned days	Attendance
Khoshimov Abdujamol	ATFM	Attended all assigned days	Attendance
Kukiev Ilhom	Briefing Office	Attended all assigned days	Attendance

## Input from Expert and Output from Activity:

Input based on agenda	Output
This workshop is focused to improve the NOTAM operation manual in everyday conduct of our work.	Participant understood the aims of workshop.
This is where it is created in the English version by JICA support.	Participant understood.
This manual will be translated to the Tajik / Russian language from English after created the work.	English version's manual is no problem.
Therefore, it will be make the manual in an easy to understand way and offering a useful example on the assumption that it will be translated to Tajik/Russian.	Participants are agreed with my offer.
Excellent quality that the information NOTAM results in satisfied related persons.	Quality Management System division will be started on the end of third week in August.
Identify what the reception desk about NOTAM and AIP to any originator.	Participants are agreed with my offer.
Aiming to improve operational system that everyone checks their work before start and periodic review of operation wide.	Participants are agreed with my offer.
Try to do not forget the daily check, you are beginning the work at the morning and complete the operation at the evening.	Every day we can do it for our job, start and finished.
Management of Manual for to improve the quality.	Participants are agreed with my offer.
Be kept at a constant level of operation on any person in charge.	Participants are agreed with my offer.
Data Base Architecture	It takes a long time for our current situation.
Communication with the internal and one's neighboring person are improved and well clear.	Participants are agreed with my offer.
Now is as good time as any, please establishing a collaborative relationship with AIS Center in Japan.	Participants are agreed with my offer, and want to contact all of AIS center in Japan.
Now, the digitalization of Information in terms of NOTAM	



and AIP are an ongoing process in the world. So, it is necessary that the using of NOTAM sheets will be make the computerization form in the future.

Participants are agreed with my offer.

The information gathering, the data distribution and the management of information have been very important work in TAN

Participants are agreed with my offer. Please continue to surport and to cooperate with us.

Workshop Journal : We will be make a note in daily workshop by to take turns everybody.

List of Presentation Material and Handout:

- 1 Annex 15 15th edition and Doc.8126 (English ver.)
- 2 OPPAD ver.4 (latest ver.)
- 3 NOTAM manual draft
- 4 Workshop concept for the development of manual
- 5 Speciman AIP document
- 6 AIP development manual part 2
- 7 Prsentation files of NOTAM and AIP (to PC)

Questions and Answers:

- Q: How do I correct that I found the miss print on AIP documents. It's may be mistake by Caiga operation.
- A: We will be make sure the raw data at first, then coordinate to Caiga on this case as soon as possible.  
NOTAM N will be issued by Caiga, you have to prepare the amendment AIP. After cheked again, you will submit it to Caiga. That should be taken into confirmation by TAN.
- Q: How do you need the term of training of AIP in Japan.
- A: Usually, AIP training term at AIS center in Japan has about one month for first step training, then about two years training for to get a license. Do not compare with Tajik and Japan. Because, work volume is deference.
- Q: How long does it take current environment of AIS center?
- A: It takes about ten years from 2007.

What participants have learned:

- 1 Overview and effective detail of the Workshop.
- 2 NOTAM operating procedure.
- 3 How to create a document of NOTAM and AIP.
- 4 Work flow of AIS operation, what is different between Tajikistan and Japan.
- 5 Cognizant of all items of AIP documents.
- 6 Overview of Quality Management Systems

Conclusion and Recommendations:

**Conclusion**

- 1 Effective firm conclusion can be drawn about this Workshop of regarding AIS business operation.
- 2 You have got such a great ability, we can see spontaneously in every day life.
- 3 Tajikistan is a very friendly country and accomplished historic development in central Asia.
- 4 Work on a complex task which is AIS business operation in a courageous manner with self-assurance.
- 5 Our JICA expert always have a lot of technical assistance for you.  
...However, please understand, we have a limited budget.
- 6 Understand, you have any ICAO documents regarding AIS operating manuals by Russian languages.
- 7 You already implemented the NOTAM issue, the operation way of AIP in the Caiga structure with some restricted operation.
- 8 Main point is the AIS business operation a part from the Caiga structure.
- 9 You have some trouble making in the face of a perceived unprecedented items.

10 We are steadfastly determined to resolve them all, one by one.

11 One of the experts who is Mr. Sukegawa, will be rooting for you.

**Recommendation**

1 If you want to leave from the Caiga structure, you have to prepare the strengthened implementation system of AIS business operation.

2 The system should be secured more with qualified human resources who are trained in global AIS at leading facilities.

3 You can learn a lot from failure, please keep a record of what happens.

4 The main frame of AIS business operation are the operation on the up-and-up and the fine management of each document.

5 We need the operation manual as registered by the authority for to keep sustainable operation.

6 For such occasions, it should be needed to interfile and make it more visible for useful documents.

7 It is very important of the document management such as application sheets, final decision material, change documents, correction sheets, each check list of material.

Dailywork Memo for Workshop	
Title	Compile of the NOTAM operating procedures manual
Date	8 August, 2017
Instructor	Shinichiro Sukegawa
Participants	Khodzhaev Timur Khashimov Abdusamol Mukhammataminsharov Firuz Kuliev Ilhom Shamsov Habib
Item	1. Overview of Aeronautical Information Service  2. Organization Structure
Comments	Comments with participants signature  I'm very glad to be participant in this course I think it's useful for us (Habib H) It is useful for us (Ilhom H)  I am happy today because Mr. SUKEGAWA explain very understandable all materials (ABDUSAMOL H) Mr. Sukegawa talk very good with topic to obtain and not only knowledge and skills (Firuz H)

Dailywork Memo for Workshop	
Title	Compile of the NOTAM operating procedures manual
Date	10 Thursday August, 2017
Instructor	Shinichiro Sukegawa
Participants	Kuliev Ilhom Khodzhaev Timur Shamsov Habib Mukhammataminsharov Firuz Khashimov Abdusamol
Item	1. ICAO trend and Euro-control on OPADD  2. Preparation draft of TAN's manual (1)
Comments	Comments with participants signature  It is too easy to study with Mr. Sukegawa because of his professional and good teaching. Khodzhaev Timur - <i>[Signature]</i>  We starts great draft manual of NOTAM. We had a very good discuss and debates today (Habib H)

Dailywork Memo for Workshop	
Title	Compile of the NOTAM operating procedures manual
Date	9 August, 2017
Instructor	Shinichiro Sukegawa
Participants	Khodzhaev Timur Shamsov Habib Kuliev Ilhom Khashimov Abdusamol
Item	1. Terminology of NOTAM and Working process  2. Quality Management of NOTAM
Comments	Comments with participants signature  It was very fruitful lesson, I gained more experience in aip and notam procedure. Khodzhaev Timur - <i>[Signature]</i>  Today I receive inspiration (Habib H)

Dailywork Memo for Workshop	
Title	Compile of the NOTAM operating procedures manual
Date	14 Monday August, 2017
Instructor	Shinichiro Sukegawa
Participants	Mukhammataminsharov Firuz Shamsov Habib Khodzhaev Timur Khashimov Abdusamol Kuliev Ilhom
Item	1. Screening of the draft of NOTAM procedures manual  2. Amendment of the draft manual
Comments	Comments with participants signature  Mr. Sukegawa is the best instructor so with his help and instruction we reached our aim and made the draft of Tajikistan NOTAM operation procedures Manual. Khodzhaev Timur - <i>[Signature]</i>

Dailywork Memo for Workshop	
Title	Compile of the NOTAM operating procedures manual
Date	11 Friday August, 2017
Instructor	Shinichiro Sukegawa
Participants	Khodzhaev Timur Muhammadaminshoev Firuz Shamsor Habib Kuliev Ilhom Khashimov Abdujamal
Item	1. Preparation draft of TAN's manual (2)  2. Preparation draft of TAN's manual (3)
Comments	Comments with participants signature I liked the procedure of preparation draft of TAN's manual with Mr. Sukegawa, because he very talented tutor and instructor, he knows all the details of making documents in the sphere of Civil Aviation, we bring thanks for his teaching in such high level. Khodzhaev Timur - <i>[Signature]</i>

Dailywork Memo for Workshop	
Title	AIP operating procedures manual development Phase 1
Date	17 August, 2017
Instructor	Shinichiro Sukegawa
Participants	Khodzhaev Timur Khashimov Abdujamal Muhammadaminshoev Firuz Shamsor Habib Kuliev Ilhom
Item	1 Introduction of Japanese operation (1)  2 Introduction of Japanese operation (2)
Comments	Comments with participants signature After overviewing of Japanese AIP, we came to conclusion that in future we should try to get as more as possible information from Japan AIP and with the help of our Director General and TICA assistance we will create our own AIP in a short future. Thanks again to Mr. Sukegawa, he explains everything in common language that is why we understand everything very good. Khodzhaev Timur - <i>[Signature]</i>

Dailywork Memo for Workshop	
Title	AIP operating procedures manual development Phase 1
Date	15 August, 2017
Instructor	Shinichiro Sukegawa
Participants	Khashimov Abdujamal Khodzhaev Timur Kuliev Ilhom Shamsor Habib Muhammadaminshoev Firuz
Item	1 Site-survey concerning AIP  2 Site-survey related AIP (ATC)
Comments	Comments with participants signature Regardless of our small knowledge in AIP, Mr. Sukegawa showed us a good knowledge in this sphere, so we step by step gain experience and hope that in future we should be good specialists in AIP operating. Khodzhaev Timur - <i>[Signature]</i>

Dailywork Memo for Workshop	
Title	AIP operating procedures manual development Phase 1
Date	16 August, 2017
Instructor	Shinichiro Sukegawa
Participants	Khodzhaev Timur Kuliev Ilhom Khashimov Abdujamal Muhammadaminshoev Firuz Shamsor Habib
Item	1 Overview of AIP  2 AIP in Annex15
Comments	Comments with participants signature Mr. Sukegawa is a good instructor but it will be better for us to go somewhere abroad to study AIP and then operate it in Tadjikistan. We hope that this application will reach ICA through Mr. Sukegawa and the problem will be solved immediately. by Khodzhaev Timur - <i>[Signature]</i>

Draft of  
“Tajikistan NOTAM Operation Procedures Manual  
2017”

Attachment - 5  
(COVER)

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Head of Civil Aviation Authority  
of  
the Republic of Tajikistan

Date \_\_\_\_\_

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Director General  
SUE "Tajikairnavigation"

Date \_\_\_\_\_

**Draft of**  
**"Tajikistan NOTAM Operation Procedures Manual 2017"**

This Manual of Standards – Aeronautical Information Services is issued by Civil Aviation Authority and SUE Tajikairnavigation specifying the national standards, requirements and procedures pertaining to the provision of aeronautical information services by the air navigation service provider within the Tajikistan Flight Information Region.

The standards and recommended practices in this Manual are based on those stipulated documents as Annexes 4 document and 15 (entitled "Aeronautical Charts" and "Aeronautical Information Services") as in force and amended from time to time by the Council of the International Civil Aviation Organization (ICAO) and other relevant ICAO documents, and with such modifications as may be determined by Civil Aviation Authority to be applicable in Tajikistan.

Readers should forward advice of errors, inconsistencies or suggestions for improvement to this Manual to the addressee stipulated below.

## Definitions

This definition should include sufficient information in each part to provide an understanding of the working on the aeronautical information services which is based on the ICAO doc.8126.

When the following terms are used in the Standards and Recommended Practices for aeronautical information services, they have the following meanings:

**Accuracy.** A degree of conformance between the estimated or measured value and the true value.

Note.— For measured positional data the accuracy is normally expressed in terms of a distance from a stated position within which there is a defined confidence of the true position falling.

**Aerodrome.** A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

**Aerodrome Mapping Data (AMD).** Data collected for the purpose of compiling aerodrome mapping information.

Note.— Aerodrome mapping data are collected for purposes that include the improvement of the user's situational awareness, surface navigation operations, training, charting and planning.

**Aerodrome Mapping Data Base (AMDB).** A collection of aerodrome mapping data organized and arranged as a structured data set.

**Aeronautical data.** A representation of aeronautical facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing.

**Aeronautical information.** Information resulting from the assembly, analysis and formatting of aeronautical data.

**Aeronautical fixed service (AFS).** A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.

Note.— AFS is provided by voice and data networks, including: AFTN, AMHS and

CHDN. However, any aeronautical radiocommunication between specified fixed points belongs – in accordance with article 1.20 of the International Telecommunication Union's (ITU) Radio Regulations (RR) – to the Fixed service.

**Aeronautical Fixed Telecommunication Network (AFTN).** A worldwide system of aeronautical fixed circuits provided, as part of the aeronautical fixed service, for the exchange of messages and/or digital data between aeronautical fixed stations having the same or compatible communications characteristics.

**Aeronautical Information Circular (AIC).** A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.

**Aeronautical information management (AIM).** The dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

**Aeronautical Information Publication (AIP).** A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

**Aeronautical information service (AIS).** A service established within the defined area of coverage responsible for the provision of aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation.

**AIP Amendment.** Permanent changes to the information contained in the AIP.

**AIP Supplement.** Temporary changes to the information contained in the AIP which are published by means of special pages.

**AIRAC.** An acronym (aeronautical information regulation and control) signifying a system aimed at advance notification, based on common effective dates, of circumstances that necessitate significant changes in operating practices.

**Air Defense Identification Zone (ADIZ).** Special designated airspace of defined dimensions within which aircraft are required to comply with special identification and/or reporting procedures additional to those related to the provision of air traffic services (ATS).

**Airmen's Meteorological Information (AIRMET).** A concise description of weather phenomena that are occurring or may occur (forecast) along an air route that may affect aircraft safety. Compared to SIGMETs, AIRMETs cover less severe weather: moderate turbulence and icing, sustained surface winds of 30 knots or more, or widespread restricted visibility.

**AIRMET information.** Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of low-level aircraft operations and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof.

**Air Traffic Management (ATM).** The dynamic, integrated management of air traffic and airspace (including air traffic services, airspace management and air traffic flow management) – safely, economically and efficiently – through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.

**AIS product.** Aeronautical data and aeronautical information provided in the form of the elements of the Integrated Aeronautical Information Package (except NOTAM and PIB), including aeronautical charts, or in the form of suitable electronic media.

**Application.** Manipulation and processing of data in support of user requirements (ISO 19104\*).

**Area NAVigation (RNAV).** A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.  
Note.— Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.

**Assemble.** A process of merging data from multiple sources into a database and establishing a baseline for subsequent processing.

Note.— The assemble phase includes checking the data and ensuring that detected errors and omissions are rectified.

**ATS surveillance service.** Term used to indicate a service provided directly by means of an ATS surveillance system.

**ATS surveillance system.** A generic term meaning variously, ADS-B, PSR, SSR or any

comparable ground-based system that enables the identification of aircraft.

Note.— A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monoplanes SSR.

**Automatic Dependent Surveillance – Broadcast (ADS-B).** A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.

**Automatic Dependent Surveillance – Contract (ADS-C).** A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports.

Note.— The abbreviated term "ADS contract" is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.

**Automatic Terminal Information Service (ATIS).** The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specified portion thereof.

**Data link Automatic Terminal Information Service (D-ATIS).** The provision of ATIS via data link.

**Voice Automatic Terminal Information Service (Voice-ATIS).** The provision of ATIS by means of continuous and repetitive voice broadcasts.

**Bare Earth.** Surface of the Earth including bodies of water and permanent ice and snow, and excluding vegetation and manmade objects.

**Calendar.** Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108\*).

**Canopy.** Bare Earth supplemented by vegetation height.

**Confidence level.** The probability that the true value of a parameter is within a certain interval around the estimate of its value.

Note.— The interval is usually referred to as the accuracy of the estimate.

**Controller-Pilot Data Link Communications (CPDLC).** A means of communication between controller and pilot, using data link for ATC communications.

**Culture.** All man-made features constructed on the surface of the Earth, such as cities, railways and canals.

**Danger area.** An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

**Data product.** Data set or data set series that conforms to a data product specification (ISO 19131\*).

**Data product specification.** Detailed description of a data set or data set series together with additional information that will enable it to be created, supplied to and used by another party (ISO 19131\*).

Note.— A data product specification provides a description of the universe of discourse and a specification for mapping the universe of discourse to a data set. It may be used for production, sales, end-use or other purpose.

**Data quality.** A degree or level of confidence that the data provided meet the requirements of the data user in terms of accuracy, resolution and integrity.

**Data set.** Identifiable collection of data (ISO 19101\*).

**Data set series.** Collection of data sets sharing the same product specification (ISO 19115\*).

**Datum.** Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104\*).

**Digital Elevation Model (DEM).** The representation of terrain surface by continuous elevation values at all intersections of a defined grid, referenced to common datum.

Note.— Digital Terrain Model (DTM) is sometimes referred to as DEM.

**Direct transit arrangements.** Special arrangements approved by the public authorities concerned by which traffic which is pausing briefly in its passage through the Contracting State may remain under their direct control.

from a specific datum.

**Heliport.** An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

**Human Factors principles.** Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.

**Integrated Aeronautical Information Package.** A package in paper, or electronic media which consists of the following elements:

- AIP, including amendment service;
- Supplements to the AIP;
- NOTAM and PBE;
- AIC; and
- checklists and lists of valid NOTAM.

**Integrity (aeronautical data).** A degree of assurance that an aeronautical data and its value has not been lost or altered since the data origination or authorized amendment.

**Integrity classification (aeronautical data).** Classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data are classified as:

- a) routine data:* there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;
- b) essential data:* there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and
- c) critical data:* there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

**International airport.** Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

**Ellipsoid height (Geodetic height).** The height related to the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question.

**General Aviation Meteorological Information (GAMET).** GAMET is information about dangerous weather phenomena, which are relevant for flights at low altitudes (below FL150) according to international guidelines by the ICAO abbreviations.

**GAMET area forecast.** An area forecast in abbreviated plain language for low-level flights for a flight information region or sub-area thereof, prepared by the meteorological office designated by the meteorological authority concerned and exchanged with meteorological offices in adjacent flight information regions, as agreed between the meteorological authorities concerned.

**Geodesic distance.** The shortest distance between any two points on a mathematically defined ellipsoidal surface.

**Geodetic datum.** A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.

**Geoid.** The equipotential surface in the gravity field of the Earth which coincides with the undisturbed mean sea level (MSL) extended continuously through the continents.

Note.— The geoid is irregular in shape because of local gravitational disturbances (wind tides, salinity, current, etc.) and the direction of gravity is perpendicular to the geoid at every point.

**Geoid undulation.** The distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid.

Note.— In respect to the World Geodetic System — 1984 (WGS-84) defined ellipsoid, the difference between the WGS-84 ellipsoidal height and orthometric height represents WGS-84 geoid undulation.

**Gregorian calendar.** Calendar in general use; first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108\*).

Note.— In the Gregorian calendar, common years have 365 days and leap years 366 days divided into twelve sequential months.

**Height.** The vertical distance of a level, point or an object considered as a point, measured

**International NOTAM office (NOP).** An office designated by a State for the exchange of NOTAM internationally.

**Logon address.** A specified code used for data link logon to an ATIS unit.

**Manoeuvring area.** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

**Metadata.** Data about data (ISO 19115\*).

Note.— A structured description of the content, quality, condition or other characteristics of data.

**Meteorological Aerodrome Report (METAR).** METAR is also known as Meteorological Terminal Aviation Routine Weather Report. METAR weather report is predominantly used by pilots in fulfillment of a part of a pre-flight weather briefing, and by meteorologists, who use aggregated METAR information to assist in weather forecasting.

**Minimum En-route Altitude (MEA).** The altitude for an en-route segment that provides adequate reception of relevant navigation facilities and ATIS communications, complies with the airspace structure and provides the required obstacle clearance.

**Minimum Obstacle Clearance Altitude (MOCA).** The minimum altitude for a defined segment of flight that provides the required obstacle clearance.

**Movement area.** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron.

**Navigation specification.** A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

**Required Navigation Performance (RNP) specification.** A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

**Area Navigation (RNAV) specification.** A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.



Note 1.— The Performance-based Navigation (PBN) Manual (Doc 9613, Volume II, contains detailed guidance on navigation specifications.

Note 2.— The term RNP, previously defined as "a statement of the navigation performance necessary for operation within a defined airspace", has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting; e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.

**NOTAM.** A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

**Obstacle.** All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that:

- a) are located on an area intended for the surface movement of aircraft; or
- b) extend above a defined surface intended to protect aircraft in flight; or
- c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

**Obstacle/terrain data collection surface.** A defined surface intended for the purpose of collecting obstacle/terrain data.

**Orthometric height.** Height of a point related to the geoid, generally presented as an MSL elevation.

**Performance-Based Communication (PBC).** Communication based on performance specifications applied to the provision of air traffic services.

Note.— An RCP specification includes communication performance requirements that are allocated to system components in terms of the communication to be provided and associated transaction time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace concept.

**Performance-Based Navigation (PBN).** Area navigation based on performance requirements

for aircraft operating along an ATIS route, on an instrument approach procedure or in a designated airspace.

Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.

**Performance-Based Surveillance (PBS).** Surveillance based on performance specifications applied to the provision of air traffic services.

Note.— An RSP specification includes surveillance performance requirements that are allocated to system components in terms of the surveillance to be provided and associated data delivery time, continuity, availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.

**Portrayal.** Presentation of information to humans (ISO 19117\*).

**Position (geographical).** Set of coordinates (latitude and longitude) referenced to the mathematical reference ellipsoid which define the position of a point on the surface of the Earth.

**Post spacing.** Angular or linear distance between two adjacent elevation points.

**Precision.** The smallest difference that can be reliably distinguished by a measurement process.

Note.— In reference to geodetic surveys, precision is a degree of refinement in performance of an operation or a degree of perfection in the instruments and methods used when taking measurements.

**Pre-flight information bulletin (PIB).** A presentation of current NOTAM information of operational significance, prepared prior to flight.

**Prohibited area.** An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

**Quality.** Degree to which a set of inherent characteristics fulfils requirements (ISO 9000\*).

Note 1.— The term "quality" can be used with adjectives such as poor, good or excellent.

Note 2.— "Inherent" as opposed to "assigned", means existing in something, especially as a permanent characteristic.

**Quality assurance.** Part of quality management focused on providing confidence that quality requirements will be fulfilled (ISO 9000\*).

**Quality control.** Part of quality management focused on fulfilling quality requirements (ISO 9000\*).

**Quality management.** Coordinated activities to direct and control an organization with regard to quality (ISO 9000\*).

**Radio navigation service.** A service providing guidance information or position data for the efficient and safe operation of aircraft supported by one or more radio navigation aids.

**Required Communication Performance (RCP) specification.** A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based communication.

**Required Surveillance Performance (RSP) specification.** A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based surveillance.

**Requirement.** Need or expectation that is stated, generally implied or obligatory (ISO 9000\*).

Note 1.— "Generally implied" means that it is custom or common practice for the organization, its customers and other interested parties, that the need or expectation under consideration is implied.

Note 2.— A qualifier can be used to denote a specific type of requirement, e.g. product requirement, quality management requirement, customer requirement.

Note 3.— A specified requirement is one which is stated, for example, in a document.

Note 4.— Requirements can be generated by different interested parties.

**Resolution.** A number of units or digits to which a measured or calculated value is expressed and used.

**Restricted area.** An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

**Route stage.** A route or portion of a route flown without an intermediate landing.

**Significant Meteorological Information (SIGMET).** A meteorological report issued by a meteorological watch office that gives a description in abbreviated plain language of the occurrence and/or expected occurrence of specified en-route weather phenomena, which may affect the safety of aircraft operations and the development of those phenomena in time and space.

**SNOWTAM.** A special series NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format.

**SPECI.** An aviation special weather report issued when there is significant deterioration or improvement in airport weather conditions, such as significant changes of surface winds, visibility, cloud base height and occurrence of severe weather.

**Station declination.** An alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.

**Terrain.** The surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles.

Note.— In practical terms, depending on the method of data collection used, terrain represents the continuous surface that exists at the bare Earth, the top of the canopy or something in-between, also known as "first reflective surface".

**Terminal Aerodrome Forecast (TAF).** A format for reporting weather forecast information, particularly as it relates to aviation. TAFs are issued every six hours for major civil airfields (0000, 0600, 1200 and 1800 UTC), and generally apply to a 24- or 30-hour period, and an area within approximately five statute miles (8,0 km) (or 5 nautical miles (9,3 km) in Canada) from the center of an airport runway complex. TAFs are issued every three hours for military airfields and some civil airfields and cover a period ranging from 3 hours to 24 hours.

**Traceability:** Ability to trace the history, application or location of that which is under consideration (ISO 9000\*).

- Note:— When considering product, traceability can relate to:
- the origin of materials and parts;
  - the processing history; and
  - the distribution and location of the product after delivery

**Validation:** Confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled (ISO 9000\*).

**Verification:** Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled (ISO 9000\*).

Note 1.— The term "verified" is used to designate the corresponding status.

Note 2.— Confirmation can comprise activities such as:

- performing alternative calculations;
- comparing a new design specification with a similar proven design specification;
- undertaking tests and demonstrations; and
- reviewing documents prior to issue.

Attachment-5  
(Draft NOTAM)

# NOTAM Operational Procedure Manual

based on ICAO doc 8126

## 1 ORIGINATION

### Main objectives

1.1 The main principles relating to the origination of NOTAM are clearly set out in 5.1.1.1 of Annex 15 which states:

"A NOTAM shall be originated and issued promptly whenever the information to be distributed is of a temporary nature and of short duration or when operationally significant permanent changes, or temporary changes of long duration are made at short notice, except for extensive text and/or graphics."

NOTAM are therefore intended to supplement AIP and serve as a fast medium for distributing information whenever it is necessary to give due warning of any change or occurrence, at short notice. Information of short duration containing extensive text and/or graphics must be published as an AIP Supplement.

### Value of a NOTAM

1.2 The basic purpose of NOTAM is the distribution of information in advance of the event to which it relates, except in the case of unserviceabilities that cannot be foreseen. Thus, to realize its purpose a NOTAM must be received by the addressee in sufficient time for any required action to be taken. (The value of a NOTAM lies in its "news content" and its residual historical value is therefore minimal.)

### Duration of NOTAM

1.3 Although not directly specified in Annex 15, NOTAM should not remain in force for more than three months. If the circumstances to be notified are expected to exceed three months, an AIP Supplement must be published. When a temporary change in AIP information issued by NOTAM unexpectedly exceeds the three month period, a new or replacement NOTAM may be issued, but only in those cases where a condition is expected to last for a further period of a maximum of one to two months. If it is expected that the condition will last for a longer period of time, an AIP Supplement must be issued. This procedure is covered in greater detail in 5.10.3.

### Information to be promulgated by NOTAM

1.4 NOTAM are issued when it is necessary to distribute information of direct operational significance which is:

- a) of short duration; or
- b) appropriate for inclusion in the AIP but needs immediate distribution.

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- 1.5 The circumstances which make it necessary to issue NOTAM are set out in 5.1.1.1 of Annex 15. Because of their importance, these circumstances are repeated here for ease of reference.

### A NOTAM shall be originated and issued concerning the following information:

- a) establishment, closure or significant changes in operation of aerodrome(s)/heliport(s) or runways;
- b) establishment, withdrawal and significant changes in operation of aeronautical services (AGA, AIS, AFS, COM, MET, SAR, etc.);
- c) establishment, withdrawal and significant changes in operational capability of radio navigation and air-ground communication services. This includes: interruption or return to operation, change of frequencies, change in notified hours of service, change of identification, change of orientation (directional aids), change of location, power increase or decrease amounting to 50 per cent or more, change in broadcast schedules or contents, or irregularity or unreliability of operation of any radio navigation and air-ground communication services;
- d) establishment, withdrawal or significant changes made to visual aids;
- e) interruption of or return to operation of major components of aerodrome lighting systems;
- f) establishment, withdrawal or significant changes made to procedures for air navigation services;
- g) occurrence or correction of major defects or impediments in the manoeuvring area;
- h) changes to and limitations on availability of fuel, oil and oxygen;
- i) major changes to search and rescue facilities and services available;
- j) establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation;
- k) changes in regulations requiring immediate action, e.g. prohibited areas for SAR action;
- l) presence of hazards which affect air navigation (including obstacles, military exercises, displays, races and major parachuting events outside promulgated sites);
- m) erecting, or removal of, or changes to, obstacles to air navigation in the take-off/ climb, missed approach, approach areas and runway strip;
- n) establishment or discontinuance (including activation or deactivation) as applicable, or changes in the status of prohibited, restricted or danger areas;
- o) establishment or discontinuance of areas or routes or portions thereof where the possibility of interception exists and where the maintenance of guard on the VHF emergency frequency 121.500 MHz is required;
- p) allocation, cancellation or change of location indicators;
- q) significant changes in the level of protection normally available at an aerodrome for rescue and fire fighting purposes. NOTAM shall be originated only when a change of category is invoked and such change of category shall be clearly stated (See Annex 14, Volume I, Chapter 9, and Attachment A, Section 17);
- r) presence or removal of, or significant changes in, hazardous conditions due to snow, slush,

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ice or water on the movement area;

- s) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures;
- t) forecasts of solar cosmic radiation, where provided;
- u) establishment of operations of humanitarian relief missions, such as those undertaken under the auspices of United Nations, together with procedures and/or limitations which affect air navigation; and
- v) implementation of short-term contingency measures in cases of disruption, or partial disruption, of air traffic services and related supporting services.

Note — See Annex 11, 2.28 and Attachment D to that Annex."

1.6 Annex 15 also states: "The need for origination of a NOTAM should be considered in any other circumstances which may affect the operation of aircraft."

### Origination and use of "trigger" NOTAM

1.7 Information concerning any circumstances listed in Annex 15, Appendix 4, must be distributed using AIRMET procedures either as an AIRMET, AIP Amendment or an AIRMET AIP Supplement.

1.8 When an AIP Amendment or an AIP Supplement is published in accordance with AIRMET procedures, "trigger" NOTAM must be originated and promulgated. The intent of this NOTAM is to serve as a reminder in the pre-flight information bulletin (PIB) by signaling the coming into effect of operationally significant permanent or temporary changes to the AIP, thus ensuring that users are aware of changes that may affect their flights.

It also serves as a reminder to AIS officers responsible for updating AIP to insert a new AIP Amendment or AIP Supplement in the affected AIP on the amendment or supplement effective date. Trigger NOTAM must contain a brief description of the contents of the amendment or supplement, the effective date-time and the reference number of the amendment or supplement. This trigger NOTAM must come into force on the same effective date as the amendment or supplement. Trigger NOTAM must remain valid, as a reminder in the PIB, for a period of 14 days. For examples and further guidance on the use of trigger NOTAM, see Appendix A to this chapter.

1.9 A trigger NOTAM is issued:

- a) in the appropriate NOTAM series, according to the information it contains.

Note.— Trigger NOTAM are never published in Series T which is reserved for NOTAM processing units in cases when basic operational information was not "triggered" by the issuing NOF.

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- b) for a single location (FIR or aerodrome) only, but may include information on different subjects related to the location in order to reduce the number of NOTAM to be published.

### Postponement of changes to aeronautical information

1.10 Postponement of changes to circumstances listed in Annex 15, Appendix 4, has the effect of cancelling information notified by AIRMET and reinstating previously valid information. Doing so by NOTAM less than 28 days before the effective date for changes to circumstances listed in Appendix 4, Parts 1 and 3, does not generally allow sufficient time for previously valid information to be reinstated in airborne navigation databases, with the result that erroneous information would be presented to flight crews. Furthermore, since charts used by flight crews and AIP are updated on a different schedule than airborne navigation databases, it is possible that valid information which is not reflected in the airborne database may nevertheless appear on charts. The resulting mismatch of information would give rise to considerable operational difficulties and potential safety hazards. In the worst case, RNAW procedures that require a navigation database may not be flown (operated).

1.11 In order to avoid negative consequences to the safety and efficiency of flights, all possible measures should be taken to ensure that changes to circumstances listed in Annex 15, Appendix 4, Parts 1 and 3, take place as notified on the AIRMET date. This will require thorough planning of aeronautical information changes and the cooperation of all parties involved, including AIS.

1.12 It is important to recognize that a change to the effective date (or postponement) is information to be notified by AIRMET and therefore constitutes "withdrawal" as stated in Annex 15, Appendix 4. Postponement by NOTAM should be issued more than 28 days in advance of the previously indicated effective date unless the circumstances are of a temporary nature and would not persist for the full period.

### Information not to be promulgated by NOTAM

1.13 The following information, which relates to an aerodrome and its vicinity and does not affect its operational status, does not require promulgation by NOTAM. Such information should be given local distribution during pre-flight or in-flight briefing or other local contact with operators or pilots. Since such information is not of direct operational significance, it does not preclude safe operation of aircraft and is not likely to influence a pilot's or operator's decision to divert a flight. The circumstances shown hereunder as stated in Annex 15, 5.1.1.1.3, should therefore not be notified by NOTAM:

- a) routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft;
- b) runway marking work, when aircraft operations can safely be conducted on other available

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- runways, or the equipment used can be removed when necessary;
- e) temporary obstacles in the vicinity of aerodromes/heliports that do not affect the safe operation of aircraft;
- f) partial failure of aerodrome/heliport lighting facilities where such failure does not directly affect aircraft operations;
- g) partial temporary failure of air-ground communications when suitable alternative frequencies are known to be available and are operative;
- h) the lack of apron marshalling services and road traffic control;
- i) the unserviceability of location, destination or other instruction signs on the aerodrome movement area;
- j) parachuting when in uncontrolled airspace under VFR (see Annex 15, 5.1.1.1 D), when controlled, at promulgated sites or within danger or prohibited areas; and
- k) other information of a similar temporary nature."

#### Checklists and lists of valid NOTAM

1.14 A checklist indicating all NOTAM that are valid must be issued periodically in a set format. The checklist assists recipients in verifying that the right cancellations of NOTAM have been made. In addition, the checklist must refer to the latest AIP Amendments, AIP Supplements and at least the internationally distributed AIC. Cancelling by sole means of a checklist (i.e. by omitting NOTAM to be cancelled) is not allowed. This checklist must be issued over the aeronautical fixed service (AFS) not less than once a month, and preferably to a fixed schedule so that recipients know when to expect it. Normally it would be adequate to issue the checklist for each month on the first day of the following month. A checklist is issued as a NOTAM in the series to which it refers. A separate checklist must be issued for each NOTAM series to the same distribution as the actual message series to which they refer. Checklists must be clearly identified as such. Further guidance on checklists is given in Appendix A to this chapter.

1.15 In addition, a monthly printed plain language list of valid NOTAM, including references to the latest AIP Amendments, AIC issued, and checklist of AIP Supplements must be prepared with a minimum of delay and forwarded by the most expeditious means to all recipients of the Integrated Aeronautical Information Package. Figure 6-1 contains a specimen format for the monthly plain language list of valid NOTAM.

## 2 DISTRIBUTION

2.1 A NOTAM must be distributed on the basis of a request. To the extent practicable, NOTAM must be distributed via the AFS. Each NOTAM must be transmitted as a single telecommunication message.

#### Priorities

2.2 The priority normally accorded to messages sent over the AFS is CG. Under exceptional

route or terminal basis as required.

Each State participating in such a facility would feed information into the centre as the occasion demanded and distribution to other States would be at the option of the ultimate recipient. In this way, only information required by the user would be distributed and much unnecessary information that now floods the AFTN/AFS would cease to burden the AIS and Communication (COM) services.

#### Predetermined distribution system for NOTAM

##### Description of the system

2.8 When it is agreed between NOF that incoming NOTAM (including SNOWTAM and ASHTAM) must be channelled through the AFTN/AFS directly to designated addressees predetermined by the receiving State concerned, while concurrently being routed to its NOF for checking and control purposes, an eight-letter addressee indicator constituted as follows must be used:

- First and second letters: The first two letters of the location indicator for the AFTN/AFS communication centre associated with the relevant NOF of the receiving State.
- Third and fourth letters: The letters "ZZ", indicating a requirement for special distribution.
- Fifth letter: The letter "N" for NOTAM, the letter "S" for SNOWTAM and the letter "V" for ASHTAM.
- Sixth and seventh letters: Letters each taken from the series A to Z, denoting the national and/or international distribution list(s) to be used by the receiving AFTN/AFS center.
- Eighth letter: The letter "X", to complete the eight-letter addressee indicator.

2.9 The main objective of the system is to expedite all NOTAM received by eliminating the delay that occurs when the receiving COM center routes incoming NOTAM to its NOF for checking and control purposes and then wants to receive them from the NOF for transmission to other internal addressees. To achieve this objective as well as to ensure proper routing, it is essential that States and territories from which NOTAM are required are advised of the sixth and seventh letters to be used by them in the addressee indicator. Each national distribution list, whether for NOTAM, SNOWTAM, denotes a group of addressees predetermined by the receiving State on the basis of its requirements for information promulgated by NOTAM. The sixth and seventh letters signify not only the group of addressees but also the automatic relay responsibility of the receiving AFTN/AFS centre.

circumstances and when justified by a requirement or special handling, a NOTAM may be given the higher DD priority.

#### Promulgation of transitory information

2.3 For information provided by NOTAM, it may be advantageous to exercise selectivity on a time basis to reduce NOTAM traffic on the AFS and wasted effort in the handling of data that could become redundant in transit. Where the information may be valid for only a few hours or subject to rapid change, and no other channel can ensure timely distribution, arrangements should be made for the information to be provided directly to the relevant air traffic services units using, where practicable, communication channels established for inter-AIS communications.

#### International distribution

2.4 Originating States are responsible for selecting the NOTAM to be given international distribution, but due consideration must be given to any stated operational requirements of other States for both flight planning and pre-flight information purposes. (These requirements are discussed more fully in Chapter 3.)

2.5 NOTAM given international distribution must conform, where necessary, with the relevant provisions of the ICAO communication procedures Annex 10, Volume 1D, the ICAO NOTAM Code and abbreviations (see Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC, Doc 8400)), indicators, identifiers, etc., and plain language where required for clear understanding. When a NOTAM is distributed by means other than the AFS, a six-digit datetime group indicating the date and time of filing the NOTAM and the identification of the originator must be given preceding the text.

#### Measures to reduce use of the AFTN/AFS

2.6 In order to avoid excessive traffic on the AFTN/AFS, NOTAM must be addressed only to NOF and further distribution within the State made by or through delegation from the NOF concerned. Furthermore, in exceptional cases, the direct exchange of SNOWTAM between adjacent aerodromes is permitted, should this be operationally necessary and if direct AFTN/AFS circuits are available. The exchanges between NOF should, as far as practicable, be limited to the pre-ascertained requirements of the receiving States concerned by means of separate series for at least international and domestic flights.

2.7 Consideration might also be given to the use of automation in an effort to improve distribution of NOTAM. With the computer technology now available it should be possible to store all NOTAM information (and all basic information) in a jointly-administered information facility in each major operating area. This facility could be interrogated for pre-flight information, or route manual or aeronautical charting purposes, by the State AIS, individual pre-flight information units or operating agencies, and could be programmed to print up-to-date information on an area.

#### Checking and control

2.10 Whereas the NOF is normally the focal point in a State for the receipt and dispatch of NOTAM, under the predetermined distribution system it shares the responsibility for checking incoming NOTAM with the aerodrome AIS units to which NOTAM are destined. Its responsibility here is mainly one of liaison. It does not relieve the ultimate addressee, to whom the NOTAM has been channelled and who is most affected by any lack of timeliness, accuracy or completeness in the information it contains, from also checking for obvious errors.

While the standard format used for NOTAM, SNOWTAM tends to minimize the possibility of error, the addressee nevertheless has special responsibility under this system to query any errors or omissions through the receiving NOF.

#### Selectivity in the distribution of information

2.11 The success of the predetermined distribution system presupposes competent selection, by the originating State, of NOTAM to be given international distribution and the use of selective distribution lists where practicable to prevent superfluous distribution of information. The selectivity exercised by an originating State in the distribution process should be related to the needs of the receiving States.

Selectivity in the locations that require the information is controlled through precisely predetermined arrangements made by the receiving States, indicated in terms of the sixth and seventh letters to be used in the addressee indicator, and taking into consideration the workload placed on the originating State and on the telecommunication services.

Where NOTAM are issued in more than one series, selectivity is already implicit in the division into series but the receiving State should establish routings that will ensure that the aerodrome AIS units receive only the series they require by rationalizing distribution arrangements within the State and preparing a routing guide for each communication center to cover the distribution of incoming NOTAM received under the system.

## 3 SPECIFICATIONS FOR NOTAM

#### Message series, number and identifier 3.2.5

3.1 Each NOTAM must be allocated a series identified by a letter and a four-digit number, followed by a stroke and a two-digit number for the year so that addressees may check continuity. The number must be consecutive and based on the calendar year.

If more than one series of NOTAM is issued, each series must be separately identified by a letter. Letters A to Z, with the exception of S and T, may be used to identify a NOTAM series. Renumbering of existing NOTAM (i.e. containing identical information, but with a new number)

is not allowed, nor are NOTAM to be renumbered at the beginning of each year.

3.2 One of the following message identifiers is to be inserted as appropriate:

- a) NOTAMN if it concerns a NOTAM containing new information.
- b) NOTAMR if it concerns a NOTAM replacing a previous NOTAM, followed by the series and number/year of the NOTAM replaced (e.g. A0125/03 NOTAMR A0123/03).
- c) NOTAMC if it concerns a NOTAM cancelling a previous NOTAM, followed by the series and number/year of the cancelled NOTAM (e.g. A0460/03 NOTAMC A0456/03).

3.3 Corrected versions of NOTAM must not be issued. Erroneous NOTAM must either be replaced or cancelled and a new NOTAM issued.

3.4 A NOTAMR must replace only one NOTAM. Both must belong to the same NOTAM series. A NOTAMC must cancel only one NOTAM. Both must belong to the same NOTAM series.

#### Promulgation in series

3.5 When considering the needs of States it may be found that an adjacent State may want full information from the originating State while a more distant State may only require a subset of this information or may not be interested in temporary information of short duration. In order to reduce distribution to meet such variable requirements, it may be found useful to arrange for NOTAM to be promulgated in two or more series to allow for selective distribution. For example, NOTAM may be classified as follows:

- A — NOTAM containing information of concern to long- or medium-range flights and given selected international distribution.
- B — NOTAM containing full information on all aerodromes, facilities and procedures available for use in international civil aviation and given international distribution to adjacent States and other States on request.
- C — NOTAM containing information of concern to aircraft other than those engaged in international civil aviation and given national distribution only.
- S — NOTAM published in the SNOTAM format concerning the presence or removal of hazardous conditions due to snow, slush or ice on aerodrome pavements or standing water associated with these conditions.
- Z — NOTAM concerning the status of elements of the global navigation satellite system (GNSS).

#### Example:

State 2 may require information from the originating State (State 1) on all aerodromes, facilities

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3.9 Each NOTAM must be as brief as possible and so compiled that its meaning is clear without the need to refer to another document. Each NOTAM must deal with only one subject and one condition concerning the subject. The text should be composed by the NOP in such a way that it will serve for PIB entry without requiring additional processing by the receiving unit.

#### Cross-reference to AIP/AIP Supplement.

3.10 When a NOTAM contains information that renders necessary an AIP Amendment or AIP Supplement the text must include an appropriate cross-reference to the affected AIP or AIP Supplement and an annotation must be made accordingly, even when the information is of a temporary nature. This informs the user of the AIP or AIP Supplement that there is information outstanding against a particular entry.

3.11 When a NOTAM contains temporary information of short duration that does not render necessary the consultation of an AIP Amendment or AIP Supplement to have the full information, AIP references must not be annotated in the NOTAM. This informs the user of the NOTAM that the text of the NOTAM is conveying the totality of the information.

#### Naming of locations

3.12 Location indicators included in the text of NOTAM must be those contained in Location Indicators (Doc 7910), and curtailed forms of these indicators must not be used. In NOTAM containing information concerning a location that has not been assigned an ICAO location indicator, the name of the location must be given in plain language, spelled in conformity with local usage and transliterated when necessary into the Latin alphabet.

#### Languages

3.13 NOTAM, as well as other elements of the Integrated Aeronautical Information Package given international distribution, must include an English text for those parts expressed in plain language. This requirement is intended to assist the majority of those engaged in civil aviation.

#### 4 NOTAM FORMAT [Appendix 6]

4.1 The NOTAM Format aims at standardizing the presentation of the different types of information promulgated by NOTAM in order to facilitate understanding of the message by the addressee. In developing this format, the need for transcription of the information in the form of AFS messages has been taken into account. The Format therefore includes the special symbols that are mandatory for the teleprinter operator to use in composing the message (i.e. carriage return, line change, space, opening parentheses before message identification and closing parentheses). The NOTAM Format and instructions for its completion, which are contained in Annex 15, are reproduced in Appendix A to this chapter.

4.2 The NOTAM Format essentially consists of two parts:

and procedures available for use by civil aircraft.

State 3 may require information from State 1 for a route stage originating at an aerodrome in its territory and terminating at an aerodrome in State 1, or transit territory for which State 1 is responsible, concerning significant aerodrome facilities, procedures, en-route navigation aids (including air ground communications) available to international civil aviation; and occurrences of significance to overlying aircraft along the portion of the route which traverses territory for which State 1 is responsible.

State 1 would then send to State 2 series B and S NOTAM while State 3 would be sent series A and V NOTAM and, if a requirement for them has been previously indicated, series S and series Z NOTAM.

#### Period of validity

3.6 Information must be provided on the duration of the hazard, change in the normal status of operation, or condition of the facilities being reported on. If, during that time, the condition or activity is active within specified time periods, this must also be given. NOTAM notifying unavailability of aids to air navigation, facilities or communication services must give the time at which restoration of service is expected or an estimate of the period of unavailability.

3.7 Care should be taken to express the duration of a circumstance notified in the NOTAM in such a way that there will be no misunderstanding. Both the NOTAM Format and the relevant options of the NOTAM Code require an indication of the applicable date(s) and time(s) expressed as a ten-figure group giving year, month, day and hour in UTC.

#### Example:

Q) RJCC/QLBAS/V/M/A000/99/4248N14140E025 A) RJCC B) 03042000Z1 C) 0304211800 E) ABN U/S

#### Meaning:

The aerodrome beacon at Sapporo/Chitose aerodrome became unserviceable at 0021 on 20 April 2003 and will remain out of service until 1800 hours UTC on 21 April 2003.

Text 15.2.1, 5.2.2 and Appendix 6]

3.8 The text of the NOTAM must be composed of the information on the hazard, status of operation or condition of the facilities reported on. It must be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code complemented by ICAO abbreviations (Doc 8400), and indicators, identifiers, designators, call signs, frequencies, figures and plain language. Except as otherwise provided for SNOTAM and ASHTAM, the text of each NOTAM must contain the information in the order shown in the NOTAM Format. (See Appendix A to this chapter.)

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- a) the part of interest to the communication service handling the AFS message, i.e. the part containing the priority indicator, addresses, date and time of filing and the originator's indicator;
- b) the part containing the NOTAM information.

4.3 Instructions for the completion of the NOTAM format which relates to the part containing the NOTAM information are provided in Appendix 6 of Annex 15. These instructions are repeated in Appendix A to this chapter for ease of reference, and Appendix A provides additional guidance and examples of NOTAM.

#### 5 USE OF THE NOTAM CODE AND ABBREVIATIONS

##### Purpose

5.1 The ICAO NOTAM Code contained in Doc 8400 is a comprehensive description of information contained in NOTAM. It serves as one of the most important criteria for storage and retrieval of information, as well as for deciding whether or not an item is of operational significance.

It also establishes the relevance of the NOTAM to the various types of flight operations and whether it must therefore be part of a PIB. In addition, it assists in specifying items that are to be subject to immediate notification processes. The NOTAM Code forms the basis upon which NOTAM qualifiers are determined for inclusion in Item Q) of the NOTAM Format, in addition to defining the abbreviated plain-language text which appears in Item E).

##### Composition

5.2 All NOTAM Code groups contain five letters. The first letter, Q, indicates that it is a code abbreviation for use when composing NOTAM. The second and third letters indicate the type of facility or condition being reported and the fourth and fifth letters, the hazard or status of operation being reported. The encode portion of the NOTAM Code has been provided to facilitate the choice of the appropriate code groups, but some imagination and a full appreciation of the Code's potentialities are necessary to make the most effective use of it.

It therefore requires considerable study by those responsible for NOTAM composition. In fact, when composing NOTAM in plain language, cognizance should be given to the possible coding of the NOTAM and care taken to frame the NOTAM in a manner which will facilitate later transcription into the NOTAM Code.

##### Use of NOTAM Code groups

5.3 The most commonly used NOTAM Code groups and their respective relation with the qualifiers Traffic, Purpose and Scope are presented in the NOTAM Selection Criteria tables in Appendix B to this chapter.

**Use of abbreviations**

5.4 In many instances, NOTAM Code groups need to be amplified, supplemented or completed by significations/uniform abbreviated phraseology assigned to the NOTAM Code and abbreviations, frequencies, call signs, identifications, time groups, etc., in order to convey the essential information. This is a recognized procedure in keeping with the concept of the NOTAM Code and aeronautical telecommunication procedures and should always be used in preference to plain language. Abbreviations specified for use by States for operational purposes are contained in Doc 8400. As the need for additional abbreviations becomes evident, steps will be taken to add abbreviations to Doc 8400. Abbreviations which are not in Doc 8400 should not be used.

Note.— Since the Q code (QDM, QFE, etc.) is primarily designed for air/ground request/reply communications, it should be used with caution and only when there is no chance that the message might be misunderstood.

**6 SNOWTAM [5.1.1.1 r), 5.2.3 and Appendix 2]**

A special series NOTAM, named SNOWTAM, is used to notify the presence or removal of hazardous conditions on the movement area due to snow, slush, ice or water associated with these conditions. A specific format (see Appendix A, Figure 6-A-1) is prescribed for this purpose. Use of the NOTAM Code and plain language is also permissible.

When the SNOWTAM Format is used, the information must be given in the order shown in the Format. During periods when deposits of snow, slush, ice or water associated with these conditions remain on aerodrome pavements, information on such conditions should be distributed to all to whom the information is of direct operational significance.

Appraisal of the situation should be made at least once every 24 hours, preferably before the commencement of a major traffic movement. A new SNOWTAM is required whenever there is a significant change in conditions. Instructions for the completion of the SNOWTAM Format are reproduced in Appendix A to this chapter.

TEL: 0123 897 3464 FAX: 0123 897 3474 Telex: 66-1234 AFS: EACDVATX E-mail: AIS@donlon.zk	REPUBLIC OF DONLON DEPARTMENT OF CIVIL AVIATION AERONAUTICAL INFORMATION SERVICE P.O. BOX 144 DONLON CITY	NOTAM LIST Series A
04 SEP 2003		
THE FOLLOWING NOTAM SERIES A WERE STILL VALID ON 4 SEP 2003. NOTAM NOT INCLUDED HAVE BEEN CANCELLED, TIME EXPIRED, SUPERSEDED BY AIP SUPPLEMENT OR INCORPORATED IN THE AIP.		
<b>SERIES A</b>		
<b>FIR</b>		
<b>DONLON FIR</b>		
<b>A046303</b>	From 0307241200 to 0310211236 EST. Trigger: NOTAM AIP — SUP 703 exercise area Blue Angel active. SFC to 1525 M. Contact authority: Donlon RCC.	<b>Exercise</b>
<b>A066203</b>	From 0309040530 to 0310211806. period SEP 09–17, 28–30 and OCT 01. Daily 0630–1800. P/E in area circle with radius of 10 KM centred on ..... N ..... E. from SFC to 5000 M.	<b>F/E</b>
<b>AD</b>		
<b>DONLON/International</b>		
	From 0309020815 to 0309102356 EST. Locator: ident KL 411 MHz US	<b>Locator</b>
	From 0308070815 to 0209012000. ILS GP RWY 27 331 400 MHz CAT I only	<b>ILS</b>
<b>HOLMSTOCK/Lands</b>		
..... etc. ....		
<b>Latest AIP Amendments:</b>		
AIP Amendment 042 dated 13 JUL 2003		
AIP Amendment 052 dated 1 SEP 2003		
<b>AIP Supplements in force:</b> 04/02, 02/02, 16/02, 01/03, 03/03, 04/03		
<b>AIC Series A in force:</b>		
NR 2 6 9 of 2000		
NR 2 6 7 of 2001		
NR 3 6 9 15 of 2002		
NR 2 3 5 7 of 2003		

Figure 6-1. Example of monthly printed plain-language list of valid NOTAM

**Appendix A to Chapter 6**

**NOTAM AND SNOWTAM**

**1 INTRODUCTION**

1.1 This appendix contains explanations relating to the issuing of NOTAM, which expands upon the basic guidance provided in Chapter 6.

1.2 The NOTAM Format and the corresponding instructions for its completion, contained in Appendix 6 to Annex 15, are reproduced in this appendix for ease of reference. Examples of NOTAM are also included. Two of these examples are supplemented by the associated AFS messages and by completed NOTAM Formats.

1.3 Guidance has been included on the issuing of trigger NOTAM as well as on the production of checklists to be issued as NOTAM.

1.4 The SNOWTAM Formats and instructions for completion of these Formats, as contained in Annex 15, Appendices 2 and 3 respectively, are also reproduced in this appendix.

**NOTAM FORMAT**

Priority indicator												→ 1
Address												→ 2
Date and time of filing												→ 3
Originator's identifier												→ 4
<b>Message Name, Number and Identifier</b>												
NOTAM pertaining to information	NOTAM: (system and number) (date)											→ 5
NOTAM replacing a previous NOTAM	NOTAM: (system and number) (date) (system and number) (date) (system and number) (date)											→ 6
NOTAM pertaining to previous NOTAM	NOTAM: (system and number) (date) (system and number) (date)											→ 7
<b>Qualifiers</b>												
4-R	NOTAM Class	Number	Priority	Status	Issue Level	Origin Class	Distribution Method					
01												
Identify colour (if ICAO) beside priority, if applicable, beside distribution method reported on a bulletin												
<b>Period of validity</b>												
From (2000-9999) (Zulu)	01											EST PERIOD
To (2000-9999) (Zulu)	01											
Type Restrictions (if applicable)	01											
<b>Text of NOTAM (Plain language Entry using ICAO Abbreviations)</b>												
E1												
→ 8												
Lower Limit	01											→ 9
Upper Limit	01											→ 10
Signature												

Figure 6-A-1. NOTAM Format

## INSTRUCTIONS AND GUIDANCE FOR THE COMPLETION OF THE NOTAM FORMAT

### 1. General

The qualifier line (Item Q) and all identifiers (Items A) to G) inclusive) each followed by a closing parenthesis, as shown in the format, shall be transmitted unless there is no entry to be made against a particular identifier.

### 2. NOTAM numbering

Each NOTAM shall be allocated a series identified by a letter and a four-digit number followed by a stroke and a two-digit number for the year (e.g. A0023/03). Each series must start on 1 January with number 0001.

### 3. Qualifiers (Item Q)

Item Q) is divided into eight fields, each separated by a stroke. For an easier automatic production of the PIB, all fields of Item Q) must be given a value; default values will be used where appropriate. The definition of each field is as follows:

#### D) FIR

a) If the subject of the information is located geographically within one FIR, the ICAO location indicator shall be that of the FIR concerned. When an aerodrome is situated within the overlying FIR of another State, the first field of Item Q) must contain the code for that overlying FIR (e.g. Q) LFRR/...A) EGJJ);

or

If the subject of the information is located geographically within more than one FIR, the FIR field shall be composed of the ICAO nationality letters of the State originating the NOTAM, followed by "XX". (The location indicator of the overlying UIR (Upper Flight Region) must not be used.) The ICAO location indicators of the FIRs concerned must then be listed in Item A) or indicator of State or non-governmental agency which is responsible for provision of a navigation service in more than one State;

b) If one State issues a NOTAM affecting FIRs in a group of States, the first two letters of the ICAO location indicator of the issuing State plus "XX" shall be included. The location indicators of the FIRs concerned shall then be listed in Item A) or indicator of State or non-governmental agency which is responsible for provision of a navigation service in more than one State.

#### 2) NOTAM CODE

All NOTAM Code groups contain a total of five letters, and the first letter is always the letter Q. The second and third letters identify the subject, and the fourth and fifth letters denote the status or condition of the subject reported upon.

- N NOTAM selected for the immediate attention of aircraft operators
- B NOTAM selected for PIB entry
- O NOTAM concerning flight operations
- M Miscellaneous NOTAM; not subject for a briefing, but it is available on request
- K NOTAM is a checklist.

Note. Depending on the NOTAM subject and content, the qualifier field PURPOSE may contain combined qualifiers: K, B, BO, NBO or M. Guidance concerning the combination of PURPOSE qualifiers with subject and conditions in accordance with the NOTAM Selection Criteria is contained in Appendix B.

#### 5) SCOPE

- A Aerodrome
- E En-route
- W Nav warning
- K NOTAM is a checklist

Note. Depending on the NOTAM subject and content, the qualifier field SCOPE may contain combined qualifiers. Guidance concerning the combination of SCOPE qualifiers with subject and conditions in accordance with the NOTAM Selection Criteria is contained in Appendix B. If the subject is qualified AE, the aerodrome location indicator must be reported in Item A).

#### 6) and 7) LOWER/UPPER

LOWER and UPPER limits shall only be expressed in flight levels (FL) and shall express the actual vertical limits of the area of influence without the addition of buffers. In the case of navigation warnings and airspace restrictions, values entered shall be consistent with those provided under Items F) and G). If the subject does not contain specific height information, insert "000" for LOWER and "999" for UPPER as default values.

#### 8) COORDINATES, RADIUS

The latitude and longitude accurate to one minute, as well as a three-digit distance figure giving the radius of influence in NM (e.g. 4700N01140E043). Coordinates present approximate centre of circle whose radius encompasses the whole area of influence (e.g. Coordinates of the aerodrome reference point for NOTAM with Scope A). If the NOTAM affects the entire FIR/UIR or more than one FIR/UIR, the default value "999" is used for radius.

A NOTAM must deal with only one subject and one condition of that subject.

The two-letter codes for subjects and conditions are those contained in the PANS-ABC (Doc 8400). For combinations of second and third and fourth and fifth letters, refer to the NOTAM Selection Criteria contained in Appendix B or insert one of the following combinations, as appropriate:

- a) If the subject is not listed in the NOTAM Code (Doc 8400), insert "XX" as the second and third letters (e.g. QXXAK);
- b) If the subject is not listed in Appendix B, the allocation of qualifiers "Traffic", "Purpose" and "Scope" must be based on operational experience and orientated to similar subjects contained in the NSC;
- c) If the condition of the subject is not listed in the NOTAM Code (Doc 8400) or in the NOTAM Selection Criteria (Doc 8126), insert "XX" as the fourth and fifth letters (e.g. QFAXX);
- d) When a NOTAM containing operationally significant information is issued in accordance with Appendix 4 and Chapter 6 and when it is used to announce the existence of AHRAC AIP Amendments or Supplements, insert "TI" as the fourth and fifth letters of the NOTAM Code;
- e) When a NOTAM is issued containing a checklist of valid NOTAM, insert "KKKK" as the second, third, fourth and fifth letters; and
- f) One of the following fourth and fifth letters of the NOTAM Code must be used in NOTAM cancellations:

- AK : RESUMED NORMAL OPERATION
- AL : OPERATIVE (OR RE-OPERATIVE) SUBJECT TO PREVIOUSLY PUBLISHED LIMITATIONS/ CONDITIONS
- AO : OPERATIONAL
- CC : COMPLETED
- CN : CANCELLED
- HV : WORK COMPLETED
- XX : PLAIN LANGUAGE

#### 3) TRAFFIC

- I FIR
- V VFR
- K NOTAM is a checklist

Note. Depending on the NOTAM subject and content, the qualifier field TRAFFIC may contain combined qualifiers. Guidance concerning the combination of TRAFFIC qualifiers with subject and conditions in accordance with the NOTAM Selection Criteria is contained in Appendix B.

#### 4) PURPOSE

#### 4. Item A)

Insert the location indicator as contained in Doc 7910 Location Indicators of the aerodrome or FIR in which the facility, airspace, or condition being reported on is located.

Only one aerodrome may be indicated. If more than one aerodrome is involved, separate NOTAM must be issued. More than one FIR/UIR may be indicated when appropriate. The location indicator of the FIR or UIR to be included is that of the area control center (ACC) or flight information center (FIC) providing air traffic services within the FIR or UIR.

Example:

"A) LOWW" identifies the aerodrome Wien/ Schwechat, whereas "A) LOVV" identifies Wien FIR (LOVV is the location indicator of Wien ACC/FIC).

The number of FIR in Item A) is restricted to 7 by the length of an AFTN line. If more than 7 FIR are affected, the Publishing NOF or responsible non-governmental agency may use a unique and unambiguous location indicator that serves the purpose of publication of NOTAM information related to more than 7 FIRs (e.g. UUUU). If no such unique location indicator exists, additional NOTAM must be published as required.

If information concerns GNSS, insert the appropriate ICAO location indicator allocated for a GNSS element or the common location indicator allocated for all elements of GNSS (except GBAS).

Note. In the case of GNSS, the location indicator may be used when identifying a GNSS element outage (e.g. KNMI for a GPS satellite outage).

If there is no available ICAO location indicator, use the ICAO nationality letter as given in Doc 7910, Part 2, plus XX and followed up in Item E) by the name, in plain language. When an ICAO location indicator is not available, it is imperative that Item E) be completed in order to identify the location/facility/service concerned since some indicators already exist where extensive use is made of the letter "X" (e.g. "DXXX" for Lomé/ Tokoin). Failure to complete Item E) could therefore result in unnecessary queries. By the same token, lack of an entry in Item E) would confirm the validity of the location indicator used.

#### 5. Item B)

Item B) must contain the beginning of the occurrence or activity or, in the case of a facility/service which becomes unusable, the date-time at which the NOTAM is filed.

For date-time group use a ten-figure group, giving year, month, day, hours and minutes in UTC (e.g. B) 0310241230, meaning 24 October 2003 at 12:30 UTC). Abbreviations such as "WIE" or "WIEH" must not be used. The start of a day shall be indicated by "0000".

This entry is the date-time at which the NOTAMN comes into force. In the cases of NOTAMR and NOTAMC, the date-time group is the actual date and time of the NOTAM origination. In order to avoid possible misinterpretation about further changes or existence of multiple NOTAM with the same subject at the same time, no future cancellation or replacement is issued. The start of a day shall be indicated by "0000".

6. Item C)

Item C) must contain the end of the occurrence or activity.

With the exception of NOTAMC, a date-time group (a ten-figure group giving year, month, day, hours and minutes in UTC) indicating duration of information shall be used unless the information is of a permanent nature in which case the abbreviation "PERM" is inserted instead.

If the information on timing is uncertain, the approximate duration shall be indicated using a datetime group followed by the abbreviation "EST" (e.g. C) 0310250600 EST). Any NOTAM which includes an "EST" must be cancelled or replaced before the datetime specified in Item C).

Abbreviations such as "UFN" must not be used. The end of a day shall be indicated by "2359" (i.e. do not use "2400").

Item C) must contain "PERM" solely for NOTAM information that will be incorporated in the AIP. These NOTAM are cancelled.

7. Item D)

Item D) must contain the specified schedule or period(s) during which an occurrence takes place or a hazard exists. This item is optional and need be completed only as and when required.

If the hazard, status of operation or condition of facilities being reported on will be active in accordance with a specific time and date schedule between the dates-times indicated in Items B) and C), insert such information under Item D). If Item D) exceeds 200 characters, consideration shall be given to providing such information in a separate, consecutive NOTAM.

Example:

When, between 19 April 2003 0730 UTC and 20 April 2003 1500 UTC, a hazard will exist on 19 and 20 April between 0730 and 1500 UTC only. Items B), C) and D) should be completed as follows:

- B) 0304190730
- C) 0304201500
- D) APR 19 AND 20 0730-1500

requirements listed in Appendix 7 of Annex 15, e.g. tenth of a minute must not be used. An e-mail address is inserted in Item E) with the @ symbol replaced by the string "(A)".

For NOTAMC, a subject reference and status message should be included to enable accurate plausibility checks.

Example:  
E) RWY 25R LLZ U/S

9. Items F) and G)

These items are normally applicable to navigation warnings or airspace restrictions, but can be used for any other applicable subjects, and are usually part of the PIB entry. Insert both lower and upper limits of activities or restrictions, clearly indicating the same reference datum and unit of measurement in both fields. The use of both metres and feet is discouraged as this may lead to confusion. The value and the unit of measurement (M or FT) must be consecutive without a blank.

The reference indication (AGL, AMSL) must follow the unit of measurement and be separated by a blank character only. The abbreviation GND or SEC must be used in Item F) to designate ground and surface respectively. The abbreviation UNL must be used in Item G) to designate unlimited.

In the case of Airspace Organization (NOTAM related to structure of ATS Routes, TMA, CTR, ATZ, etc.), the specified "Lower/Upper" values must correspond to the vertical limits of the airspace concerned. The use of default values 000/999 must be avoided whenever possible.

Lower limit: Item F) may show the lower limit as SFC (surface), GND (ground level), an altitude in metres or feet above mean sea level (e.g. "2000M AMSL" or "6500FT AMSL"), a height above ground (e.g. "1000M AGL") or a flight level (e.g. "FL100"). The abbreviation "000" must not be used.

Upper limit: Item G) may show the upper limit as an altitude either in metres or feet above mean sea level (e.g. "5000M AMSL" or "16500FT AMSL"), a height above the ground (e.g. "6000M AGL" or "19700FT AGL"), a flight level (e.g. "FL200") or as "UNL" (unlimited) if applicable. The abbreviation "999" must not be used.

Example:  
F) GND  
G) 30000FT AMSL

Meaning:  
From ground level up to an altitude of 30 000 ft above mean sea level.

8. Item E)

Item E), also called NOTAM text, must contain the information on the hazard, status of operation or condition of the facilities reported on.

When NOTAM is selected for international distribution, English text shall be included for those parts expressed in plain language.

The text in Item E) should be kept as short as possible, containing all the essential information needed for the safe conduct of the flight, and should be ready for inclusion in PIB. In this connection, it should be pointed out that it is the responsibility of the AIS to issue the NOTAM from information it receives from the relevant "sources" (other technical departments, etc.). Changing the text (not the substance) of the message to fit in the NOTAM Format is the responsibility of AIS and is usually done in coordination with the relevant source. Furthermore, the sources providing AIS/NOF with the information should be instructed to keep the message as short as possible and to restrict the information to be included in the NOTAM to the bare essentials.

The lateral limits of an area published in AIP or AIP SUP are not be repeated in Item E); the name of that area is referred to instead.

If lateral limits of an area are not published in AIP or AIP SUP, the coordinates must be expressed in accordance with the following to ensure readability:

- a) The points defining lateral limits of an irregular shape area must be enumerated in clockwise order separated by a hyphen "-". The last point on the list must be the same as the first point.
- b) A circular shape area is defined by the word "RADIUS" followed by the value of the radius and its abbreviated unit of measurement followed by the words "CENTRE" followed by coordinates of the centre of the circle.
- c) In Item E) latitude is presented as DDMM[SS.s][H] where DD denotes degrees; MM denotes minutes; SS denotes seconds; s denotes tenths of seconds; and H denotes hemisphere, N for North or S for South.
- d) In Item E) longitude is presented as DDDMM[SS.s][H] where DDD denotes degrees; MM denotes minutes; SS denotes seconds; s denotes tenths of seconds; and H denotes hemisphere, W for West or E for East.
- e) The resolution used for coordinates must conform with the aeronautical data quality

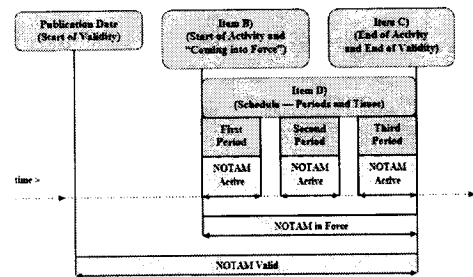


Figure 6-A-2. NOTAM date-times

2. EXAMPLES OF NOTAM USING THE NOTAM FORMAT

2.1 Examples of NOTAM using the NOTAM Format are given below. These are examples only and should not be considered as having any operational value.

- a) At Paris/Orly from the 1st day of April 2003 at 0000 UTC until the 1st day of April 2003 at 0600 UTC, the distance measuring equipment will be unserviceable.

NOTAMN  
Q) LFFF-QND/AS-IV/RO/AE/000/999/ 4843N00221E250  
A) LFFQ  
B) 0304010000  
C) 0304010600  
E) DME U/S

- b) At New York/La Guardia the VHF omnidirectional radio range on 116.9 MHz will be out of service until approximately the 13th day of November 2003 at 0900 UTC.

NOTAMN  
Q) KZNY/QNVAS-IV/RO/AE/000/999/ 4047N07352W250



A) KLGA  
B) 0311020615  
C) 0311130901 EST  
E) 116.9 MHz VOR U/S

c) At Beograd/Beograd the non-directional beacon on 243 kHz will be permanently withdrawn from service on 1 May 2003 at 0600 UTC. Add reference to AIP.

NOTAMN

Q) LYBA/QNBW/IV/BO/AE/000/999/4449N02019E300  
A) LYBE  
B) 0305010600  
C) PERM  
E) 243 KHZ NDB WITHDRAWN REF. AIP LYBE AD 2.19)

d) In the Montreal FIR gun firing will take place on the 21st day of February 2003 from 0800 hours UTC until 1100 hours UTC within an area of 10 NM around the location 45 37 North 74 00 West from the surface up to an altitude of 6 100 metres MSL.

NOTAMN

Q) CZUL/QWML/W/IV/BO/W/000/200/4537N07400W010  
A) CZUL  
B) 0302210800  
C) 0302211100  
E) GUN FIRING WILL TAKE PLACE RADIUS 10 NM CENTRE 4537N07400W  
F) SEC  
G) 6100M AMSL

e) If a danger area EGDXX located at 5510N00520W with a radius of 50 NM (and affecting two FIR) were to be activated up to 40 000 ft MSL on 3, 7, 12, 21, 24 and 28 April 2003, daily from 0730 to 1500 UTC and up to 30 000 ft MSL on 19 and 20 April 2003 daily from 0730 to 1500 UTC, two NOTAM would be required, as follows:

(A0623/03 NOTAMN

Q) EGXX/QRDCA/IV/NBO/W/000/400/5510N00520W050  
A) EGTTEGPX  
B) 0304030730  
C) 0304281500

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h) Basic GNSS, SBAS and GBAS will be unavailable for all en-route and aerodrome operations in an area of 460 km (250 NM) radius around Paris Charles de Gaulle as of October 16th, 2003 at 1815 hours UTC until 2315 hours UTC.

(A3546/03 NOTAMN

Q) LFFF/QGWAU/I/BO/AE/000/999/4901N00232E250  
A) LFFG  
B) 0310164815  
C) 0310162315  
E) BASIC GNSS UNAVBL, SBAS UNAVBL, GBAS UNAVBL

i) At Dushanbe FIR DANGER AREA UTDD)2 will act with radius 2000m and centered on 3822N06836E from 170713 0300 UTC until 170715 1750 UTC. ---Request Publish the NOTAM (UTDD)

NOTAMN

Q) UTDD/QRTCA/IV/BO/W/000/999/3940N06746E002  
A) UTDD  
B) 1707130300  
C) 1707151750  
E) DAILY 0300-1750. DANGER AREA UTDD)2 ACT W/ 2000M RADIUS CENTRED ON 3940N06746E  
F) SEC  
G) F150

j) Request to cancel NOTAM O 0755/16, 1 6073/16, (UTDL). ILS is serviceable.

NOTAMC

Q) UTDD/QICAK/I/NBO/A/000/999/4013N06942E005  
A) UTDL

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D) APR 03 07 12 21 24 AND 28 0730 TO 1500  
E) DANGER AREA DXX IS ACTIVE  
F) GND  
G) 40000FT AMSL

(A0624/03 NOTAMN

Q) EGXX/QRDCA/IV/NBO/W/000/300/5510N00520W050  
A) EGTTEGPX  
B) 0304190730  
C) 0304201500  
D) APR 19 AND 20 0730 TO 1500  
E) DANGER AREA DXX IS ACTIVE  
F) GND  
G) 30000FT AMSL

f) At Frankfurt International on the 27th day of November 2003, basic GNSS is unavailable for NPA from 1723 UTC until 1754 UTC, SBAS is unavailable for APV from 1731 until 1746 UTC and GBAS is unavailable from 1735 until 1746 UTC.

(B0116/03 NOTAMN

Q) EDDF/QGAAU/I/BO/A/000/999/5204N01137E250  
A) EDDF  
B) 0311271723  
C) 0311271754  
E) BASIC GNSS UNAVBL FOR NPA 0311271723 TIL 0311271754 SBAS UNAVBL FOR APV 0311271731 TIL 0311271748 GBAS UNAVBL 0311271735 TIL 0311271746

g) SBAS is unavailable for all APV operations in an area of 250 NM radius around Paris Charles de Gaulle as of December 14th, 2003 at 2135 hours UTC until December 15th, 2003 at 2135 hours UTC (estimated).

(A2500/03 NOTAMN

Q) LFFF/QGWAU/I/BO/A/000/999/4901N00232E250  
A) LFFG  
B) 0312142135  
C) 0312152135 EST  
E) SBAS UNAVBL FOR APV

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B) 1701181105  
C) 1701190500  
E) RESUMED NORMAL OPERATION

k) At KHUZZHAND (UTDL) Airport, Runway 08 ILS is out of service from 0806 0500 UTC until 170820 0500 UTC. ---Request to extend the NOTAM (UTDL) O 0357/17, 1 2339/17.

NOTAMR

Q) UTDD/QICAS/I/NBO/A/000/999/4013N06942E015  
A) UTDL  
B) 1708060500  
C) 1708200500  
E) RWY 08 ILS OUT OF SERVICE

l) Request to close aircraft stands B5, C6, C7 from 170614 1015 UTC until 170913 2359UTC

NOTAMN

Q) UTDD/QMPLC/IV/BO/A/000/999/3759N06948E005  
A) UTDL  
B) 1706141015  
C) 1709132359  
E) ACFT STAND B5,C6,C7 CLSD

m) Request to close aircraft taxiways "B" and "M" from 170614 1015 UTC until 170913 2359UTC

NOTAMN

Q) UTDD/QMXLC/IV/M/A/000/999/3759N06948E005  
A) UTDL  
B) 1706141015  
C) 1709132359

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m) Request to publish NOTAM. In UTDT aerodrome. All operation carried out upon prior coordination with AD administration due to AD reconstruction, repair work in progress and runway extension.

NOTAMN  
 Q:UTDD/QFAAP/IV/NBO/A/000/999/3752N06852E005  
 A:UTDT  
 B:1705021200  
 C:1708012359  
 E:ACFT ARR AND DEP CARRIED OUT UPON PRIOR COORDINATION WITH AD ADMINISTRATION DUE TO AD RECONSTRUCTION, REPAIR WIP AND RWY EXTENSION.)

o) At QURGAN-TUBE (UTDT) Airport, Ceiling observation equipment is not provided from 160318 1300 UTC until 160401 1300 UTC. ---Request to extend the NOTAM (UTDT)

NOTAMR  
 Q:UTDM/QFCAS/IV/M/A/000/999/3752N06852E005  
 A:UTDT  
 B:1603181300  
 C:1604011300  
 E:CEILING OBS NOT PROVIDED)

p) Request to cancel NOTAM O 0475/17, 13618/17. (UTDT). Aerodrome is closed due to repairing works.

NOTAMC  
 Q:UTDD/QFALC/IV/NBO/A/000/999/3752N06852E005  
 A:UTDT  
 B:1607041010

GG CYZZNBRX KJZZNOKX LFZZNMX NTTYNYX WAKKYNXX  
 301203 RJAAYNYX  
 (A0068/03 NOTAMN  
 Q: RJTG-QWLLW/V/M/W/000/065/4248N14042E100  
 A) RJTG  
 B) 0305341930  
 C) 0306290930  
 D) MAY 31 JUN 06 07 13 14 20 21 27 28 1930-0930  
 E) HOT AIR BALLOON FLT IN AREA 4300N14040E 4240N14030E 4236N14030E 4236N14054E 4300N14040E VMC ONLY  
 F) SFC  
 G) 2000M AMSL.)

2.2 Examples of completed NOTAM Formats are given in Figures 6-A-3 and 6-A-4, and the meanings of the NOTAM messages are included below together with the associated examples of AFS messages.

Meaning of NOTAM in Figure 6-A-3  
 NOTAM series A number 0068 replacing NOTAM series A number 0062 of the current year. Vagar, Faroe Islands, aerodrome closed for maintenance on the runway from 2300 hours UTC on the 8th day of May 2003 to approximately 0100 UTC on the 9th day of May 2003.

AFS message  
 GG ELUZZNIX EBZZNIX EDZZNIX  
 EKZZNIX  
 021432 BGSPYNYX  
 (A0068/03 NOTAMR A0062/03  
 Q) BIRD/QFALC/IV/NBO/A/000/999/ 6204N07163W010  
 A) EKVG  
 B) 0305082300  
 C) 0305090100 EST  
 E) AD CLSD FOR MAINT

Meaning of NOTAM in Figure 6-A-4  
 In the Tokyo FIR, hot air balloon flying will take place in an area bounded by the following points 43 00 N 140 40 E, 42 40 N 140 30 E, 42 36 N 140 30 E and 42 36 N 140 54 E. The flying will be held during VMC only up to an altitude of 2 000 m above mean sea level during the following days and times:

In 2003, May 31 19h30 June 1 09h30, June 6 19h30 June 7 09h30, June 7 19h30 June 8 09h30, June 13 19h30 June 14 09h30, June 14 19h30 June 15 09h30, June 20 19h30 June 21 09h30, June 21 19h30 June 22 09h30, June 27 19h30 June 28 09h30, June 28 19h30 June 29 09h30.

Or in a more concise form:  
 In 2003, on the following days: May 31, June 6, 7, 13, 14, 20, 21, 27 and 28 at periods starting at 19h30 and ending at 09h30 the next day.

AFS message

Priority indicator	GG	→																		
Address	ELUZZNIX EBZZNIX EDZZNIX																			
EXLZZNIX (etc.)																				
Date and time of msg	021432	→																		
Originator's indicator	BGSPYNYX	→																		
<b>Message Series, Number and Identifier</b>																				
NOTAM conveying new information	NOTAMN																			
NOTAM replacing a previous NOTAM	(A0068/03 NOTAMR A0062/03																			
NOTAM cancelling a previous NOTAM	NOTAMC																			
<b>Qualifiers</b>																				
<table border="1"> <tr> <th>Info</th> <th>NOTAM data</th> <th>Traffic</th> <th>Restrict</th> <th>Section</th> <th>Lower limit</th> <th>Upper limit</th> <th>Characteristics</th> <th>Risk</th> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> </table>	Info	NOTAM data	Traffic	Restrict	Section	Lower limit	Upper limit	Characteristics	Risk	0	1	2	3	4	5	6	7	8		
Info	NOTAM data	Traffic	Restrict	Section	Lower limit	Upper limit	Characteristics	Risk												
0	1	2	3	4	5	6	7	8												
<b>Period of Validity</b>																				
From (transmit group)	0 1 2 3 4 5 6	→																		
To (REPL or cancel group)	0 1 2 3 4 5 6	→																		
Time Schedule (if applicable)	0 1	→																		
<b>Text of NOTAM, Plain-Language Entry (using ICAO Abbreviations)</b>																				
E) AD CLSD FOR MAINT																				
Lower limit	S	→																		
Upper limit	(S)	→																		
Significance																				

Figure 6-A-3. Example 1 of a completed NOTAM Format

Priority indicator	GG								
Address	CZCZ/BEN RDZDZDZK LFZAZANK								
NOTIFYING UNIT	WJAKYAKA (RTE)								
Class and time of filing	301203								
Originator's address	WJAKYAKA								
Message format, number and indicator									
NOTAM originating and distribution	40703/03 NOTAM								
NOTAM replacing a previous NOTAM	NOTAM								
NOTAM concerning a previous NOTAM	NOTAM								
Qualifiers									
FIR	NOTAM Code	Topic	Priority	Scope	Event time	Event date	Duration	Remarks	
Period of validity									
From: 2006040300									
To: 2006040300									
Time interval: (P) 000000									
Text of NOTAM: Plain language entry (using ICAO Abbreviations)									
407 428 BALLOON FLT IN AREA 430013040E - 422013030E - 4236124030E - 4226114019E - 430013040E VMC ONLY									
Class/Time	0300								
Topic/Ref	02000M A442								
Signature									

Figure 6-A-4. Example 1 of a completed NOTAM Format

### 3. TRIGGER NOTAM

3.1 Trigger NOTAM are issued in the situations described in Figure 4-2 of Chapter 4 in accordance with the same instructions as for any other NOTAM with the following exceptions:

#### 3.1.1 Qualifiers (Item Q)

##### NOTAM CODE:

The second and third letters (subject) must be selected from the PANS-ABC (Doc 8400) and must never be the letters XX. If there is no suitable selection, use FA for aerodromes and AF for FIR. In the case of multiple subjects for the same aerodrome or FIR, the second and third letters must be selected according to the subject of highest operational importance.

The fourth and fifth letters (condition) must always contain the letters TT. This exclusive TT condition must be used in trigger NOTAM regardless of the subject of NOTAM code listed in the PANS-ABC.

Note: Condition "TT" may be used to retrieve specific trigger NOTAM from any issuing NOF and can also be used to include/exclude trigger NOTAM in/from PIB at a specific time before their effective date.

##### PURPOSE:

As trigger NOTAM are issued relative only to information of operational significance, the qualifier PURPOSE must relate to BO.

##### SCOPE and TRAFFIC:

In the case of multiple subjects for the same aerodrome or FIR, and even though only the subject of highest operational significance is listed in the NOTAM code, the qualifiers SCOPE and TRAFFIC must be selected to cover all subjects.

#### 3.1.2 Items B) and C)

Trigger NOTAM must contain in Item B) the AIRAC effective date-time of the AIRAC AIP Amendment or AIRAC AIP Supplement. As trigger NOTAM must remain valid for a period of 14 days after the effective date of an amendment or supplement, Item C) must contain the AIRAC effective date-time plus 14 days.

##### Example:

- B) 0603161000 (AIRAC effective date-time)
- C) 0603301000 (AIRAC effective date-time + 14 days)

When the information published by an AIRAC AIP Supplement has a duration that is shorter than 14 days, Item C) of a trigger NOTAM must have the date and time when the information published in the

AIP Supplement will expire.

A trigger NOTAM is generally self-cancelling at the datetime specified in Item C). In a case where the information contained in an AIRAC AIP Supplement becomes invalid before this date, the trigger NOTAM may be cancelled or replaced if the AIRAC AIP Supplement remains valid for a short period.

#### 3.1.3 Item E)

The text in Item E) should not exceed 300 characters and must always start with the words "TRIGGER NOTAM" (followed, only in the case of an AIP Amendment, by the abbreviation PERM), a reference number of the published AIRAC AIP Amendment or AIRAC AIP Supplement concerned, the effective and end date of validity (or the effective date only in the case of PERM) and a brief description of its content.

Note: PERM or end of validity is inserted in Item E) to stress that the information published by the referenced AIP Amendment or AIP Supplement is of a permanent nature or of planned duration respectively while the trigger NOTAM contains an end date as per Item C).

### 3.2 Trigger NOTAM relative to AIRAC AIP Amendments

3.2.1 AIRAC AIP Amendments represent permanent operational changes to the AIP on a predefined AIRAC effective date. The text in Item E) must include an indication that permanent changes are taking place.

##### Example:

- Q) LOVV QARTT/1 BO/E/245/999/4720N01330E/999
- A) LOVV
- B) 0603161000 (AIRAC effective date-time)
- C) 0603301000 (AIRAC effective date-time + 14 days)
- E) TRIGGER NOTAM PERM AIRAC AIP AMDT 3/06 WEF 16MAR2006 IMPLEMENTATION OF NEW ATIS ROUTE UA15

### 3.3 Trigger NOTAM relative to AIRAC AIP Supplements

3.3.1 AIRAC AIP Supplements represent temporary operational changes of long duration (three months or longer) or operational changes of short duration containing extensive text or graphics.

##### Example:

- A0034/06 NOTAMN

Q) ESMM/QFAT/IV/BO/A/000/999/ 5739N01217E/005

- A) ESGG
- B) 0604131000
- C) 0604271000
- E) TRIGGER NOTAM AIRAC AIP SUP 14/06 WEF 13APR2006 TH. 25MAY2006 USE OF AERODROME RESTRICTED DUE TO MAJOR CONSTRUCTION WORK.

3.3.2 Generally, changes to a given AIRAC AIP Supplement are announced by replacing it by another AIRAC AIP Supplement and the normal rules for trigger NOTAM apply. However changes of short duration, of short notice or of temporary nature, such as short-notice notification of an earlier end of validity or notification of the activation of information described in the AIP SUP, are announced by normal NOTAM referring to the AIP SUP.

##### Examples:

- A0115/08 NOTAMN
- Q) ESAA/QMDCH/IV/BO/A/000/999/ 5739N01217E/005
- A) ESGG
- B) 0804120637
- C) 0805112359
- E) RWY 03/21 TORA 2800M. REF AIRAC AIP SUP 14/08.
- A0127/08 NOTAMN
- Q) ESAA/QFALT/IV/BO/A/000/999/5739N01217E/005
- A) ESGG
- B) 0804230000
- C) 0805112359
- E) REF AIRAC AIP SUP 14/08 WORK COMPLETED. RESTRICTIONS ON THE USE OF AERODROME NO LONGER IN FORCE.

### 4. CHECKLIST OF NOTAM

Checklists are issued as NOTAMR and are completed as follows:

##### Qualifiers in Item Q)

FIR the FIR indicator; or  
the State indicator or letter(s) followed by XX, or XXX if there is more than one FIR in a State; or  
the State indicator of the issuing NOF followed by XX, or XXX if publishing for FIR in different States.

**NOTAM CODE**  
the dedicated NOTAM Code QKXXX.

**TRAFFIC, PURPOSE and SCOPE**  
K - NOTAM is a checklist.

**Note.** The NOTAM code QKXXX and the qualifier K for 'TRAFFIC, PURPOSE and SCOPE' are used to allow selective retrieval of the checklist. This also prevents the checklist from appearing in the pre-flight information bulletin (PIB).

**LOWER/UPPER**  
default values 000/999.

**COORDINATES, RADIUS**  
the geographical coordinates of the centre of the FIR(s) listed in Item A), followed by the default radius 999.

**Item A)**  
Item A) must contain the FIR or a list of all the FIRs to which the checklist relates.

**Item B)**  
The current checklist NOTAMR replaces the previous checklist with immediate effect. Consequently Item B) is the issuing time of the checklist and supersedes the previous one immediately.

**Item C)**  
The checklist is issued with an estimated validity of not more than one month. Item C) is indicated as one month after the date of issue, followed by EST.

**Item E)**  
Item E) is divided into two sections:

**First section:**  
begins with the keyword "CHECKLIST";  
contains the list of the valid NOTAM numbers, which have been promulgated in the same series as the checklist, in a format suitable for automatic and manual processing;

**Note 1.** The list must not contain the number of the replaced NOTAM checklist or its own NOTAM checklist number.

**Note 2.** Each NOTAM number (always four digits) is separated by a blank with no other

punctuation mark.  
groups NOTAM by year, using the word "YEAR" and the "-" sign, followed by the four-digit year of publication without blanks (e.g. YEAR 2002).

**Note.** Each indicator of a different year must start on a new line.

**Second section:**  
begins with the words "LATEST PUBLICATIONS";  
contains the list of the latest publications, in a format suitable for manual processing only.

**Note 1.** Whenever the numbering of AIP Amendments takes place on a yearly basis, a reference to the year of publication must be added to the number.

**Note 2.** Checklists must contain the numbers of the NOTAM incorporated in a normal AIP Amendment or AIP Supplement until the time that these NOTAM are cancelled by the publication of a NOTAMC.

**Example:**  
A0037/03 NOTAMR A0016/03  
Q) LIXX/QKXXX/K/K/K/000/999/4323N01205E999  
A) LBBB LMMM LRRR  
B) 0303310900  
C) 0304300900EST  
E) CHECKLIST  
YEAR 2001 0101 0232 0244 0288 0345 0511  
YEAR 2002 0101 0104 0347 0601 0653 0674 0687  
YEAR 2003 0004 0006 0009 0010 0011 0012 0014 0018 0025 0027 0029 0034 0035  
LATEST PUBLICATIONS  
AIRAC AIP AMDT 004/03 EFFECTIVE 20 APR 00  
AIP SUP 001/03  
AIP AMDT 413  
AIC A001/03

Differentiating between IFR or VFR publications (volumes) can be stated, if so required:

AIP SUP VFR 001/03  
AIP SUP IFR 002/03  
AIRAC AIP AMDT IFR 004/03 EFFECTIVE 20 APR 03

**Erroneous checklists**

When the publication of a checklist contains an error, the following procedures will apply:

- Error:** A valid NOTAM number was not inserted in the checklist.
- a) if the omitted NOTAM is in force, a NOTAMR must be published replacing the omitted NOTAM with a new number;
  - b) if the omitted NOTAM is not yet in force, a NOTAMC and NOTAMN shall be issued.

**Error:** An invalid NOTAM number was erroneously inserted in the checklist.

A revised checklist (NOTAMR replacing the erroneous checklist) must be published without the invalid NOTAM number (no correct version).

This procedure will allow for consistency of the data in the databases of all recipients, whatever the method used to process checklists.

**SNOWTAM FORMAT**

NOTAM NUMBER	IDENTIFICATION	ACQUISITION	REVISION
Q) LIXX/QKXXX/K/K/K/000/999/4323N01205E999	A) LBBB LMMM LRRR	B) 0303310900	C) 0304300900EST
E) CHECKLIST	YEAR 2001 0101 0232 0244 0288 0345 0511	YEAR 2002 0101 0104 0347 0601 0653 0674 0687	YEAR 2003 0004 0006 0009 0010 0011 0012 0014 0018 0025 0027 0029 0034 0035
LATEST PUBLICATIONS			
AIRAC AIP AMDT 004/03 EFFECTIVE 20 APR 00			
AIP SUP 001/03			
AIP AMDT 413			
AIC A001/03			

NOTAM NUMBER	IDENTIFICATION	ACQUISITION	REVISION
Q) LIXX/QKXXX/K/K/K/000/999/4323N01205E999	A) LBBB LMMM LRRR	B) 0303310900	C) 0304300900EST
E) CHECKLIST	YEAR 2001 0101 0232 0244 0288 0345 0511	YEAR 2002 0101 0104 0347 0601 0653 0674 0687	YEAR 2003 0004 0006 0009 0010 0011 0012 0014 0018 0025 0027 0029 0034 0035
LATEST PUBLICATIONS			
AIRAC AIP AMDT 004/03 EFFECTIVE 20 APR 00			
AIP SUP 001/03			
AIP AMDT 413			
AIC A001/03			

Figure 6-A-3 SNOWTAM Format

INSTRUCTIONS FOR THE COMPLETION OF THE SNOWTAM FORMAT

1. General

- a) When reporting on two or three runways, repeat Items C to P inclusive.
- b) Items, together with their indicator, must be dropped completely where no information is to be included.
- c) Metric units must be used and the unit of measurement not reported.
- d) The maximum validity of SNOWTAM is 24 hours. New SNOWTAM must be issued whenever there is a significant change in conditions. The following changes relating to runway conditions are considered as significant:

- 1) a change in the coefficient of friction of about 0.05;
- 2) changes in depth of deposit greater than the following: 20 mm for dry snow, 10 mm for wet snow, 3 mm for slush;
- 3) a change in the available length or width of a runway of 10 per cent or more;
- 4) any change in the type of deposit or extent of coverage which requires reclassification in Items E or F of the SNOWTAM;
- 5) when critical snow banks exist on one or both sides of the runway, any change in the height or distance from centre line;
- 6) any change in the conspicuity of runway lighting caused by obscuring of the lights;
- 7) any other conditions known to be significant according to experience or local circumstances.

e) The abbreviated heading "TTAAiiii CCCC MMYGGgg (BBB)" is included to facilitate the automatic processing of SNOWTAM messages in computer data banks. The explanation of these symbols is:

- TT data designator for SNOWTAM SW;
- AA geographical designator for States, e.g. LF - FRANCE, EG - United Kingdom (see Location Indicators (Doc 7910), Part 2, Index to Nationality Letters for Location Indicators);

bottom. Drifts, depths of deposit appreciably greater than the average values or other significant characteristics of the deposits may be reported under Item T in plain language.

Note. Definitions for the various types of snow are given at the end of this Appendix.

8. Item G

Mean depth in millimetres deposit for each third of total runway length, or "XX" if not measurable or operationally not significant; the assessment to be made to an accuracy of 20 mm for dry snow, 10 mm for wet snow and 3 mm for slush.

9. Item H

Friction measurements on each third of the runway and friction measuring device. Measured or calculated coefficient (two digits) or, if not available, estimated surface friction (single digit) in the order from the threshold having the lower runway designation number. Insert a code 9 when surface conditions or available friction measuring device do not permit a reliable surface friction measurement to be made. Use the following abbreviations to indicate the type of friction measuring device used:

- BRD Brakemeter-Dynamometer
- GRT Grip tester
- MUM Mummer
- RFT Runway friction tester
- SF1 Surface friction tester (high-pressure tire)
- SFL Surface friction tester (low-pressure tire)
- SK11 Skidometer (high-pressure tire)
- SKL Skidometer (low-pressure tire)
- TAP Tapley meter

If other equipment is used, specify in plain language.

10. Item J

Critical snowbanks. If present insert height in centimetres and distance from edge of runway in metres, followed by left ("L") or right ("R") side or both sides ("LR"), as viewed from the threshold having the lower runway designation number.

11. Item K

If runway lights are obscured, insert "YES" followed by "L", "R" or both "LR", as viewed from the threshold having the lower runway designation number.

12. Item L

When further clearance will be undertaken, enter length and width of runway or "TOTAL" if runway

iiii SNOWTAM serial number in a four-figure group:

CCCC four-letter location indicator of the aerodrome to which the SNOWTAM refers (see Location Indicators (Doc 7910));

MMYYGGgg date-time of observation/measurement, whereby: MM month, e.g. January 01, December 12 YY day of the month GGgg time in hours (GG) and minutes (gg) UTC;

(BBB) optional group for: Correction to SNOWTAM message previously disseminated with the same serial number COR.

Note. Brackets in (BBB) are used to indicate that this group is optional.

Example:

Abbreviated heading of SNOWTAM No. 149 from Zurich, measurement/observation of 7 November at 0620 UTC:

SWLS0149 LSZH 11070620

2. Item A

Aerodrome location indicator (four-letter location indicator).

3. Item B

Eight-figure date-time group giving time of observation as month, day, hour and minute in UTC; this item must always be completed.

4. Item C

Lower runway designation number.

5. Item D

Cleared runway length in metres, if less than published length (see Item T on reporting on part of runway not cleared).

6. Item E

Cleared runway width in metres, if less than published width; if offset left or right of centre line, add "L" or "R", as viewed from the threshold having the lower runway designation number.

7. Item F

Deposit over total runway length as explained in SNOWTAM Format. Suitable combinations of these numbers may be used to indicate varying conditions over runway segments. If more than one deposit is present on the same portion of the runway, they should be reported in sequence from the top to the

will be cleared to full dimensions.

13. Item M

Enter the anticipated time of completion in UTC.

14. Item N

The code for Item F may be used to describe taxiway conditions; enter "NO" if no taxiways serving the associated runway are available.

15. Item P

If applicable, enter "YES" followed by the lateral distance in metres.

16. Item R

The code for Item F may be used to describe apron conditions; enter "NO" if the apron is unusable.

17. Item S

Enter the anticipated time of next observation/measurement in UTC.

18. Item T

Describe in plain language any operationally significant information but always report on length of uncleared runway (Item D) and extent of runway contamination (Item F) for each third of the runway (if appropriate) in accordance with the following scale:

Runway contamination	10%	if less than 10% of runway contaminated
Runway contamination	25%	if 11-25% of runway contaminated
Runway contamination	50%	if 26-50% of runway contaminated
Runway contamination	100%	if 51-100% of runway contaminated.

EXAMPLE OF COMPLETED SNOWTAM FORMAT

GG EHAMZQZX EDDFZQZX EKCHZQZX  
 070615 LSZHNYX  
 SWLS0149 LSZH 11070620  
 (SNOWTAM 0149)  
 A)LSZH  
 B)11070620  
 C)02  
 D) ... P)  
 C)09 D) ... P)  
 C)12 D) ... P)  
 R)NO S)11070920 T)DEICING

Definitions of the various types of snow

**Slush.** Water-saturated snow which with a heel-and-toe slap-down motion against the ground will be displaced with a splutter; specific gravity: 0.5 up to 0.8.

**Note.** Combinations of ice, snow and/or standing water may, especially when rain, rain and snow, or snow is falling, produce substances with specific gravities in excess of 0.8. These substances, due to their high water/ice content, will have a transparent rather than a cloudy appearance and, at the higher specific gravities, will be readily distinguishable from slush.

**Snow (on the ground)**

- a) Dry snow. Snow which can be blown if loose or, if compacted by hand, will fall apart again upon release; specific gravity: up to but not including 0.35.
- b) Wet snow. Snow which, if compacted by hand, will stick together and tend to or form a snowball; specific gravity: 0.35 up to but not including 0.5.
- c) Compacted snow. Snow which has been compressed into a solid mass that resists further compression and will hold together or break up into lumps if picked up; specific gravity: 0.5 and over.

- B NOTAM selected for PIB entry
- O NOTAM concerning flight operations
- M Miscellaneous NOTAM: not subject for a briefing, but available on request
- K NOTAM is a checklist.

Depending on the NOTAM subject and content, the field for the qualifier Purpose may contain the qualifiers K, M, B, BO or NBO.

2.3 Scope

- A Aerodrome
- E En-route
- W Nav Warning
- K NOTAM is a checklist.

Depending on the NOTAM subject and content, the field for the qualifier Scope may contain combined qualifiers. For instance, radio aids may be both "A" and "E", serving a dual purpose as en-route and aerodrome aids.

3. Trigger NOTAM

The fourth and fifth letters of the NOTAM Code of a trigger NOTAM must always be "TT". The second and third letters are selected from Doc 8400 and must never be "XX". The qualifier Purpose is always BO since it relates to AIBAC publication.

INDEX OF CATEGORIES OF THE NOTAM CODE BASED ON THE SECOND LETTER

AGA LIGHTING FACILITIES (L)	6-B-3
AGA MOVEMENT AND LANDING AREA (M)	6-B-13
AGA FACILITIES AND SERVICES (F)	6-B-24
CNS COMMUNICATIONS AND SURVEILLANCE FACILITIES (C)	6-B-34
CNS INSTRUMENT AND MICROWAVE LANDING SYSTEMS (I)	6-B-40
CNS GNSS SERVICES (G)	6-B-47
CNS TERMINAL AND EN-ROUTE NAVIGATION FACILITIES (N)	6-B-48
ATM AIRSPACE ORGANIZATION (A)	6-B-56
ATM AIR TRAFFIC AND VOLMET SERVICES (S)	6-B-64
ATM AIR TRAFFIC PROCEDURES (P)	6-B-71
NAVIGATION WARNINGS AIRSPACE RESTRICTIONS (R)	6-B-78
NAVIGATION WARNINGS WARNINGS (W)	6-B-82
OTHER INFORMATION (O)	6-B-87

Appendix B to Chapter 6

NOTAM Selection Criteria

1. THE NOTAM CODE

1.1 The NOTAM Code is a comprehensive description of information contained in NOTAM. NOTAM Code groups contain a total of five letters, the first letter of which is always Q. The second and third letters identify the subject, and the fourth and fifth letters denote the status of the subject reported on. These codes and their significances are found in the Procedures for Air Navigation Services Abbreviations and Codes (PANS-ABC, Doc 8400). The most commonly used NOTAM Code groups and their respective relation to the qualifiers Traffic, Purpose and Scope are presented in the NOTAM Selection Criteria tables below.

1.2 The following fourth and fifth letters should not be used and another code should be found instead:

AC, AF, AX, CO, CP, HJ, IJ, IK, IQ, IT, IU, LA, LD, LE, LK.

1.3 The following fourth and fifth letters are not listed in the NSC because they correspond to conditions normally communicated by means of SNOTAM:

HA, HB, HC, HD, HE, HF, HI, HL, HN, HO, HP, HS, HY, HZ.

2. QUALIFIERS TRAFFIC, PURPOSE AND SCOPE

2.1 Traffic

- I IFR
- V VFR
- K NOTAM is a checklist.

Depending on the NOTAM subject and content, the field for the qualifier Traffic may contain the qualifiers K, I,

V or IV. An indication of IV in the NSC means that either I or V or IV may be used depending on NOTAM content.

2.2 Purpose

- N NOTAM selected for immediate attention of aircraft operators

CATEGORY: AGA — LIGHTING FACILITIES (L)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	O	M
Approach lighting system (specify runway and type)	LA						
Hours of service are now (specify)	AR	X	Y	Z	X	X	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Available on request	AR	Y	Y	X	X	X	
Unserviceable	AS	X	Y	Z	X	X	
Completely withdrawn	AW	X	X	X	Y	Y	
Completed	CC						
Cancelled	CN						
Downgraded to (specify)	CG	Y	Y	X	X	X	
Installed	CS	X	Y	X	X	X	
On test, do not use	CT	Y	X	X	X	X	
Trigger	TT	X	Y	X	X	X	
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	O	M
Aerodrome beacon	LB						
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	X	Y	Z	X	X	
Completely withdrawn	AW	X	Y	X	X	X	
Completed	CC						
Cancelled	CN						
Installed	CS	X	Y	X	X	X	
Trigger	TT	X	Y	X	X	X	
Plain language	XX						

CATEGORY: AGA — LIGHTING FACILITIES (L)

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Runway; centre line lights (specify runway):			LC	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
Trigger	TT	x			x	x	
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Landing direction indicator lights			LD	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
Plain language	XX						

CATEGORY: AGA — LIGHTING FACILITIES (L)

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Runway; edge lights (specify runway):			LE	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
Trigger	TT	x			x	x	
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Sequenced flashing lights (specify runway):			LF	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
Trigger	TT	x			x	x	
Plain language	XX						

CATEGORY: AGA — LIGHTING FACILITIES (L)

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Precision approach path indicator (PAPI) (specify runway):			LP	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Hours of service and non- (specify)	AH	x	x		x	x	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Available on request	AR	x	x		x	x	
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
On test, do not use	CT	x	x		x	x	
Trigger	TT	x			x	x	
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
All landing area lighting facilities			LR	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
Trigger	TT	x			x	x	
Plain language	XX						

CATEGORY: AGA — LIGHTING FACILITIES (L)

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Slipway lights (specify runway):			LS	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x			x	x	
Completely withdrawn	AW	x			x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x			x	x	
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION		CODE	Scope A				
Threshold lights (specify runway):			LT	Traffic	Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION							
CODE	I	V	N	B	O	M	
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Unserviceable	AS	x	x		x	x	
Completely withdrawn	AW	x	x		x	x	
Completed	CC						
Cancelled	CN						
Installed	CS	x	x		x	x	
Trigger	TT	x	x		x	x	
Plain language	XX						

CATEGORY: AGA — LIGHTING FACILITIES (L)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Runway, touchdown zone lights (specify runway):	LZ	I	V	N	R	O	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Unserviceable	AS	x			x		
Completely withdrawn	AW	x			x		
Completed	CC						
Cancelled	CN						
Installed	CS	x			x		
Trigger	TT	x			x		
Plain language	XX						

CATEGORY: AGA — MOVEMENT AND LANDING AREA (M)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Apron	MA	I	V	N	B	O	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Completed	CC						
Cancelled	CN						
Work completed	HV						
Work in progress	HW	x	x		x		
Closed	LC	x	x	x	x	x	
Unserviceable for aircraft heavier than (specify)	LH	x	x	x	x	x	
Aircraft restricted to runways and taxiways	LR	x	x	x	x	x	
Limited to (specify)	LT	x	x	x	x	x	
Trigger	TT	x	x	x	x	x	
Plain language	XX						

CATEGORY: AGA — MOVEMENT AND LANDING AREA (M)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Apron	MA	I	V	N	B	O	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Completed	CC						
Cancelled	CN						
Installed	CS	x	x		x		
Work completed	HV						
Work in progress	HW	x	x		x		
Closed	LC	x	x	x	x	x	
Unserviceable for aircraft heavier than (specify)	LH	x	x	x	x	x	
Aircraft restricted to runways and taxiways	LR	x	x	x	x	x	
Limited to (specify)	LT	x	x	x	x	x	
Trigger	TT	x	x	x	x	x	
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Stopbar (specify taxiway):	MO	I	V	N	B	O	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Available on request	AR	x	x		x		
Completely withdrawn	AW	x	x		x		
Completed	CC						
Cancelled	CN						
Realigned	CL	x	x		x		
Installed	CS	x	x		x		
Work completed	HV						
Work in progress	HW	x	x		x		
Closed	LC	x	x		x		
Unserviceable for aircraft heavier than (specify):	LH	x	x		x		
Usable for length of (specify) and width of (specify)	LL	x	x		x		
Closed to all night operations	LN	x	x		x		
Limited to (specify)	LT	x	x		x		
Plain language	XX						

CATEGORY: CNS — COMMUNICATIONS AND SURVEILLANCE FACILITIES (C)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Secondary surveillance radar	CS	I	V	N	B	O	M
Hours of service are now (specify)	AS	x	x		x		
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Unserviceable	AS	x	x		x		
Completely withdrawn	AW	x	x		x		
Completed	CC						
Operating frequency(ies) changed to (specify)	CF	x	x		x		
Identification or radio call sign changed to (specify)	CI	x	x		x		
Cancelled	CN						
Temporarily replaced by (specify)	CR	x	x		x		
Installed	CS	x	x		x		
Interference from (specify)	LF	x	x		x		
Subject to interruption	LS	x	x		x		
Limited to (specify)	LT	x	x		x		
Trigger	TT	x	x		x		
Plain language	XX						

CATEGORY: CNS — COMMUNICATIONS AND SURVEILLANCE FACILITIES (C)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Secondary surveillance radar (SSR)	CS	I	V	N	B	O	M
Hours of service are now (specify)	AS	x	x		x		
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Available, prior permission requires	AP	x	x		x		
Unserviceable	AS	x	x		x		
Completely withdrawn	AW	x	x		x		
Completed	CC						
Operating frequency(ies) changed to (specify)	CF	x	x		x		
Cancelled	CN						
Identification or radio call sign changed to (specify)	CI	x	x		x		
Installed	CS	x	x		x		
On test, do not use	CS	x	x		x		
Expected malfunction	LF	x	x		x		
Limited to (specify)	LT	x	x		x		
Trigger	TT	x	x		x		
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Secondary surveillance radar (SSR)	CS	I	V	N	B	O	M
Hours of service are now (specify)	AS	x	x		x		
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Unserviceable	AS	x	x		x		
Completely withdrawn	AW	x	x		x		
Completed	CC						
Operating frequency(ies) changed to (specify)	CF	x	x		x		
Identification or radio call sign changed to (specify)	CI	x	x		x		
Cancelled	CN						
Temporarily replaced by (specify)	CR	x	x		x		
Installed	CS	x	x		x		
On test, do not use	CS	x	x		x		
Interference from (specify)	LF	x	x		x		
Subject to interruption	LS	x	x		x		
Limited to (specify)	LT	x	x		x		
Trigger	TT	x	x		x		
Plain language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic	Purpose				
Secondary surveillance radar (SSR)	CS	I	V	N	B	O	M
Hours of service are now (specify)	AS	x	x		x		
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Unserviceable	AS	x	x		x		
Completely withdrawn	AW	x	x		x		
Completed	CC						
Operating frequency(ies) changed to (specify)	CF	x	x		x		
Identification or radio call sign changed to (specify)	CI	x	x		x		
Cancelled	CN						
Installed	CS	x	x		x		
On test, do not use	CS	x	x		x		
Expected malfunction	LF	x	x		x		
Limited to (specify)	LT	x	x		x		
Trigger	TT	x	x		x		
Plain language	XX						



CATEGORY: ATM — AIRSPACE ORGANIZATION (A)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope AE					
	AA	Traffic	Purpose				
Minimum altitude, specify en route/crossing safe	AA						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Cancelled	CN						
Trigger	TT	x	x	x	x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope AE					
	AC	Traffic	Purpose				
Control area (CTA)	AC						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Hours of service are now (specify)	AM	x	x	x	x	x	
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Cancelled	CN						
Trigger	TT	x	x	x	x	x	
Plan language	XX						

CATEGORY: ATM — AIRSPACE ORGANIZATION (A)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope E					
	AE	Traffic	Purpose				
Second and third letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Cancelled	CN						
Closed	LC	x	x	x	x	x	
Closed to IFR operations	LI	x	x	x	x	x	
Prohibited to (specify)	LP	x	x	x	x	x	
Closed to VFR operations	LV	x	x	x	x	x	
Trigger	TT	x	x	x	x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope E					
	AE	Traffic	Purpose				
Control area (CTA)	AE						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Identification or radio call sign changed to (specify)	CI	x	x	x	x	x	
Cancelled	CN						
Closed	LC	x	x	x	x	x	
Closed to IFR operations	LI	x	x	x	x	x	
Prohibited to (specify)	LP	x	x	x	x	x	
Closed to VFR operations	LV	x	x	x	x	x	
Trigger	TT	x	x	x	x	x	
Plan language	XX						

CATEGORY: ATM — AIRSPACE ORGANIZATION (A)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope E					
	AF	Traffic	Purpose				
Flight information region (FIR)	AF						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Identification or radio call sign changed to (specify)	CI	x	x	x	x	x	
Cancelled	CN						
Closed	LC	x	x	x	x	x	
Closed to IFR operations	LI	x	x	x	x	x	
Prohibited to (specify)	LP	x	x	x	x	x	
Closed to VFR operations	LV	x	x	x	x	x	
Trigger	TT	x	x	x	x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope E					
	AH	Traffic	Purpose				
Upper control area (UCA)	AH						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Identification or radio call sign changed to (specify)	CI	x	x	x	x	x	
Cancelled	CN						
Closed	LC	x	x	x	x	x	
Prohibited to (specify)	LP	x	x	x	x	x	
Closed to VFR operations	LV	x	x	x	x	x	
Trigger	TT	x	x	x	x	x	
Plan language	XX						

CATEGORY: ATM — AIRSPACE ORGANIZATION (A)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope AE					
	AE	Traffic	Purpose				
Aerodrome traffic zone (ATZ)	AE						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Hours of service are now (specify)	AM	x	x	x	x	x	
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Military operations only	AM	x	x	x	x	x	
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	
Activated	CA	x	x	x	x	x	
Completed	CC						
Deactivated	CD	x	x	x	x	x	
Changed	CH	x	x	x	x	x	
Cancelled	CN						
Trigger	TT	x	x	x	x	x	
Plan language	XX						

CATEGORY: ATM — AIR TRAFFIC AND VOLMET SERVICES (S)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
	SA	Traffic	Purpose				
Automatic terminal information service (ATIS)	SA						
Fourth and fifth letters — SIGNIFICATION	CODE	I	V	N	B	O	M
Hours of service are now (specify)	AM	x	x	x	x	x	
Resumes normal operation	AK						
Operative (or re-operative) subject to previously published limitations/conditions:	AL						
Operational	AO						
Unserviceable	AS	x	x	x	x	x	
Completely withdrawn	AW	x	x	x	x	x	
Completed	CC						
Changed	CH	x	x	x	x	x	
Identification or radio call sign changed to (specify)	CI	x	x	x	x	x	
Cancelled	CN						
Trigger	TT	x	x	x	x	x	
Plan language	XX						

CATEGORY: NAVIGATION WARNINGS — AIRSPACE RESTRICTIONS (R)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Danger area (specify national prefix and number)	RD	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Completely withdrawn	AW	x	x	x	x	x	x
Available	CA	x	x		x	x	
Completed	CC						
Deactivated	CD	x	x		x	x	
Changed	CH	x	x		x	x	
Reassigned	CL	x	x		x	x	
Cancelled	CN						
Prohibited to (specify)	LP	x	x		x	x	
Trigger	TT	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Military operating area	RD	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Available (prior permission required)	AP	x	x		x	x	
Available on request	AR	x	x		x	x	
Completely withdrawn	AW	x	x		x	x	
Advanced	CA	x	x		x	x	
Completed	CC						
Deactivated	CD	x	x		x	x	
Changed	CH	x	x		x	x	
Reassigned	CL	x	x		x	x	
Cancelled	CN						
Prohibited to (specify)	LP	x	x		x	x	
Trigger	TT	x	x		x	x	
Plan language	XX						

CATEGORY: NAVIGATION WARNINGS — AIRSPACE RESTRICTIONS (R)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Restricted area (specify national prefix and number)	RD	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Available (prior permission required)	AP	x	x		x	x	
Available on request	AR	x	x		x	x	
Completely withdrawn	AW	x	x		x	x	
Advanced	CA	x	x		x	x	
Completed	CC						
Deactivated	CD	x	x		x	x	
Changed	CH	x	x		x	x	
Reassigned	CL	x	x		x	x	
Cancelled	CN						
Prohibited to (specify)	LP	x	x		x	x	
Trigger	TT	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Temporary restricted area (specify area)	RT	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Available (prior permission required)	AP	x	x		x	x	
Available on request	AR	x	x		x	x	
Completely withdrawn	AW	x	x		x	x	
Advanced	CA	x	x		x	x	
Completed	CC						
Deactivated	CD	x	x		x	x	
Changed	CH	x	x		x	x	
Reassigned	CL	x	x		x	x	
Cancelled	CN						
Prohibited to (specify)	LP	x	x		x	x	
Trigger	TT	x	x		x	x	
Plan language	XX						

CATEGORY: NAVIGATION WARNINGS — WARNINGS (W)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Enclaves (specify)	WE	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Trigger	TT	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Ac refueling	WF	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Cable ferry	WF	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Blasting	WB	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions)	AL						
Operational	AO						
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Plan language	XX						

CATEGORY: NAVIGATION WARNINGS — WARNINGS (W)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Barrage net towing	WT	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Aspect of fire balloon	WF	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Missile gun or rocket firing	WT	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Trigger	TT	x	x		x	x	
Plan language	XX						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope W					
Parachute jumping exercises, parachuting or hang gliding	WF	Traffic	Purpose				
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	D	M
Completed	CC						
Cancelled	CN						
Will take place (specify)	LW	x	x		x	x	
Plan language	XX						

CATEGORY: OTHER INFORMATION (O)

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope A					
		Traffic			Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	C	M
Aeronautical information service	OA						
Hours of service are now (specify):	AH	x	x			x	x
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Completely withdrawn	AW	x	x			x	x
Completed	CC						
Cancelled	CH						
Changed	CE	x	x			x	x
Close	CG	x	x			x	x
Committed (specify):	CO	x	x			x	x
Trigger	CT	x	x			x	x
Remain unperformed	CU						

SECOND AND THIRD LETTERS — SIGNIFICATION	CODE	Scope AE					
		Traffic			Purpose		
FOURTH AND FIFTH LETTERS — SIGNIFICATION	CODE	I	V	N	B	C	M
Aeronautical information service	OA						
Hours of service are now (specify):	AH	x	x			x	x
Resumed normal operation	AK						
Operative (or re-operative subject to previously published limitations/conditions):	AL						
Operational	AO						
Completely withdrawn	AW	x	x			x	x
Completed	CC						
Cancelled	CH						
Changed	CE	x	x			x	x
Close	CG	x	x			x	x
Committed (specify):	CO	x	x			x	x
Trigger	CT	x	x			x	x
Remain unperformed	CU						

TF-3 Workshop for the AIP manual development phase 2 (Draft)

NovemberThe

Date		Time		Work Descriptions	Remarks
18					
19					
20	Mon	09:00-12:00		TF-3 Meeting	
		13:00-16:00		Preparation for Workshop	
21		09:00-12:00	Workshop①	The draft of Tajikistan AIP, Kick around①	
		13:00-16:00			
22	Wed	09:00-12:00	Workshop②	The draft of Tajikistan AIP, Kick around②	
		13:00-16:00			
23	Thu	09:00-12:00	Workshop③	The draft of Tajikistan AIP, Kick around③	
		13:00-16:00			
24	Fri	09:00-12:00	Workshop④	Compile a draft of AIP manual①	
		13:00-16:00			
25	Sat				
26	San				
27	Mon	09:00-12:00	Workshop⑤	Compile a draft of AIP manual②	
		13:00-16:00			
28	Tue	09:00-12:00	Workshop⑥	Compile a draft of AIP manual③	
		13:00-16:00			
29	Wed	09:00-12:00	Workshop⑦	Compile a draft of AIP manual④	
		13:00-16:00			
30	Thu	09:00-12:00	Workshop⑧	Final review of the draft of AIP manual developments	
		13:00-16:00			
1	Fri	09:00-12:00		Wrap -up Meeting TF-3 Workshop Report / Signature to MM	
		13:00-16:00			
2	Sat				
3	San				

## Minutes of The Taskforce-3 Meeting for “The Project for Capacity Development in Air Traffic Services” in Tajikistan Dushanbe, 27 September 2017

The 6<sup>th</sup> TF-3 Meeting for “The Project for Capacity Development in Air Traffic Services” (hereinafter “the Project”) was held at 14:00 – 16:00 on 27 September 2017 at the Project Office in the H.Q. of Tajikairnavigation.

The meeting was organized with Mr. Sheraliev Bakhtiyor (Project Manager/TF-2 Leader), Mr. Ulugbek Toshmatov (TF-2 Sub-Leader), Mr. Khumorov Bakhtiyor (TF-3 Leader), Mr. Ilhom Kuliev (TF-3 member), Mr. Hideo Watanabe (Chief Advisor), Mr. Orita (PC) and Mr. Atsushi Yamane (TF-3 FPD Expert).

This meeting was the reporting and coordinating opportunity of TF-3 activities by Expert with TF-3 members for implemented activities in the due period and next mission in the Sub-activity Plan and AWP 2017, according to the agenda below.

### Agenda;

- a) Summary of Activity by FPD Expert from 21 August till 26 September
- b) Summary report about “Catch-up exercise on Aeronautical Chart Drawing – 2”
- c) Summary report about “WGS-84 data survey Step-2a/b” including “WGS-84 data survey remote oversight for regional airports”
- d) Introduction and explanation about next activities by FPD Expert of “OJT on Flight Procedure Design”,
- e) Expectation about final outputs of FPD to produce flight procedure charts in AIP of model airport, and
- f) Other business

### Agenda a)

JICA Expert, Mr. Yamane explained the summary of activities in this term in TF-3 by showing the attachment-1, “Catch-up exercise on Aeronautical Chart Drawing – 2” which included to review chart drafting rule depiction of symbol and format, to practice VISIO software and to draw series of contents for SID, STAR and approach procedures, then the attachment-2, “WGS-84 data survey Step-2a/b” which included to confirm output of geographical map with scale of 1/50,000 and 1/200,000, to supervise implementation of survey work within 10km of Dushanbe airport and to support preparation of WGS-84 data survey in regional airports. Both activities concerned were conducted with proper attendances and results on schedule and completed successfully.

### Agenda b)

Mr. Yamane explained summary of Catch-up exercise on Aeronautical Chart Drawing – 2 by showing report sheets of attachment-3. The training consisted of exercises mainly to draw flight procedures by using VISIO software in reference to ICAO guidance in Annex 4 and Doc 8697 Aeronautical Chart Manual, so that it could be related to Chart Drawing – 1 which was concerned to en-route chart to supplement the training at GroupEAD. Total four participants to consist of three AIS officers, Mr. RUSTAMJON SAFAROV, Mr. HABIBULLO SHAMSOV, Mr. ILHOM KULIEV and one ATC officer, Mr. AKBARDZHON TADZHIBAEV were trained to address chart drawing exercise by using VISIO to create symbols, depiction, description and format which were commonly formulated in the flight procedure chart, and finally they performed well to draw basic contents of conventional flight procedures such as SID, STAR and approach procedures as the attachment-4.

Mr. Yamane reported that all participants were recognized to improve the skill and knowledge of chart drawing and provided with the certificates by assessment of their right works, and provided reference materials which were used in the class for the further exercise of chart drawing by themselves.

Mr. Yamane summarized above and finalized that the training resulted fruitfully, then TF-3 members

accepted the report.

#### **Agenda c)**

Mr. Yamane explained the progress of WGS data survey Step-2a/b by showing report sheets of attachment-5. Main activities in Step-2 were to supervise survey works which were conducted together by geodetic survey company, FAZO and to determine survey objects and focal points as well as advise the data analysis and arrangement of survey result as required in WGS-84 manual. Total about eighty (80) points of objects were surveyed by means of GPS receiver and TS equipment based on WGS-84 geodetic coordinate and orthometric height such as THR on RWY, ARP, Parking spot, air navigation facilities, standing obstacles etc. within approximately 10km of the Dushanbe airport and there NDB facilities far outside. All works were seen to be conducted well to address appropriate method and process with right objects which were almost expected points inside the airport and outside beforehand as the attachment-6.

Mr. Yamane also reported to coordinate with FAZO to summarize the report of survey result to propose the certain data item and format of the excel file such as WGS-84 data, UTM coordinate with orthometric height and note about the particular method or process of survey as the attachmen-7, and explained the data requirement based on ICAO Document, WGS-84 manual. FAZO will submit the data and report of WGS-84 survey result for Dushanbe airport about points inside by the end of September and points outside in October.

Concerning the map procurement, Mr. Yamane reported that we coordinated the output with FAZO through the initiative of CP and fixed the terrain depiction and the geographical information about the map of scale 1/50,000, but requested to print as enlarged scale as the same of 1/50,000 for the map of scale 1/200,000 with adding 40m counter lines and significant elevation points within the same area as MSA over Dushanbe airport, then FAZO accepted and will produce as our request by the end of September or longer.

Concerning "WGS-84 data survey remote oversight for regional airports", Mr. Yamane reported that we visited Qurgan-Tube airport and conducted the site awareness to find the location of PACS, survey target of field points and obstacles inside and outside. Mr. Yamane admired the initiative of CP to acknowledge geometric position and objects through the right awareness of situation at that airport as they reported objects of survey with certain photos. We couldn't visit Khudzhand airport and another this time, but we will expect to do by themselves of CP or while the next chance of Expert activity in November.

Therefore, Mr. Yamane recognized that two training members of TF-3, Mr. AKBARDZHON TADZHIBAEV and Mr. ILHOM KULIEV conducted activities positively to cooperate with FAZO and they acquired the skill and knowledge about WGS-84 data survey through the field experience. They were provided with "Certificate attendance" and "Acknowledgment" for Mr. RUSTAMJON SAFAROV who attended the activity at Qurgan-Tube airport with us.

Mr. Yamane summarized above and finalized that the activity resulted fruitfully, then TF-3 members accepted the report.

#### **Agenda d)**

Mr. Yamane explained the summary of next TF-3 activity of FPD from 1 November till 15 December 2017 by showing a sheet of activity schedule of the attachment-8, in particular main activity, OJT on Flight Procedure Design is to conduct more practical works of FPD for the model airport, Dushanbe through about seven weeks. The OJT will consist to construct ILS RWY27 approach procedure with priority which were installed newly, at least one conventional procedure of SID and STAR based on ICAO Standards, PANS-OPS respectively including coordination practices with stakeholders, collecting information or requirements, situation awareness, documentation of FPD, ground validation and verification of design result, preparation for tentative flight inspection and AIP by VISIO drafting and others according to the recommended FPD process. The OJT will be also conducted by using terrain maps with scale of 1/50,000 and 1/200,000 procured from FAZO, handy GPS receiver and handy laser measurement for easy obstacle research. Mr. Yamane also request the cooperation for meeting with stakeholders and field works, and all participants for "Basic PANS-OPS Flight procedure Training are expected to address this OJT.

Mr. Yamane informed that Expert organize the PBN seminar together with CP an half day through this term on 24 November tentatively to introduce the general progress and circumstances of PBN in the world, about not only flight procedures but also flight operation, aircraft performance, ground facility, ATC system and others.

TF-3 members agreed the activity plan and dispatches of Expert as scheduling.

#### Agenda e)

Mr. Yamane informed that the expectation about final outputs of FPD to produce flight procedure charts in AIP of model airport will depend on the result of OJT and successive FPD works by trained CPs. While the OJT above mentioned, one procedure of SID, STAR and conventional approach procedure respectively as well as ILS RWY27 approach procedure will be expected to result by OJT trainees with Expert supervision. Four flight procedure designs will be finalized before the stage of flight inspection and validation and list up to consist of series of draft AIP as well as some location data based on WGS-84 in Dushanbe airport.

TF-3 members agreed the expectation of compiling flight procedures and certain data for AIP and acknowledged to study the measures of design verification, flight inspection and validation such as a flight simulator or a trial flight by certain aircraft or air operator for finalizing flight procedures. Specially, concerning ILS RWY27 approach procedure should be operated soon so that TF-3 will be expected to address the implementation with priority.

TF-3 members also confirmed to discuss that every aeronautical data on aerodrome, flight procedures and air-routes in Tajikistan will be changed from SK-42 base to WGS-84 base simultaneously or part by part in the future and published singly or both in AIP, though flight procedures such as ILS approach RWY27 are designed to construct on the geographical maps based on WGS-84 and transform elements to SK-42 data temporarily in the OJT.

#### Agenda f)

Mr. Orita, Project Coordinator advised that three capacities of PBN instrument flight procedure design group training in Japan in 2018 will be assigned to Tajikistan, and TAN may grade one candidate up who participated at PANS-OPS basic training but completed as acknowledgment plus two candidates who completed with a certification of that training.

Dushanbe, 27 September 2017



Mr. Khmorov Bakhtiyor  
Taskforce-3 Leader  
TAJIKAIRNAVIGATION



Mr. Atsushi Yamane  
TJ-ATS Project TF-3 Expert  
ATCA-Japan

#### Attachment:

1. Expert schedule and activities (implementation), "Catch-up exercise on Aeronautical Chart Drawing-2"
2. Expert schedule and activities (implementation), "WGS-84 data survey (Step-2a/b)"
3. The TF-3 activity report, "Catch-up exercise on Aeronautical Chart Drawing-2"
4. Brief output of Flight Procedure Chart
5. The TF-3 activity report, "WGS-84 data survey (Step-2a/b)"
6. Brief output of WGS-84 data survey object
7. Required output format of WGS-84 survey object and data
8. The TF-3 Activity plan, "OJT on Flight Procedure Design"