BIRD CONTROL ON AERODROMES

FRENCH REGULATION

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Summary:

This information paper deals with the new regulation regarding bird control on French aerodromes.

Under the authority of French civil aviation authority "DGAC", this service will be provided on 143 Airports. The paper describe - the reasons why this policy was implemented - the organisation of the service in terms of personnels, equipements, procedures - the role of the differents partners as far as funding is concerned.

French regulations concerning the birdstrike hazard

General

The birdstrike hazard - a complex and difficult problem - remains a major preoccupation since from the safety viewpoint the prevention of birdstrikes is a delicate area where the risk of an incident or even accident - is always present, and every year results in significant costs for the airlines.

Experience acquired in recent years concerning the prevention and combating of the hazard, combined with a redefinition of personnel deployment and role distribution, led the civil aviation administration to create a national birdstrike hazard prevention policy.

This political will was given concrete form on 24th July 1989 by the signing of a ministerial decree and a ministerial application instruction.

1) CONDITIONS GOVERNING IMPLEMENTATION OF THE REGULATIONS

Setting up program for preventing and combating the birdstrike hazard implies a good knowledge of the national and local ornithological situation, appropriate equipment and specialist personnel.

1.1 Knowledge of the ornithological situation

. A large number of studies and observations carried out nationally and locally has given the experts complete and detailed knowledge of the ornithological situation.

. Permanent collection of data on incidents and accidents over an extended period of time gives the experts invaluable information for assessment of the situation. For several years now, this nationwide collection of data has constituted an essential statistical source since it allows definition of the resources for preventing and combating the hazard specific to each airfield.

1.2 Resources for preventing and dealing with the hazard

. Whether pyrotechnic or acoustic, the resources used today have proven their effectiveness.

. The hazard prevention and combating techniques tested in real conditions can be extended and adapted to each platform on which a birdstrike hazard exists.

1.3 Personnel deployment

. The resources used require specialist personnel, available for fast and efficient reaction to any hazardous situation.

. These personnel have to work in close cooperation with the air traffic controllers working in the Control Tower.

2) MAIN CHARACTERISTICS OF THE REGULATIONS

The main characteristics of French regulations regarding the birdstrike hazard lie in the definition of a nationwide organization and a distribution of roles among the State and the airport operators.

2.1 Nationwide organization

. The organization and structures apply to the 145 mainland and overseas airfields handling commercial or similar traffic.

. Depending on the birdstrike situation, each of these airfields is assigned personnel and resources. The airfields are split into 5 categories.

. A team comprising the following is set up for each airfield:
  . a local coordinator,
  . the Control Tower ATC staff,
  . an operative available full time or on request (except category A airfields).

. Implementation of these regulations will be spread over two years, from 19th August 1989 to 19th August 1991.

2.2 Distribution between State and operators

2.2.1 Operators

. Personnel: the airfield operator is responsible for the field operatives. These field operatives are functionally responsible to the State representative.

. Equipment: the operator is responsible for the operation of the non-specialist equipment and for fitting out the platform.

2.2.2 State

. Personnel: the state personnel responsible for birdstrike prevention are local coordinators and controllers. The operatives are trained and approved by the State.

. Equipment: The state is responsible for acquiring specialised fixed and mobile equipment.

2.3 Estimation of costs

- For a category B airfield, the annual cost to the operator amounts to about 620,000 F (120,000 operating costs and 500,000 personnel costs). The State acquires and installs the specialised equipment, valued at about 300,000 F (cross-country vehicles, lines of noisemakers).

- The table in appendix 1 gives a cost estimate for the other airfield categories.

3) TECHNICAL ASPECTS

The basic point of these new texts is the assignment to each French airfield of a level of protection corresponding to precise anti-birdstrike resources. These levels - specified in appendix 2 - were drawn up by the Service Technique de la Navigation Aérienne (S.T.N.A.) according to the probability of birdstrikes.

They take account of:

- the local ornithological situation,
- the volume of commercial or similar traffic,
- the most frequent types of aircraft.

Analysis of birdstrikes over the last 10 years on each of the airfields was of great assistance to us in drawing up this list, which can be modified at any time should any of the criteria change - or if we find that we have made a mistake!

Each airfield appoints a Local Coordinator, or "mister birdstrike" in charge of applying recommendations concerning:

- environmental actions,
- deployment of the birdscaring resources,
- transmission of aeronautical information to the users.

3.1 Environmental actions

These measures are designed to make the airfield inhospitable to the birds and are specified by an S.T.N.A. expert after a special study (see video cassette) or on the occasion of personnel instruction visits. They concern changes to the techniques for upkeep of grassy areas, cultivated areas, drainage, etc., adapted to the ornithological, climatic and pedologic conditions of each airfield.

3.2 Birdscaring means

The three manual methods of birdscaring adopted are:

- distress calls broadcast by on-board synthesizers (photo 1),

- pyrotechnics: double-detonation cartridges, pistols and fire-cracker rockets (photo 2),

- hunting shotguns and lead cartridges (photo 3) reserved for species for which the Environment Ministry allows hunting.

On certain airfields, noisemakers are permanently installed along the runway if the STNA considers it necessary (photo 4).

All the other methods tried in the past have proved impossible to use practically and simply (hawks, scale models).

For category E airfields (see table in appendix 3), the three manual methods should be used full-time, all year round (daylight hours) by authorized personnel with a cross-country vehicle (photo 5). The protection period is reduced to 6 months for category D airfields. A category C airfield has the same equipment as a D airfield, except for the vehicle which is not cross-country. Intervention is only at the request of the control tower or a pilot. Only pyrotechnics are usable one request in category B. For small category A airfields, no birdscaring means are provided for: only information on the birdstrike risk is given to the pilots.

Authorization of birdstrike hazard personnel is given on each airfield with theoretical and practical instruction organized by the STNA. This instruction mainly concerns the correct use of the equipment, recognition of birds which can be shot (photo 6), the benefits of an ecological diagnostic and birdstrike reports.

3.3 Aeronautical information

This information is specified in appendix 6 to the regulatory texts of 24/7/89, and comprises:

- permanent information published in the AIP France (migration maps, local movements on the airfields, anti-birdstrike resources in service on the airfields).

- migration forecasts or observations of bird movements or concentrations on the airfields (Notam, RWM),

- real time information either by voice link or on the ATIS.

Application of all these new measures in the coming two years should contribute to a satisfactory level of safety in the French airports.

Estimate of costs/year
in FF

Level of resources	OPERATOR		STATE		AD number of group (Weather)	TOTAL in FF
	Personnel	Operations	Personnel	Operations		
E	500,000	130,000	---	100,000	4	2.86
D	250,000	90,000	---	70,000	5	2.65
C	ND	30,000	---	15,000	30	6.3
B	ND	5,000	---	---	43	0.24
A	---	---	---	---	26	

LFBA
LFKJ
LFCI
LFMS
LFAY
LFRA
LFBU
LFLP
LFCH
LFMO
LFLW
LFLA
LFMV
LFSB
LFKB
LFCB
LFBE
LFMU
LFSZ
LFBD
LFLD
LFRB
LFBV
LFRK
LFCC
LFAC
LFKC
LFMD
LFMX
LFLH
LFLB
LFQV
LFLX
LFPX
LFRC
LFCU
LFLC
LFGA
LFPK
LFLJ
LFRG
LFAB

APPENDIX 2

RESOURCES FOR COMBATING THE BIRDSTRIKE HAZARD ON CIVIL AIRFIELDS HANDLING COMMERCIAL OR SIMILAR TRAFFIC (MAINLAND)

LFBA AGEN B	LFRD DINARD C	LFPG PARIS CDG D
LFKJ AJACCIO C	LFGJ DOLE C	LFPB PARIS LE BOURGET D
LFCI ALBI B	LFSG EPINAL B	LFPO PARIS ORLY D
LFMS ALES A	LFKF FIGARI B	LFBP PAU C
LFAY AMIENS A	LFNA GAP A	LFDX PERIGUEUX A
LFRA ANGERS B	LFRF GRANVILLE B	LFMP PERPIGNAN C
LFBU ANGOULEME A	LFLG GRENOBLE VERSOUD B	LFBI POITIERS B
LFLP ANNECY B	LFLS GRENOBLE ST-GEOIRS B	LFPT PONTOISE B
LFCH ARCACHON A	LFEY ILE D'YEU B	LFXO PROPRIANO A
LFMO AUBENAS A	LFRE LA BAULE B	LFRQ QUIMPER C
LFLW AURILLAC B	LFRO LANNION C	LFQA REIMS.P A
LFLA AUXERRE B	LFBH LA ROCHELLE C	LFRN RENNES C
LFMV AVIGNON B	LFBI LA ROCHE/YON B	LFLO ROANNE A
LFSB BALE-MULHOUSE C	LFOV LAVAL B	LFDN ROCHEFORT B
LFKB BASTIA C	LFOH LE HAVRE C	LFCR RODEZ B
LFOB BEAUVAIS C	LFRM LE MANS B	LFOP ROUEN B
LFBE BERGERAC B	LFHP LE PUY B	LFCY ROYAN A
LFMU BEZIERS B	LFAT LE TOUQUET C	LFRT ST-BRIEUC C
LFBZ BIARRITZ C	LFQQ LILLE C	LFPZ ST-CYR . B
LFBD BORDEAUX B	LFBL LIMOGES B	LFMH ST-ETIENNE B
LFLD BOURGES A	LFLY LYON-BRON C	LFRZ ST-NAZAIRE C
LFRB BREST C	LFLL LYON-SATOLAS B	LFGG STRASBOURG.N A
LFBV BRIVE B	LFPL LOGNES B	LFLN ST-YAN C
LFRK CAEN C	LFLM MACON A	LFBT TARBES D
LFCC CAHORS A	LFML MARSEILLE B	LFBO TOULOUSE D
LFAC CALAIS B	LFQJ MAUBEUGE A	LFPN TOUSSUS LE NOBLE B
LFKC CALVI C	LFPE MEAUX A	LFQB TROYES B
LFMD CANNES C	LFPM MELUN B	LFLU VALENCE B
LFMK CARCASSONNE B	LFQT MERVILLE B	LFAV VALENCIENNES A
LFLH CHALON C. A	LFBK MONTLUCON B	LFRV VANNES B
LFLB CHAMBERY C	LFMT MONTPELLIER C	LFLV VICHY B
LFQV CHARLEVILLE B	LFRU MORLAIX B	
LFLX CHATEAUROUX C	LFHB MOULINS A	
LFPX CHAVENAY B	LFGB MULHOUSE A	
LFRC CHERBOURG C	LFSN NANCY B	
LFOU CHOLET B	LFRS NANTES C	
LFLC CLERMONT B	LFQG NEVERS A	
LFGA COLMAR B	LFMN NICE E	
LFPK COULOMMIERS A	LFBN NIORT A	
LFLJ COURCHEVEL A	LFEC OUESSANT B	
LFRG DEAUVILLE C		
LFAB DIEPPE A		

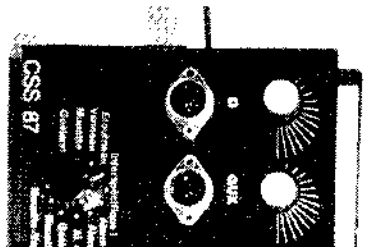
MINIMUM EQUIPMENT REQUIREMENTS

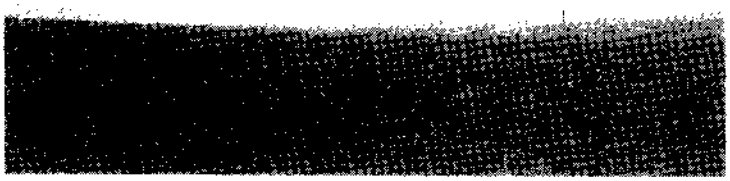
LEVEL OF MEANS	PERSONNEL	MOBILE RESOURCES				FIXED RESOURCES *
		VEHICLE	DISTRESS CALL GENERATOR	PYROTECHNIC RESOURCES	HUNTING	
E	1 LC 1 OP1 all year round	1 light vehicle specialising in combating birdstrikes **	1	2 pistols + firecracker rockets	2 12-bore guns or 16-bore guns + lead cartridges	Distress calls Remote controls Noisemakers
D	1 LC 1 OP1 seasonal + 1 OP2 the rest of the year	1 light vehicle specialising in combating birdstrikes **	1	2 pistols + firecracker rockets	2 12-bore guns or 16-bore guns + lead cartridges	Distress calls Remote controls Noisemakers
C	1 LC 1 OP2	1 vehicle equipped for combating birdstrikes usable on request	1	1 pistol + firecracker rockets	1 12-bore gun or 16-bore gun + lead cartridges	Distress calls Remote controls Noisemakers
B	1 LC 1 OP2	1 vehicle		1 pistol + firecracker rockets		
A	1 LC	Only information on bird activities is provided				

LC: Local Coordinator
OP1: Operative permanently present for combating the birdstrike hazard
OP2: Operative available on request for combating the birdstrike hazard

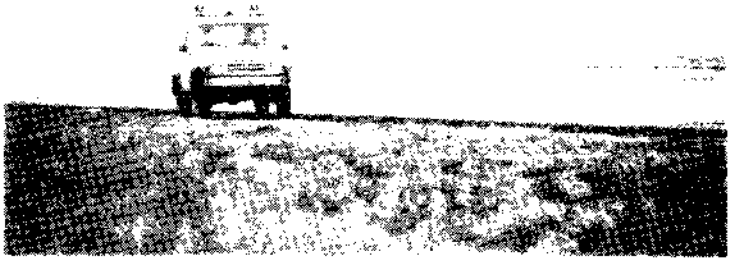
* : The choice of resources and their deployment is studied by the STNA for each airfield.
**: The type of vehicle is decided jointly with the LC, the STNA and the field operator.

2 - PISTOL AND S





4.NOISE GENERATORS AT LFPG



5.MOBILE UNIT AT LFPO