	El		CICTT
REX	No stabilized approach		ARC
Incident	Hard landing	_	AMAN
Serious incident	Tail strike with ground	_	ADRM
Accident	Incorrect load and balance calculation		ATM
	Runway excursion	_	BIRD
	Animals on helipad	_	CABIN
	Humans, vehicle on helipad	_	CFIT
	Animals, humans, vehicle within manoeuver area	_	EVAC
	Incident linked to icing conditions or deicing procedure		F-NI
	Hazardous meteorological phenomena		F-POS
	OEI on multi engine aicraft	_	FUEL
	OEI on single engine aircraft	_	GCOL
	Fuel starvation	_	ICE
	Contaminated fuel	_	LOC-G
	Not adequate fuel	_	LOC-I
	Wrong calculation of fuel quantity		LALT
	Inflight deviation from trajectory	_	MAC
	Loss of vertical separation	_	OTHR
	Inadequate action of the maintenance crew	_	RAMP
	Inadequate action of ramp crew		RE
	inadequate action of the crew		RI-A
	Malfunction of communication system	_	RI-VAF
	Event linked to a contaminated helipad	_	SEC
	Aircraft failure other than engine failure	_	SCF-N
	Fire, smoke in flight	_	SCF-PF
	Event linked to works on helipad vicinity		TURB
	Event linked to maintenance incident not detected before the flight	_	UIMC
	Unknown obstacle of the crew likely to interfere with aircraft traiectory	_	USOS
	Bird strike	—	UNK

Loss of external visual references
Exceedance of weight and balance limitation
Cargo load moving in flight
Rotor strike with obstacles
Rotor strike with humans
Environment of work area
Poor communication
Inadequate ATC instruction
Runway, taxiway confusion
Erroneous, incomplete documentation database
Pilot incapacitation affecting the conduct of the aircraft
Crew incapacitation
Illicit act
Splashing of liquid (oil, hydraulics)
Bagage not stowed and secured
Rotor downwash effect
Loss of part in flight
Loss of external load in flight
Crew member, passanger falling from aircraft in flight
Poor communication with ground crew
Injury caused by electric shock
Size of helideck not suitable (Off
Size of hendeck hot suitable (Off
Incident during "hot refuelling"
Inadequate or no TWY/helipad
marking
Passangers not buckled
VORTEX Serve transparency
Servo transparency

WSTRW

OUI	Régime	Vol	TEMP
YES	Day VFR	> 8 Km	<0°C
NO	Special VFR	7-8000 m	0-10°C
	Night VFR	6-7000 m	11-20°C
	IFR	5-6000 m	21-30°C
		4-5000 m	31-40°C
		3-4000 m	>40°C
		2-3000 m	
		800-2000 m	
		<800 m	
		IMC	

NEBU	 OPS	Vent	Conditions	Phases vol
NSC	Tech	<5Kt	lcing	Preflight check
FEW	Ops	5-10 kt	Haze	Towing
SCT		11-15 kt	Fog	Refuelling
BKN		16-20 kt	Freezing fog	ENG Start up
OVC		21-25 kt	Turb	Taxi
/		26-30 kt	Rain	Climb < 500 Ft/min
		31-35 kt	Hail	Climb > 500 Ft/min
		36-40 kt	Snow	Level flight
		>40 Kt	Snow bullet	Manoeuvring
			Thunderstorm	Descent > 500 Ft/min
			None	Final approach
				Landing
				IGE status
				OGE status
				ENG shut down
				Postflight check

MISSION	Maint	Risk
Instruction	Preflight check	Acceptable
Instruction (solo fliaht)	Towing	Tolerable
Commercial Air Transport	Refuelling	Unacceptable
Ferry flight	Repair	
Corporate	Unscheduled maintenance	
Maintenance flight	Scheduled maintenance	
Private	Postflight check	
HEMS		
SAR		
Lifting		
Winching		
Photo/film		
Power line survey		
Night Flight training		
NVG training		
Emergency procedure training		

ATA

PSE

# 21 Air conditioning System CFIT

- 22 Auto Flight System Crash after loss of control
- 23 Communications System Midair collision
- 24 Electrical Power System Ground collision
- 25 Equipment, Furnishings Runway or Helipad excursion

Damage/harm on ground

- 26 Fire Protection System Damage/harm in flight
- 28 Fuel System
- 29 Hydraulic Power System
- 30 Ice and Rain Protection
- 31Indicating and Recording Systems
- 32 Landing gear
- 33 Lights
- 34 Navigation/Flight Data System
- 36 Pneumatic System
- 39 Electric/tronic panel/Multipurpose Eqmt
- 42 Platforms & Modules
- 45 Centralized Maintenance System
- 46 System Integration & Display
- 49 Airborne Auxiliary Power sources
- 52 Doors and service covers
- 53 Fuselage
- 55 Stabilizers
- 56 Windows Windscreen
- 62 Main Rotor System
- 63 Main Rotor Drive
- 64 Tail Rotor
- 65 Tail Rotor Drive
- 67 Rotor Flight Control
- 71/72 Power Plant

73 Engine Fuels & Controls

74 Engine Ignition System

76 Engine Controls

77 Engine Indicating

79 Oil Cooling System

80 Engine Starting System

85 Optional Equipment

88 Electrical Harness

93 to 99 Surveillance/Weapon/Warfare

Dameges	LICENCE	
None	PPL-H	
Aircraft slightly damaged	CPL-H VFR	
Appareil seriously damaged	CPL-H IFR	
Aircraft destroyed	ATPL H	
	FI	
	FE	
	TRI	
	TRE	

HDV	AGI	E	SEX
<100 H	<18	Μ	
100-500 H	18-25	F	
500-1000 H	26-35		
1000-2000 H	36-45		
2000-3000 H	46-55		
3000-4000 H	56-65		
4000-5000 H	>66		
5000-6000 H			
6000-7000 H			
7000-8000 H			
8000-9000 H			
9000-10 000 H			
>10 000 H			
> 20 000 H			

#### Injury

## Unharmed

Slightly injuried

Seriously injuried

Fatally injuried

#### SHELL1

# **Physical caracteristic**

Sensorial limitations

Health

Disease

Illusions

Fatigue/vigilance

Error

Lack of planification

Information analysis

Decision making

Attention

Perception

**Technical skills** 

Acquisition of knowledge

Judgement

Situation awareness

Desorientation

Personnality

Attitude

Emotional state

Task priorization

Delegation

Poor work team

Distribution of task

Experience

Qualification

Recent practice

Lack of knowledge

Helipad characteristic

# ATC related

### Aeronautical information

Weather forecast

Workplace environment

Job satisfaction

Motivation

Moral

Cultural aspects

# Privacy

Hierarchical pressure

Commercial pressure

Time pressure

Mental pressure

Professional relationships

Human resources management

Crew management

Practice of the authorities

Workload

Training

### **Oral communication**

Written communication

Visual signals

Crew qualification

CRM

Coordination Change of team Operational supervision Training supervision Monitoring of performance Standards Regulatory procedures Standard Operational Procedures Inspections Check inspections Survey

Audit

Cockpit definition Ergonomy Equipments others than cockpit Maintenance equipment ATC Equipements Ergonomy for instruction courses

Ergonomy for maintenance operations

Source of data Software Communication means Conception of automatism Functionality of automatism Automatism usage Warning in the cockpit Warning of the ATC system Flight manual, Check-lists... ATC operationnal materials

Equipment for maintenance operation

Emergency procedures ATC procedures Airfield Procedures Maintenance procedures Company procedures Basic instruction Simulator training Practical training Emergency situation training CRM instruction Recurrent training Non recurrent training Problems linked to the training Others Yes2 YES NO

In progress