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## **IFATCA POLICY ON ACCIDENT AND INCIDENT INVESTIGATION**

**Guidance Material for Member Associations.**

**Version 1.0 – July 2022**

## **MANUAL**

IFATCA is the recognised international organisation representing air traffic controller associations. It is a non-political, not-for-profit, professional body that has been representing air traffic controllers for more than 50 years, and has more than 50,000 members in over 120 countries.

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# IFATCA POLICY ON ACCIDENT AND INCIDENT INVESTIGATION

MARCH 1992 Amended 2004, 2006 and 2012

## Introduction

The International Federation of Air Traffic Controllers' Association (IFATCA) lists among its objectives - **"to promote safety, efficiency and regularity in International Air Navigation"**.

The basic purpose of any investigative process is to determine what happened, why it happened, and what can be done to prevent a recurrence. The investigative process can be more successful if air traffic controllers are protected from any discipline or legal liability flowing from an investigative process. They are less likely to practice wilfully or otherwise their implicit right to remain silent, if the investigation is confidential and non- punitive.

The International Civil Aviation Organization (ICAO), in Annex 13 to the Chicago Convention, states that **"the sole objective of the investigation of an accident or incident shall be the prevention of accidents or incidents. It is not the purpose of this activity to apportion blame or liability."**

In support this philosophy IFATCA has produced policy on Accident/Incident Investigation in order that air traffic controllers can contribute fully to an investigation. It is necessary to gather all relevant facts that led up to the incident/accident in order that we can continue to use this knowledge to improve the safety of the air traffic control system.

## 1. Just Culture, Trust and Mutual Respect

IFATCA Policy is:

**A Just Culture in Accident and Incident Investigation is defined as follows: *"A culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."***

**Just Culture requires a corresponding national legal framework because the administration of justice is the responsibility of States. IFATCA shall encourage ICAO to foster the establishment accordingly in its Member States.**

**Member Associations shall promote the creation of mandatory incident reporting systems based on confidential reporting in a just culture among their service provider(s), Civil Aviation Administration(s), National Supervisory Authority(ies) and members.**

**Member Associations shall promote the creation of voluntary incident reporting systems provided that the reported information will never be used against the reporting person. Compliant with the guidelines of the ICAO SAFETY MANAGEMENT MANUAL.**

**IFATCA shall not encourage Member Associations to join Incident Reporting Systems unless provisions exist that adequately protect all persons involved in the reporting, collection and/or analysis of safety-related information in aviation.**

**Any incident reporting system, including the collection, storage and dissemination of safety related data, shall be based on the following principles:**

- a) in accordance and in cooperation with pilots, air traffic controllers and Air Navigation Service Providers;**
- b) the whole procedure shall be confidential, which shall be guaranteed by law;**
- c) adequate protection for those involved, the provision of which be within the remit of an independent body.**

**Air Navigation Service Providers and their respective employee groups shall develop mechanisms that foster an environment of trust and mutual respect in order to improve the capability to compile, assess and disseminate safety-related information with each other, as well as with other national and international aviation organizations.”**

The aviation industry has accepted that humans cannot be changed but nonetheless are required to make the system work safely. The legal world holds the view that the system is inherently safe and that the humans are the main threat to that safety. Safety improvements in the aviation system will be achieved as a result of an open exchange of information. Human error cannot be avoided by “designing it out of the system” or disciplining operators. Error is a normal component of human performance. This fact must be incorporated into the design, implementation and operation of complex systems where safety is the expected outcome. Air traffic management (ATM) systems are a prime example of such a complex system.

IFATCA proposes that all incident reporting schemes should contain the following principles and criteria:

1. Mutual Trust,
2. Openness of communication,
3. A demonstration of care and concern,
4. A commitment to organisational learning
5. A transparent management commitment to safety,
6. An accountable and open system of information flow, i.e. Staff→ Management  
ATM →Staff.

Specifically, the “Incident Reporting System” must give the possibility to report in confidence rather than anonymously and provide some level of protection / immunity for the controller who is reporting deficiencies or anomalies. There should also be some level of guarantee for a fair hearing and an objective and impartial investigation that any such information given is not used for punitive or enforcement purposes. Reliable and documented follow-up should be provided with a detailed database available to all involved parties.

The Member Associations of IFATCA should play, where necessary, an important role in the process of creating the correct legal framework enabling a “just culture” in Safety Reporting.

## 2. Exemption from Duty

IFATCA Policy is:

**When an accident or incident is alleged to have occurred, where the actions of an air traffic controller may have had a bearing, the controller shall have the right to be exempted from control duties until he is physically and psychologically fit again. The removal is without prejudice, and is non-disciplinary.**

In case of an accident or traumatic incident/event, it is recommended that immediate psychological or medical advice be sought for all parties involved. The time required to obtain this advice and the subsequent return to duty of the controller should be considered part of the investigation for the purpose of protecting the pay and employment benefits of the parties involved. It is not always possible for a controller to assess his own state of mind after a traumatic situation such as an accident/incident. Therefore, it is recommended that the controller take at least the remainder of the shift to “collect” himself. A psychologist or medical professional can be of use in helping one determine a suitable time to return to duty.

**“A controller thus exempted or removed shall not suffer loss of pay during any period in any way associated with the investigation of an accident/incident.”**

The controller shall not be required to take any type of leave, e.g. sick leave, vacation leave, or any form of leave without pay to cover his absence from work as a result of being exempted from control duties when involved in an accident/incident. A controller may not be able to return to duty during the course of the investigations, which may at times be lengthy. It is not fair then to expect him to take any form of financial or other penalty while he awaits the outcome of the investigation.

## 3. Right of Representation

IFATCA Policy is:

**“The controller has the right to be accompanied by a representative of his choice at any hearing, inquiry or investigation into any air traffic control incident or accident.”**

The controller can be accompanied by an employee or Association representative. He should also have the right to be represented by legal counsel. The choice is his. Justice must be seen to have been served; therefore, the controller should be able to determine who would best serve his interests in the investigation.

**“The controller should make no written statements without the advice of a legal representative of his choice, even at pre-investigation board stages.”**

It is not mandatory that a controller obtain advice from a legal representative prior to making written statements. In the case of an incident a controller should obtain advice from a representative (employee, Association, legal). In the case of an accident it is strongly recommended that the controller obtain legal advice. To keep track of the facts during a confusing time immediately after the incident / accident, it is often prudent to make some personal notes of the facts as he remembers them. These personal notes

should not be made after he has had a lot of time to reflect on what happened. Notes should be made while the facts have not been coloured by rationalization or interpretation. Caution is suggested when making these notes. In some Member Association countries these personal notes may be admissible as evidence. Therefore, a preface should be included in the notes which state that they are for use of legal counsel only and that they are not an admission of guilt and that the controller reserves the right to change them as more facts become available to the controller.

**“The circumstances prompting the investigation, and the perceived operational situation immediately prior to the alleged incident/accident, shall be made available to the controller and his representative prior to any questions being put to the controller.”**

The controller and his representative should be granted a reasonable amount of time to peruse this information. The controller should obtain the information dealing with the circumstances prompting the investigation prior to answering any questions. This will allow the controller and his representative to only respond to questions that deal with the alleged incident/accident. This would also ensure time to review what happened in order to arrive at complete and relevant answers to aid the investigation.

**“When an Investigation Board is convened, it shall be confidential and non- disciplinary in nature. The Board should be comprised of individuals who have operational experience in air traffic control.”**

An Investigation Board is convened, in the case of an incident, to determine if a loss of separation or dangerous situation occurred and if so, what the cause was. Their findings are to be utilized to prevent such a situation occurring in the future. Accurate findings can only be made if all the information is available. Information will be made available when the Board is confidential and non- disciplinary.

If ATC matters are being investigated then it is only logical that the investigators have operational experience in ATC. The facts must not be confused. It is also recommended that another controller, preferably from the same area of responsibility, be on the Investigation Board to ensure impartiality, and to act as an expert advisor on questions that explore practices that may be unique to the facility or sector where the incident allegedly occurred. The same would apply in an accident where the possibility exists of ATC involvement.

**“The Controller and his representative have the right to make representations and direct questions to the officials in charge of the investigation.”**

**“MAs shall inform their members that any statement made in an accident or incident investigation could also be used by prosecutors in legal proceedings.”**

One of the objectives of an Investigation Board is to determine all the facts. This can be accomplished by allowing the controller and his representative to make representations and direct questions to members of the Board. This would allow for the opportunity to clear up any misunderstandings or misinterpretations of questions asked. It would also aid in obtaining full cooperation in achieving the common goal - prevention of a similar occurrence.

**“The controller and his representative should use the Human Factor checklist in the appendix to this policy to make sure that all Human Factor aspects that might have had an impact on the occurrence being investigated are identified and taken into account.”**

See appendix hereafter. This checklist is based on the SHEL Model.

**“The controller and his representative have the right, prior to appearing before any investigative Board, to review all relevant audio, visual and area recordings, also any computer readouts of air traffic control operations pertaining to this investigation. In addition, the controller and his representative shall be provided with copies of transcripts of all relevant audio recordings prior to appearing before any investigative Board.”**

When the controller and his representative have access to all relevant information prior to an Investigation Board hearing, they are fully prepared to participate in the hearing. This will assist the Board in determining the facts.

#### **4. Protection of Identity**

IFATCA Policy is:

**“Protection of the identity(ies) of ATM staff involved in incidents or accidents shall be guaranteed.”**

The disclosure of personal information details, i.e.: names and addresses of individuals associated/involved with a serious ATC incident or accident have had tragic results for air traffic controllers.

Employers and Service Providers must take firm steps to establish and enforce appropriate legislation that would ensure that identities of air traffic controllers and other ATM staff involved in serious accidents/incidents remains privileged and protected.

#### **5. Reference Card**

IFATCA Policy is:

**“Member Associations should provide their members with a card containing the basic rights they have and the rules that will be applied in case of accident / incident investigation”.**

This would educate the members as to their rights/responsibilities, and the steps to follow to protect these rights. This also puts members at ease by ensuring them that no steps in the process were forgotten and that there is a procedure or plan in place to protect and guide them through what can be a traumatic experience they have little knowledge of.

## 6. Use of recorded data

IFATCA Policy is:

**“Audio, visual and area recordings, together with associated computer data and transcripts of air traffic control communications are intended to provide a record of such communications for use in the monitoring air traffic control operations and the investigation of incidents and accidents. Such recordings are confidential, are not permitted to be released to the public. Such recordings are not to be used to provide direct evidence in disciplinary cases, or to be used to determine controller incompetence.”**

Air traffic control recordings are intended to provide a record for the investigation of accidents/incidents and to provide protection for controllers. The protection of these recordings is essential to establishing a credible Accident/Incident Investigation Process.

“Except for area recordings, recorded data shall only be used in the following cases:

- a) when investigating ATC related accidents and incidents;
- b) for search and rescue purposes;
- c) for training and review purposes provided all ATCOs affected agree;
- d) for the purposes of adjusting and repairing ATC equipment.”

It is recognised that recorded data can be used for more purposes than just the investigation of incidents and accidents.

In connection to SAR its use may be instrumental to determine the last known position of an aircraft.

In relation to ATC training its use is highly effective to allow students to see and/or hear a replay of a traffic situation they handled earlier. In this case prior agreement from all affected ATCOs should be sought, for reasons of courtesy and privacy protection.

Furthermore, there are no objections against the use of recorded data (including computer readouts) by technicians who are adjusting and/or repairing ATC equipment.

**“Area recordings shall only be used for accident investigation purposes. An area recording may generally be defined as any type of recording, audio and/or visual, instituted in an air traffic control operations room that records accurately the conversation of controllers and the environment within an air traffic control operations room on a continuous basis.**

**Access to recorded data shall be limited to authorised personnel for the purposes listed above. Authorised personnel shall be mutually agreed by the Controllers’ representative and the appropriate authority.”**

Since there may be differences of opinion as to whom has access to recorded data, it is believed there should be mutual agreement between the Controllers' representative and the Authorities on what personnel is authorised to use the data. It should be noted that in some countries national legislation may have a bearing on this topic as well.

**"Recorded data used shall be identical as presented to and/or originated by the Controller at the relevant controller's position."**

If recorded data is to be used to reconstruct what happened in a given situation, it is of paramount importance that what is recorded (and replayed) is an exact replica of what was presented to and / or originated by the Controller at his working position. Any omissions or additions in the recording will make a correct reconstruction impossible, and are therefore unacceptable.

**"IFATCA is opposed to the use of Visual Area recordings for reasons of invasion of privacy."**

**Prior to the installation of Area recorders, legislation shall be in place which prohibits the use of any area recorder information against a controller in any criminal or civil litigation or disciplinary proceedings of any kind. The legislation should provide for substantial penalties for any breach of the legislation.**

**Except when an accident occurs, area recordings shall be capable of being erased when a controller is relieved from his position. Controllers shall have prompt confirmation of the erasure. Agreement between the Member Association and the employer on procedures for the erasure of area recordings shall be established prior to the operation of area recorders."**

## **7. Summary**

In summary, this policy allows for an effective Accident/Incident Investigation Process which will promote aviation safety and efficiency. It provides protection for a controller who has to appear before an Investigation Board which allows him to fully participate in the investigation process. A "just culture" investigative process ensures full disclosure which is conducive to making the correct changes to the system and thus ensuring and improving its safety.

(Istanbul 07.C4)

## APPENDIX

### CHECKLIST BASED ON THE SHEL MODEL

(Geneva 01.C.4)

#### 1. PHYSICAL FACTORS

##### Physical Characteristics

- Height, weight, age, sex
- Build, height, functional reach
- Vision
- Hearing

#### 2. PHYSIOLOGICAL FACTORS

##### Nutritional factors

- Food intake 24 hours
- Hours since last meal
- Dehydration
- On a diet / weight loss

##### Health

- Disease
- Fitness
- Pain
- Dental conditions
- Blood donation
- Obesity, pregnancy
- Stress coping (emotional / behavioral signs)
- Smoker

##### Lifestyle

- Friendships
- Relations with others
- Change in activities
- Life habits

##### Fatigue

- Acute (short term)
- Chronic (long term)
- Skill (due to task)
- Activity level (mental/physical)



### **Duty**

- Duration of watch
- Duty hours last week/month
- Overtime
- Leave periods - activities

### **Sleep**

- Rest, nap duration
- Impairment
- Hangover
- Addiction

## **3. PSYCHOLOGICAL FACTORS**

### **Perceptions**

#### **Situational awareness**

#### **Types**

- Non perception
- Misperception
- Delayed perception

#### **Reaction time**

- To detect
- To make an appropriate decision
- To take the appropriate action

#### **Attention**

- Attention span
- Inattention (general, selective)
- Distraction (internal, external)
- Channelized attention
- Fascination, fixation
- Vigilance, boredom, monotony
- Habit pattern interference
- Habit pattern substitution
- Time distortion

#### **Information Processing**

- Mental capacity
- Decision making (delayed, poor)
- Judgement (delayed, poor)
- Memory capacity
- Forgetting
- Co-ordination – timing

**Workload**

- Task saturation
- Underload
- Prioritization
- Task components

**Experience / recency**

- In position
- Total years as controller
- Total years at specific unit
- Sleep deficit, disruption
- Circadian dysrhythmia

**Drugs**

- Medication over the counter
- Medication – prescription
- Illicit drugs
- Cigarettes, coffee, others
- Total years at specific sector
- Emergency procedures

**Knowledge**

- Competence
- Skills/techniques
- Procedures

**Training**

- Selection
- Initial
- On the job
- Transition, learning transfer from other units
- Recurrent
- Problem areas
- Emergency procedures

**Planning**

- Briefing prior to duty

**Attitudes/moods**

- Mood
- Motivation
- Habituation
- Attitude
- Boredom
- Complacency

**Expectations**

- Mind set/expectancy
- False hypothesis
- Risk-taking

**Confidence**

- In equipment
- In self
- In controllers on shift
- Overconfidence, showing off

**Mental/emotional State**

- Emotional state
- Anxiety
- Apprehension
- Panic
- Arousal level/reactions
- Self-induced mental
- Pressure/stress

**Personality**

- Withdrawn, grouchy, inflexible
- Hostile, sarcastic, negative
- Aggressive, assertive, impulsive
- Excitable, careless, immature
- Risk taker, insecure, follower
- Disorganised, late, messy
- Anti-authoritative, resigned
- Invulnerable, “macho”

**4.****PSYCHO SOCIAL FACTORS**

- Mental pressure
- Interpersonal conflict
- Personal loss
- Financial problems
- Significant lifestyle changes
- Family pressure

## **FACTORS RELATED TO INDIVIDUALS AND THEIR WORK**

### **1. LIVEWARE-LIVEWARE (HUMAN-HUMAN) INTERFACE**

#### **Oral communication**

- Noise interference
- Misinterpretation
- Phraseology (operational)
- Content, rate of speech
- Language barrier
- Read back/hear back

#### **Visual signals**

- Hand signals
- Body-language

#### **Crew Interactions**

- Supervision
- Briefings
- Co-ordination
- Compatibility/pairing
- Resource management
- Task assignment
- Age, personality, experience

#### **Supervisors**

- Briefing
- Co-ordination

### **WORKER-MANAGEMENT**

#### **Personnel**

- Recruitment/selection
- Staffing requirements
- Training
- Policies
- Remuneration/incentives
- Rostering
- Seniority
- Resource allocation
- Operational/directions/orders
- Managerial operating pressure

**Supervision**

- Operational supervision
- Quality control
- Standards

**Labour relations**

- Employee/employee-management
- Industrial action
- Unions/professional group

**Pressures**

- Mental pressure – operational
- Morale
- Peer pressure

**Regulatory agency**

- Standards
- Regulations
- Implementation
- Audit
- Inspection
- Monitoring
- Surveillance

**2. LIVEWARE-HARDWARE (HUMAN-MACHINE) INTERFACE****Equipment**

- Ergonomics
- Work place
- Colours, markings, illumination
- Confusion, standardisation

**Workspace**

- Workspace layout
- Control room temperature
- Relative humidity
- Adapted rest areas
- Facilities for eating and drinking
- Workspace standardisation
- Radar/data systems
- Flight progress strips/flight progress board systems
- Communication equipment
- Information systems
- Associated backup systems
- Chair design

- Restrictions to movement
- Illumination level, lighting
- Visibility restrictions
- Alerting and warning systems
- Personal equipment interference (comfort)
- Operation of instruments (finger trouble)

### 3. LIVEWARE-SOFTWARE (HUMAN-SYSTEM) INTERFACE

#### **Written Information**

- Manuals
- Letter of agreements (LoAs)
- Checklists
- Publications
- Regulations
- Maps and charts
- NOTAMs
- Standard operating procedures

#### **Computers**

- Computer software
- User friendliness

#### **Automation**

- Operator workload
- Monitoring task
- Task saturation
- Situational awareness
- Skill maintenance
- Utilisation

#### **Regulatory Requirements**

- Qualification - in position
- Qualification - in management
- Certification
- Medical certificate
- Licence/ratings
- Non-compliance
- Infraction history

#### 4. **LIVEWARE-ENVIRONMENT (HUMAN-ENVIRONMENT) INTERFACE EXTERNAL**

##### **Weather**

- Weather briefing, AIS facilities
- Actual and forecast weather
- Visibility, ceiling, light conditions

##### **Other factors**

- Time of day
- Lighting
- Other air traffic

##### **Aerodrome**

- Runway/taxiway characteristics
- Markings, lighting, obstructions
- SMGC-systems
- Radar facilities
- Approach aids
- Emergency equipment
- RWY surface conditions
- Low visibility procedures

##### **Maintenance**

- Support equipment and technicians
- Availability of parts
- Operational standards, procedures and practices
- Quality assurance practices
- Servicing and inspection
- Training
- Documentation requirements

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