

AI2005-1

AIRCRAFT SERIOUS INCIDENT INVESTIGATION REPORT

ALL NIPPON AIRWAYS FLIGHT 901
BOEING 777-200, JA705A
OVER THE SOUTH CHINA SEA 700 KM EAST-NORTHEAST OF
SINGAPORE
MARCH 7, 2004

January 28, 2005

Aircraft and Railway Accidents Investigation Commission
Ministry of Land, Infrastructure and Transport

The investigation for this report was conducted by Aircraft and Railway Accidents Investigation Commission about the aircraft serious incident of All Nippon Airways flight 901, Boeing 777-200, JA705A, in accordance with Aircraft and Railway Accidents Investigation Commission Establishment Law and Annex 13 to the Convention of International Civil Aviation for the purpose of determining cause of the aircraft serious incident and contributing to the prevention of incidents and not for the purpose of blaming responsibility of the incident.

This English version report has been published and translated by Aircraft and Railway Accident Investigation Commission to make its reading easier for those who are not familiar with Japanese as well as English speaking people. Although efforts are made to translate as accurate as possible, only the Japanese version is authentic. If there is difference in meaning of the texts between the Japanese version and the English version, texts in the Japanese version are correct.

Junzo Sato,
Chairman,
Aircraft and Railway Accidents Investigation Commission

AIRCRAFT SERIOUS INCIDENT INVESTIGATION REPORT

**ALL NIPPON AIRWAYS FLIGHT 901
BOEING 777-200, JA705A
INCAPACITATION OF FLIGHT CREW IN FLIGHT
OVER THE SOUTH CHINA SEA 700 KM EAST-NORTHEAST OF SINGAPORE,
AT ABOUT 22:40 JST, MARCH 7, 2004**

November 24, 2004

**Decision by the Aircraft and Railway Accidents Investigation
Commission (Air Sub-committee Meeting)**

Chairman	Junzo Sato
Member	Yukio Kusuki
Member	Susumu Kato
Member	Sumio Matsuura
Member	Yukiko Kakimoto
Member	Akiko Matsuo

2. FACTUAL INFORMATION

2.1 Flight History

On March 7, 2004, the aircraft was operating as All Nippon Airways (“the company”) scheduled flight 901 from New Tokyo International Airport to Changi International Airport, Singapore.

The flight plan of the aircraft submitted to Tokyo International Airport Office of the Civil Aviation Bureau was as follows:

FLIGHT RULES: IFR, DEPARTURE AERODROME: New Tokyo International Airport, TIME: 16:25, CRUISING SPEED:488kt, CRUISING ALTITUDE: FL400, ROUTE: PAPAS (reporting point) – FAIRY (reporting point) – Air Route Y84 – GULEG (reporting point) – Air Route A590 – JOM (VOR/DME) – Air Route M767 – TOMAN (reporting point) – Air Route G580 – HOSBA (reporting point), DESTINATION AERODROME: Singapore International Airport, TOTAL EET: 7 hours 12 minutes, ENDURANCE: 9 hours 12 minutes.

The aircraft took off from New Tokyo International Airport at 16:38 with 186 persons on board — 174 passengers (including an infant), the captain and 11 other crewmembers. In the cockpit, the captain assumed Pilot Flying (PF: the pilot responsible for controlling the aircraft) duties at the left seat and the first officer assumed Pilot Not Flying (PNF: the pilot responsible for duties other than control of the aircraft) duties at the right seat.

The outline of the circumstances of the occurrence of this serious incident based on the statements of the crewmembers is as follows:

(1) The captain

The first officer carried out his duties normally from the pre-flight briefing until the meal during the cruise, and there was nothing unusual in his condition.

After the meal, he left his seat around 1 hour 30 minutes before landing saying he was going to the toilet. After he returned, he resumed the copilot seat complaining of feeling slightly unwell and nauseous, and then vomited into a trash box in the cockpit two or three times in less than a minute. I thought something he ate must have disagreed with him, but a little later he complained of an abdominal pain and appeared to be in some discomfort. We were still in cruise, so I told him to slide his seat backward and take a rest. Even then his pains did not subside and he repeatedly complained of pain. I called the chief pursuer (CP) to the cockpit, explained the first officer’s condition, and asked her to bring some stomach medicine. When the chief purser returned with the stomach medicine, she reported that a cabin attendant (CA) had had a similar experience, so I asked her to send the cabin attendant to the cockpit. The cabin attendant said that something she had eaten two days previously caused a similar condition which did not get better even after taking medication, so there was nothing

that she could do except put up with it. As that was the situation, I made the position report at TERIX instead of the first officer. About 50 minutes before landing the chief purser advised that a foreign doctor was on board, but since we were near the descent point and I thought that explaining the first officer's condition to the doctor would affect the preparations for landing, I did not consult the doctor. Further, since I was communicating with the first officer and his condition did not appear to be so bad, I thought it would be all right for him to see a doctor after landing.

Around 80nm before the descent point, I asked the first officer whether he could assume PNF duties, but he replied it would be impossible. There were no flight crew in the jump seats or on board as passengers, so I decided to land carrying out all duties by myself. I reported the arrival information to the company radio and set up for landing. I made an 'image flight' up to the landing and elected to make an auto-land in order to land with an adequate safety margin. I was thinking I could use the first officer if any trouble occurred with the aircraft, etc. I told a cabin attendant to sit in the cockpit on a jump seat and watch over the first officer.

We landed by auto-land at 23:54, and arrived at the gate just on 24:00. After arriving at the gate, the chief purser arranged for a wheelchair and reported the first officer's condition to the company's local operations manager (the manager), and left further things to the manager.

(2) The first officer

On the day, I got up at around 10:00 since it would be a night flight and had a slightly large brunch. I was in good health at that time with no problems. I had not drunk alcohol on the previous day. Even when I do drink it is usually only about a couple of glasses of beer.

Around 30 minutes before the show-up, I went to dispatch and received an alcohol test and made the flight briefing.

Approaching the Philippines, I had the in-flight Western meal but did not feel unusual. After a little while, I had a cola as an after-meal drink. A little later I felt a slight stomach upset, and not wanting to use the toilet later during flight in cumulonimbus I thought I had better go beforehand. I didn't feel nauseous or have a stomachache at that time, I was just going to the toilet.

At around the time I was thinking of whether to contact Singapore air traffic control at TERIX, about 20 minutes from the FIR boundary, I felt sick and vomited twice into a trash box in the cockpit. After that I carried on with PNF duties as normal, but then started having pains around my stomach. At around that time, the captain called the chief purser and asked her to bring some stomach medicine. I took the medicine, but soon vomited again.

The chief purser reported that there was a doctor on board and asked what to do, but the captain and I refused since it was just before the descent. I was told by the captain

'Take it easy a little', so I slid the seat backward slightly and reclined it.

I received the weather information, but the captain set up for the descent and approach by himself.

After starting the descent, my stomach pains got worse and a cabin attendant brought flannels and looked after me in the cockpit until landing. Around when we contacted Singapore Approach, I thought I would struggle due to the severe pains, so I got the cabin attendant to pull out my shoulder harness and I fastened it to restrain myself. I moved the seat further back.

Although I could listen to ATC communications I was not in a state where I was able to respond. The captain asked whether I would be able to work, but I replied 'impossible'. The captain carried out an auto-land, calling out his actions one by one to let me know what he was doing.

After we contacted Approach, the pain came in waves, and when a severe pain came, I put a flannel in my mouth and gripped another in my hand to endure it.

Although the pains got somewhat better between landing and arriving at the gate, they became severe again after we arrived at the gate. I lay down in the cockpit as advised by the cabin attendant and after all the passengers had disembarked, the local staff took me to an airport clinic in a wheelchair. Although I received treatment and a painkilling injection, the pain did not get better and I was taken to hospital by ambulance.

(3) The Chief Purser

At the pre-departure briefing, the first officer was in a normal healthy condition and did not appear unusual.

Around 1 hour 10 minutes before landing, the captain requested that I go to the cockpit. On entering, the captain asked me to bring some stomach medicine or something because the first officer was having stomach ache. At that time, the first officer appeared to be in slight pain, but rather than illness. The situation is understood by the statement of the first officer: 'I was all right till a little while ago, but I vomited twice after coming back from the lavatory, and my stomach pains started immediately after that.'

I left the cockpit and prepared stomach medicine and flannels, etc. I was thinking of going into the cockpit to take care of him, but since I had another duties as chief purser, I asked a cabin attendant to look after the first officer. At that time, the first officer looked pale, it looked like he had vomited a few times, and he was complaining of stomach pains.

(4) Cabin Attendant

Forty to fifty minutes before landing, while the captain, the first officer and cabin crew were conversing, I received an order from the captain to take care of the first officer because the captain was busy with flying and radio communication. At that stage,

there were no dead heading crew on board, but I confirmed from customer information that there was a foreign doctor among the passengers, but while his title was doctor, I could not confirm whether he was a medical doctor or Ph.D. However, the chief purser asked the captain 'May I call him out?' In the end, though, I took care of the first officer in the cockpit. I was responsible for [the] R1 [door], but I asked the L1 dash cabin attendant to assume all the R1 duties, and received the captain's approval.

I don't clearly remember the sequence of events, but I checked the description of incapacitation in the cabin attendant handbook with the chief purser. Although there was an item dealing with a pilot losing consciousness in the handbook, the first officer was clearly conscious and he responded clearly to questions, and since he read back communication frequency figures to the ground and performed switch operations, I didn't think he was incapacitated at that stage.

After that, we started our approach and the captain ordered me to take care of the first officer and handle communications with the cabin, so I sat on a jump seat and fastened my seat belt. The first officer's pains appeared to be coming periodically and he would groan occasionally, but he was setting overhead switches and so on.

After we arrived at the gate, I asked the manager to come, and requested a wheelchair and medical facilities.

After all the passengers had disembarked, the manager and local staff took the first officer to an airport clinic in a wheelchair.

The serious incident occurred at around 22:40 at an altitude of 40,000ft over the South China Sea. Thereafter, only the captain operated the aircraft and the aircraft made an automatic landing at Changi International Airport, Singapore at 23:54.

The first officer was taken in a wheelchair to a clinic in the terminal building by the manager and local staff, and received treatment. At first, a doctor at the clinic diagnosed food poisoning, administered an injection to relieve the pain and stomach cramps, and observed his condition for 30 minutes. However, since the first officer's condition did not appear to improve, he judged that detailed tests were necessary, and the first officer was transferred to hospital by ambulance. As a result of tests, the first officer was diagnosed as suffering from acute pancreatitis, and was hospitalized from March 8 till March 18.

(See Figure.)

2.2 Crew Information

(1) Captain: Male, aged 55

Airline Transport Pilot License (airplane)

Issued August 2, 1990

Type Rating

Boeing 777-200

Issued July 2, 1998

Class 1 Airman Medical Certificate

Term of Validity

until June 24, 2004

Total flight time	12,579 hours 53 minutes
Flight time during the previous 30 days	57 hours 10minutes
Total flight time on Boeing 777-200	3,063 hours 10 minutes
Flight time during the previous 30 days	57 hours 10minutes
(2) First Officer: Male, aged 43	
Airline Transport Pilot License (airplane)	Issued February 20, 2004
Type Rating	
Boeing 777-200	Issued May 7, 2001
Class 1 Airman Medical Certificate	
Term of Validity	until July 25, 2004
Total flight time	6,920 hours 12 minutes
Flight time during the previous 30 days	58 hours 22 minutes
Total flight time on Boeing 777-200	1,713 hours 47 minutes
Flight time during the previous 30 days	58 hours 22 minutes

2.3 Information on the Flight Data Recorder and Cockpit Voice Recorder

The aircraft was fitted with a Fairchild (now L3 Communications) Digital Flight Data Recorder (DFDR), part number: S800-3000-02, and an L3 Communications Cockpit Voice Recorder (CVR), part number: 2100-1020-00.

The DFDR recorded all data from the time it is considered that the serious incident occurred until the aircraft landed at Changi International Airport, Singapore. However the CVR recordings at the time the serious incident occurred had been overwritten.

2.4 Health Care

Concerning crew health, the company's Operations Manual contained a description "Crew shall pay attention to their own health." The company managed crew health care in accordance with the Flight Crew Health Care Management Manual (the "Health Care Manual").

The Health Care manual contained details of medical examination, suspension of flight duty, etc.

The company had established an All Nippon Airways Tokyo Crew Health Care Center, where the chief industrial physician judged the health condition of crewmembers based on the results of their medical examinations.

The health condition judgment had two categories, A and B, classified as "good health", three categories, C, D and E, classed as "management required", and one category, F, classed as "rest required".

The first officer had received aircrew medical examinations annually as a commercial pilot before obtaining his airline transport pilot license in February 2004, and had received one scheduled medical examination at the company's Tokyo Crew Health Care Center. Based on the result of the examination, the industrial physician had judged the first officer as being class

B, "good health"; further, the first officer had satisfied the aircrew medical examination standards.

2.5 Causes of Acute Pancreatitis

The causes of acute pancreatitis in order of descending frequency are as follows:

(1) Alcoholic

Many cases of acute pancreatitis develop 10–20 years from starting to consume alcohol, with a sharp increase if more than 100 gr of alcohol is consumed before the onset of the disease.

(2) Cholelithic

Pancreatic fluid in the pancreas is obstructed by calculus felleus (gallstones).

(3) Gusty

The cause of the onset of acute pancreatitis is not clear, but in rare cases micro biliary sand and calculus felleus are involved.

(4) Medical treatment

Some cases may develop after medical treatment.

(5) Escalation of chronic pancreatitis

Chronic pancreatitis may develop into acute pancreatitis.

(6) Chemical

There have been reports of relationships between certain drugs and acute pancreatitis.

(7) Hyperlipidemia

The incidence rate of the disease increases when neutral lipids in the blood exceed 1.000 mg/dl.

2.6 The first officer's daily life

Comparing the causes of acute pancreatitis described above with the daily life of the first officer and the results of his regular medical examinations showed that while it was more than 20 years since the first officer had started consuming alcohol, he did not consume alcohol heavily, and his alcohol test before flight duty had been negative.

2.7 Symptoms of Acute Pancreatitis

Epigastralgia is recognized as a symptom of the onset of acute pancreatitis in 90% of cases. Other symptoms in order of frequency are nausea and vomiting (36%), dorsalgia (back pains) (22%), anorexia (8%), abdominal inflation (7%), loose stool or diarrhea (4%), and pyrexia (1%). However, there are rare cases where no symptoms are observed.

Further, in about 1% of cases there may be loss of consciousness, hematemesis, and shock without being preceded by any of the symptoms above. In such cases, there is a high probability of sudden incapacitation, and this is a particular problem for aviation safety. Such cases have

serious symptoms and a high fatality rate, and because immediate action is required for lifesaving, it is considered impossible to take action on long haul flights. The symptoms mentioned previously are not unique to acute pancreatitis, but often appear in cases of calculus felleus, digestive ulcer, and alimentary intoxication. Therefore, it is necessary to carry out tests such as blood tests, and ultrasonic examination and computed tomography of the abdomen to obtain a positive diagnosis.

2.8 Other Information

2.8.1 Crew Incapacitation

2.8.1.1 Flight crew incapacitation was described in the company's Operations Manual as follows:

Crew incapacitation means a decline or loss of a crewmember's ability to perform their duties during flight due to physiological or mental influences.

Recognizing that incapacitation may occur at any time, crewmembers shall maintain their own physical and mental conditions to prevent incapacitation and, during flight, shall mutually confirm the condition of other crewmembers to detect any onset of incapacitation early.

The following steps shall be taken in the event of incapacitation. However, these should not prevent other appropriate measures being taken depending on the circumstances.

- 1 Take over the duties of the incapacitated crewmember quickly.
- 2 Take appropriate action so that the incapacitated crewmember does not hinder further operations.
- 3 Notify ATC of the situation.
- 4 Request the assistance of cabin attendants, dead heading crew, or passengers as necessary.
- 5 Reorganize the cockpit crew and reassign duties.

2.8.1.2 Methods for detecting incapacitation in its early stages and steps to be taken were described in the company's Operations Manual Supplement as follows:

1 General

Incapacitation can be broadly classified into the following two categories:

1 Obvious Incapacitation

Obvious incapacitation normally refers to a state in which all of a crewmember's physical or mental functions are lost, including loss of consciousness or being unable to move while retaining consciousness, rendering them completely unable to carry out their duties. Obvious incapacitation can sometimes involve convulsions, or the victim may lapse into unconsciousness several minutes after the incapacitation

occurs. Causes of obvious incapacitation include cardiac arrest, myocardial infection, intracerebral hemorrhage, cerebral apoplexy, and epilepsy.

2 Subtle Incapacitation

Subtle incapacitation refers to a state of a partial or temporary loss of physical or mental function which manifests itself in the form of a partial paralysis, a dulling of perception, judgment, or responses or lack thereof (a state of absence of mind, distraction of attention), trouble with speech, inadequate responses, meaningless utterances, etc. Particular attention must be paid to the fact that a crewmember may become incapacitated even though their appearance is no different from normal. Possible causes of subtle incapacitation include a temporary hypoglycemia, reduction in blood pressure, cerebropathy or psychopathy, excessive muscular fatigue, excessive drinking, insufficient sleep, emotional instability, toothache, stomachache, and headache.

Since other crewmembers are often unable to detect subtle incapacitation quickly, from a flight safety point of view, it is possible that subtle incapacitation may lead to a situation of comparatively greater danger than obvious incapacitation.

2 Detecting Incapacitation

Obvious incapacitation can be clearly detected since it causes the affected crewmember to collapse from their seat, fall forward or faint. However, since subtle incapacitation is difficult to detect, the following judgment criteria are recommended.

1 Strict enforcement of standard procedures

The following points shall be carried out regularly:

- (1) Standard Procedure and Profile (Call out, Check list)
- (2) Monitoring and Cross checking

2 Two communication rule

The two communication rule means that if no timely, appropriate reply or response is obtained in answer to two calls, directions, warnings etc., then incapacitation should be judged.

The two communication rule is implemented as follows:

(1) 1st communication

Incapacitation is suspected if:

- 1) A crewmember fails to respond properly within an appropriate time when called by another crewmember (including failing to respond to a Call Out or Check List item).
- 2) A deviation from the standard procedure and profile is discovered by Monitoring & Cross Checking, and even though the deviation is pointed out the crewmember fails to give an appropriate reply or execute a recovery operation immediately.

(2) 2nd communication

If it is still impossible to obtain an appropriate reply or response after the call, direction, warning etc. of the 1st communication is repeated, the crewmember is judged to be suffering from incapacitation, and the measures described in 3 below should be taken.

3 Measures on the Occurrence of Incapacitation

1 Promptly Take Over the duties of the affected crewmember. (If during the landing stage, make a go-around if necessary.) Reduce workload by making use of the autopilot, declaring an emergency, etc. (These measures are particularly necessary in the case of 2 Man Crew.)

2 A crewmember who is not controlling the aircraft (such as a flight engineer, crewmember occupying a jump seat, etc.) shall take the following measures to ensure that the incapacitated crewmember will not hinder further flight:

(1) Support the crewmember concerned, and move their seat to the Full Back Position and Full Recline Position.

(2) Call a member of cabin crew by the PA system or by other means.

(3) Cabin crew shall request the help of dead heading crew, jump seat occupants, or to request a male passenger to remove the crewmember from his seat and if possible remove him from the cockpit.

(4) Cabin crew shall provide first aid to the incapacitated crewmember.

* In the case of 2 Man Crew, the other crewmember should carry out the steps in 2 above while continuing to control the aircraft.

3 Report the incapacitation to ATC and the flight dispatcher. Declare an emergency if necessary, and request assistance from other organizations.

4 Reorganize the cockpit crew and re-assign duties, then double check basic controls, switches etc. and prepare for landing. If there is sufficient time available, it is desirable to carry out a thorough briefing on the procedures etc. until landing.

2.8.1.3 Cabin Attendant Handbook

Part 1 of the Cabin Operations Manual in the Cabin Attendant Handbook carried by cabin crewmembers contained the following description of Crew Incapacitation.

The definition of Crew Incapacitation was the same as described in the Operations Manual.

“Basic Procedures”

1 When notified of Crew Incapacitation from the cockpit, or when incapacitation is suspected, proceed immediately to the cockpit and inform other cabin crew of the situation.

2 Ask dead heading crew etc. on board for assistance in moving the incapacitated crewmember from their seat and if possible, remove them from the cockpit.

3 Administer first aid to the affected crewmember.

“Procedures for Sudden Illness or Injury in the cabin”,

- 1 If a doctor is on board among the passengers, request diagnosis and treatment. Take necessary measures according to the doctor’s advice.
- 2 Request a doctor or ambulance, if required.

In the case of international flights, upon request from aircraft advice can be provided from the medical support Med Link Service through a Japanese interpreter 24 hours a day.

2.8.2 Company Training on Incapacitation

The December 2000 “Health News” issued by the Health Care Center covered incapacitation, and introduced diseases that could result in aircraft loss of control. Acute pancreatitis was included, but there were no descriptions on typical symptoms or things to be aware of in daily life for prevention.

The scheduled training materials for fiscal year 2001 introduced incapacitation and explained the responses to be taken by flight crews with examples.

3. ANALYSIS

3.1 The captain and first officer had valid airman proficiency certificates and valid airman medical certificates in accordance with applicable regulations.

3.2 The cause of the first officer's acute pancreatitis was not known, but as described in section 2.6, it is thought that the possibility that alcohol was the cause as described in paragraph 2.5(1) is low. Further, from the results of the first officer's airman's medical examinations and scheduled medical examination, it is considered that the possibility of the causes listed in paragraphs 2.5(2) and (4)–(7) are low. It is therefore considered possible that the acute pancreatitis was a paroxysm as described in paragraph 2.5(3).

3.3 The first officer's acute pancreatitis and incapacitation

- (1) It is estimated that the acute pancreatitis from which the first officer suffered caused abdominal pains that resulted in a partial or temporary loss of physical function. Since the first officer complained of pains and stated that he was unable to carry out his duties, it is considered that a situation in which other crewmembers were unable quickly to recognize his incapacitation did not arise.
- (2) As described in section 2.1(2), it is estimated that after the first officer returned from the lavatory and vomited, he carried out PNF duties as normal for a little while, but as he began to experience pains around the stomach, he moved his seat back and reclined it slightly. Because the aircraft was in high-altitude cruise at that time and workload was not great, it is estimated that the captain's workload was not greatly affected. However, since the first officer's state of health was, as described in section 2.8.1.1, a decline in his ability to perform his duties during flight due to physiological influences, it is considered that he became incapacitated at that time.
- (3) The first officer stated that he might struggle due to the severe pains, so he fastened his harness to restrain himself.

According to the captain's statement, at around 80nm before the start of descent (though according to the first officer's statement it was after starting the descent), since the first officer had replied "impossible" to the captain's question of whether he would be being able to perform his duties, it is estimated that the first officer was in a state of "loss of a crewmember's ability to perform their duties during flight due to physiological influences", or a state close to it.

3.4 Responses of the crew after the onset of the acute pancreatitis

3.4.1 According to the Operations Manual

The responses of the captain and the first officer corresponding to the steps in section

2.8.1.1 were as follows:

- (1) For 1, the captain carried out the position report and set up for landing by himself.
- (2) For 2, the first officer moved his seat back and reclined it by himself, and then restrained himself with his seatbelt and shoulder harness.
- (3) For 3, because the aircraft was about to start its descent, the captain did not inform ATC.
- (4) For 4, the captain made a cabin attendant take care of the first officer in the cockpit.
- (5) For 5, duties were not redistributed as there were no dead heading flight crew.

With the exception of the failure to inform ATC, the responses of the captain and the first officer did not deviate from the steps to respond to incapacitation. Except that it was not judged that the first officer had become incapacitated, it is thought that their responses were mostly appropriate.

3.4.2 According to the Cabin Attendant Handbook

The responses of the chief purser and the cabin attendant corresponding to the steps in section 2.8.1.3 were as follows.

- (1) Regarding basic procedure 1, they entered the cockpit when the captain notified them that the first officer was experiencing abdominal pains.
- (2) Regarding basic procedure 2, they took care of the first officer until the aircraft had landed without moving him from his seat.
- (3) Regarding basic procedure 3, they administered first aid to the first officer by giving him stomach medicine and flannels.
- (4) Regarding procedure 1 in the event of illness on board, although they confirmed that a person who might be a doctor was on board from the passenger list, according to the directions of the captain and first officer they did not request diagnosis or nursing care.
- (5) Regarding procedure 2 in the event of illness on board, although they contacted the local manager and arranged a wheelchair as directed by the flight crew after landing, they did not request a doctor or ambulance.

The chief purser and cabin attendant responded as directed by the captain, and as in section 3.4.1, it is considered that their responses were mostly appropriate except they did not think that first officer was suffering from incapacitation.

3.5 Recognition of flight crew incapacitation

- (1) The captain

Though the chief purser informed the captain that a foreign doctor was on board, the captain did not choose for the first officer to consult the doctor. Possible reasons for this are that he did not wish to spend time and divert his attention to dealing with the doctor since the aircraft was about to start its descent, he thought the abdominal pains were simply due to food poisoning or similar and that the symptoms would get better

over time, and he thought that it would be all right for the first officer to see a doctor after landing.

Because the first officer endured his pain and conducted PNF duties until he replied “impossible” to the captain’s question, it is considered that the captain did not think the first officer was incapacitated.

It is thought that after he replied “impossible”, the first officer was in a state of “loss of a crewmember’s ability to perform their duties during flight due to physiological influences” or a condition near it, and he performed hardly any PNF duties. Because of this, despite the captain’s decision to carry out the landing by himself, it is considered that the captain did not think that the first officer was incapacitated. It is thought that this was because of his inability to recognize the degree of the first officer’s pain, and the fact that he thought he would be able to use the first officer in the event of trouble occurring.

(2) The first officer

It is considered that because workload was light in the cruise and he was carrying out PNF duties, when the abdominal pains first occurred the first officer did not think he had become incapacitated.

As reasons for his refusal to consult the doctor, as with the captain, it is considered that he thought that he was simply suffering from food poisoning and that the pain would get better, that the aircraft was about to start its descent, and it would be all right to see a doctor after landing.

It is considered that after his pain become severe, the first officer restrained himself with his seatbelt and shoulder harness, as indicated in his statement, so as not to inadvertently touch the flight controls, and he moved his seat position back. Although it is estimated that these actions correspond with the action described in paragraph 2.8.1.1 2, it is estimated that he was almost completely unable to carry out PNF duties after that despite being fully conscious. It is considered that the reason he did not judge himself to be incapacitated despite this condition was that he thought that the pain was caused by food poisoning and would get better presently.

(3) The chief purser and cabin attendant

One of the cabin attendants occupied an aft seat in the cockpit to care for the first officer until the aircraft landed. As neither the chief purser nor the cabin attendant could have been familiar with the respective duties of PF and PNF, it is considered that they thought the first officer was performing his duties as usual when they saw him setting switches.

It is thought that as a result of this, neither the chief purser nor the cabin attendant recognized the condition of incapacitation based on the Cabin Attendant Handbook, as described in section 2.8.1.3.

4. PROBABLE CAUSE

In this serious incident, it is estimated that while the aircraft was in cruising flight, the first officer suffered from acute pancreatitis and was incapacitated, resulting in his inability to carry out his duties as normal.

5. OPINIONS

The problem in this serious incident was that until the end, neither the captain, the first officer, the chief pursuer nor the cabin attendant recognized the first officer's condition as being incapacitation (including the possibility that they were potentially avoiding recognizing the fact). Consequently, though the actions of the crew were based on the procedures to be carried out in the event of incapacitation, an appeal for a doctor was not made in the cabin, and ATC was not notified.

So that crews respond properly to incapacitation, it is considered necessary that the company conduct recurrent training including this incident as an example. Further, it is considered necessary to review and clarify the description in the Operations Manual Supplement of "a condition of decline in ability to carry out duties", and to make the revision thoroughly known by concerned people.

Figure Presumed Flight Route

