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INTERVIEW SUMMARIES
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(29 pages)

INTERVIEW SUMMARIES

Interview Summaries conducted on Guam, at Seoul, Korea and at Inchon, Korea:

First Officer Steve Qetzell
August 8, 1997

Qetzell had been employed by Continental since July 1984 and had been a first officer on the B-747 since the beginning of 1997.

He said he normally flies from Guam to Narita and Honolulu. His trips normally arrive in Guam at night and runway 6L is the preferred runway. He said to the best of his recollection he has never landed on runway 24 at Guam. He said the NAV AIDs very seldom have inoperative components.

On the night of the accident, he was the flying pilot into Guam. The visibility was excellent at the time of arrival. They arrived from PAYEE intersection direct to the Nimitz VOR. There were some scattered isolated thunderstorms between PAYEE and Nimitz and the crew requested and received clearance to deviate around them.

Qetzell stated that they turned final inside the Nimitz VOR which is standard procedure for Continental Micronesia at Guam. He said he did not recall the ATIS weather but recalled the ATIS mentioned the Glide Slope was not functional. There were no comments on the ATIS regarding the DME. He said he believed the verbiage on the ATIS was that the Glide Slope was out of service.

Qetzell said the Glide Slope was “flagged off” but the localizer was steady and reliable. He said he did not recall if ATC also commented that the GS was out of service.

Qetzell said if he was told a Glide Slope was “unreliable” he would treat it as if it was out of service and not to be used. He did not recall any unusual winds the night of the accident. He said sometimes “there is a pretty good sinker” off the end of the runway, just inside Nimitz Hill.

He said there were isolated thunderstorms over the water north of the VOR. He said once they were cleared below 2,600’ they had pretty much unlimited visibility. At 2,600” the visibility was not so good. The radar painted some weather over the Nimitz VOR which had a red echo on the color radar.

He heard Korean Air 801 once on the radio when they checked in with center, but did not notice anything unusual about the transmission .

Once inside the VOR the weather was clear to the airport, but by the time they were getting into the hotel van it was raining at the airport. It continued to rain all the way to the hotel and Qetzell assumed it was raining when KAL 801 was near the VOR.

Flight Engineer Bruce Anderson
August 8, 1997

Anderson had been with Continental Micronesia for four years and at the time of the accident was a B-747 flight engineer. He had previously been a Continental Express Captain. He is also retired from the USAF.

Anderson said he has flown into Guam at least once a month for the last six months. Most landings are on runway 6 and he said he could not recall any landings on runway 24, although there must have been some. Anderson said the NAV AIDS are generally operational at Guam.

He said he could not recall the exact ATIS weather but it must have been "typical Guam type weather." He recalled the ATIS said the Glide Slope was OTS although he doesn't recall ATC saying the Glide Slope was OTS. He said the DME worked normally. There was no turbulence and the ride was pretty smooth.

There was rain in the vicinity of the VOR but there was no rain between the VOR and the field. However at touchdown, Anderson said he turned on the windshield wipers at touchdown because it had started raining. It began to rain heavier and was "moderate" when they were getting on the crew bus. He said it was still raining when they arrived at the hotel. Anderson said there was some weather and thunderstorms outside the VOR.

Anderson said from about 2,000' he was able to see the airport all the way. He said that 90% or more of approaches were visuals in VFR conditions.

Captain Ray Miller
August 8, 1997

Miller had been with Continental since 1965. At the time of the accident he was a B-747 captain. He commented that crews need approach charts with the topographical "3 D" format.

He said there was weather over Tumon but there was no convective activity and no lightning. Miller said he did not even tune in the ILS frequency, the only he thing tuned was the Nimitz VOR. He said the DME was normal the whole way.

Miller said he has not been to Guam that frequently and had never made the ILS approach there. The visual cues to the runway are good with the 2-Bar VASI and "rabbit."

He said he heard Korean 801 on the radio and thought an American was speaking because of their spoken English.

Captain Kevin Clancy
August 8, 1997

Clancy was a B-727 lead check-airman with Continental Air Micronesia in Guam for five years . In his experience the DME was always reliable. He never recalled it being intermittent or unreliable. It always worked normally or was not working at all.

Clancy said he had an unusual experience flight testing an aircraft at approximately 15:30 (LCL) the day before the accident. He said he was testing the GPS installation on a B-727 airplane. The conditions were VMC and he was making the ZEKE arc approach to runway 6 and as he lined up for runway 6 he decided to check the wiring for the autopilot, flight director and Nav. Radios. He said he was centered on the localizer and noticed the Glide Slope was also centered, there were no flags associated with the ILS. He said he attempted to couple the autopilot to the ILS but it would not couple. He then placed the flight director into ILS mode and the flight director annunciator indicated a "Green Capture." He said the localizer appeared to be working normally but the glide slope always indicated "center" with no warnings even when he flew high of the glide slope.

He felt at the time it was probably an anomaly with the airplane rather than a false signal from the GS transmitter, but he said he did not write it up in the maintenance log. He did discus it with the Base Chief Pilot.

As a training check-airman, Clancy said the biggest worry about flying into Guam is complacency. The company policy is to turn final inside Nimitz Hill to save time, fuel and avoid the hill.

He said there are generally build-ups in the vicinity if Guam as is typical in the South Pacific. He said the weather generally tends to move over the field toward the hill because of the trade winds.

He said they also brief their pilots that it is possible to get a GPWS warning over the hill if the airplane is not in the landing configuration.

Captain Ahmed Serag-Eldin
August 8, 1997

Captain Serag-Eldin was the Chief Pilot/Guam Operations with Continental Air Micronesia. He stated when he heard of the accident, his personal speculation was that it was controlled flight into terrain.

He said in his experience here at Guam he had run into "a lot of weather over the VOR and in fact has seen very heavy weather over the VOR."

He believes the approach to runway 6L without a Glide Slope has to be well briefed and the pilots have to pay close attention to the approach to make it successful. After crossing GUQQY there is a step down of 560' in 1.6 miles to cross the VOR at a 1,440'. He said a B-747 is a "large airplane with a lot of kinetic energy and the rate of descent has to be positively arrested to avoid getting low over the hill. A person unfamiliar with the airport making the descent may have a sense of complacency if the field were in sight.

Hunter[1]
August 9, 1997

A hunter and his friend were hunting on Nimitz Hill during the night of August 6, 1997. He said he walked across the area where the plane crashed just minutes before the crash. He was about 100 feet ahead of his friend who was back toward the VOR.

The hunter said he heard the airplane first before he saw it. It was extremely loud and was so close it caused the ground to vibrate. He said the noise was so loud he could not hear himself screaming at his friend. He said the airplane passed over him approximately 8-10 feet above him in a descending right wing low attitude. It appeared as if the right wing was almost touching the ground.

The shock of the airplane passing over caused the hunter to fall over backwards, and the noise from the plane caused him to be deaf for over an hour. He said the airplane looked huge as it approached and he thought it was going to hit him. He could see the wingtip lights flashing and could see the lights of the cabin windows as it passed. The airplane appeared to be in a right turn and seemed to be turning straight toward the VOR.

The hunter said there seemed to be one constant engine noise with no acceleration, deceleration or power surges from the engines. He said he was used to airplanes overhead. The hunter said his friend said he noticed sparks coming from the right side of the fuselage as it passed. His friend was off the right side of the plane about 100 feet away.

It appeared as though the plane did not hit the ground until very near to where it came to rest. The hunter said he was standing approximately 200 feet from where the airplane came to rest. He said the noise, ground vibration and shock of the closeness of the plane caused him and his friend to "almost return to caveman days." He said they couldn't talk or hear and were unable to communicate. He said he though he was going to die when he saw the plane approaching.

When the airplane hit the ground it seemed to nose in. There was a big ball of flame and a shock wave that knocked him over again. The flame burned very big and flared very bright then continued to burn. The ground shook from the impact when it hit. The hunter said he and his friend were almost unable to walk. They would run and stumble and crawl on hands and knees. He continued to run and fall, running toward the Nimitz Hill road.

[1] The hunter was re-interviewed on January 13, 1998. That interview summary is included in the attachments.

He thought he heard some hollering and screaming, but it may have been his friend. He said his ears were bad at the time.

He said the night was starry right when the crash occurred but earlier there had been some intermittent rain showers. There was no rain when the airplane crashed.

The hunter said he ran down the hill to a house where he called his wife to come and get him. His car was parked on the other side of the hill.

First Officer Eric Lemon
August 9, 1997

D.O.B. 8/20/70
Employed by Ryan since 3/93
Presently a B-727 first officer but had flown as B-727 flight engineer for 8 months.

Lemon is familiar with Guam and the Pacific islands. He had flown on Guam as a flight instructor prior to his employment with Ryan. He said he had flown for 2 years in the States and 2 ½ years on the island of Saipan.

On Aug. 6, he flew from Guam to Truk and returned to Guam. The captain was the flying pilot back to Guam and they landed about 15 minutes after the accident. He said they arrived from the southeast.

Lemon said he did not remember hearing Korean Air 801 on the radio. He thought he heard another Korean Air flight going to Saipan.

Arriving toward Guam he said the visibility was good enough to see the lights of Guam from about 150 miles away. There was some weather on the radar northeast of the airport but it was not painting red. There were also some clouds to the southeast of Guam which caused them to deviate around them as they approached the island.

Lemon said when they were about 100 to 125 miles out he saw a red glow illuminate the clouds surrounding Guam then die out. The red glow appeared about 10 minutes prior to the time they reached the vicinity of the VOR. Lemon said the captain did not see the red glow but another crew member said he may have seen the flash out of the corner of his eye. They had just seen a meteorite and almost associated the red flash with the meteor. They were at either FL 280 or 310 when they saw the red glow.

By the time they were 100 miles from the VOR it was harder to see the island because of the lower clouds. There were some isolated rain showers over Guam.

They were cleared down to 2,600'. By the time they were 15 miles from the VOR they asked for a visual because they could see the airport, however ATC did not answer and in a short time they were back in the clouds.

ATC told them that they had lost an aircraft west of the airport and asked if they could see anything. Lemon said he told them they were in the clouds but almost over the VOR they were told to turn to 240 degrees and as they turned they broke out of the clouds and saw flames on the ground in the vicinity of the VOR. The only place where they were not in the clouds was over the crash sight.

There was no DME when they were vectoring for the runway 6 approach. Lemon remembers they had the DME before but it went out some time after the red flash. The last time he noticed the DME operating was approximately 25 miles from the VOR.

Lemon said the ATIS mentioned the GS was inop. He remembered ATC telling other people the GS was inop but was not certain who they were telling. He said ATC told them to turn to a heading for vectors for the ILS but did not mention the GS being inop until they were turned inbound. He never recalled in the past ATC ever warning pilots about high terrain on approach. Lemon said that occasionally he had got a GPWS warning over the hill when making visual approaches to runway 6.

They were maneuvering over the crash sight at 2,600' and when they were given vectors back to the east the captain also spotted the flames at the crash sight. During the vectors to the runway 24 visual they encountered occasional light rain during which time they could still see the airport.

They made a visual approach to runway 24 and landed.

In response to questions Lemon stated the following:

In the vicinity of the crash sight the only place the ground was visible was at the crash sight.

Nimitz Hill is a "black hole" and sometimes it is difficult to distinguish the hill from clouds if any clouds are in the area. If it is raining or clouds are in the area it will probably be impossible to spot the hill or tell it from the clouds.

The VASI will keep you clear of the hill if used.

There were clouds and rain and maybe some patches of heavy rain on approach to runway 6. It was hard to tell the intensity of the rain because it wasn't very heavy.

Lemon thought they were given the visual to runway 24 because the DME was out, but they did not report the DME out to ATC.

Lemon was sure that Korean Air 801 had DME because his airplane had a DME indication when they saw the red flash.

Lemon said he remembered having the DME in descent but not during the approach phase.

Lemon said he has no experience with descending below the GS for runway 6 because he knows the area and knows it's dangerous.

He said the DME was working for a while after the red flash but not too much longer.

Lemon thinks there should be a dedicated non-precision approach plate for GS out approaches to runway 6 to help alert crews to the procedure changes.

Captain Steve Thornton
August 9, 1997

D.O.B. 1/17/50
Check-airman B-727 with Ryan Intl. Based on Guam. Employed by Ryan 7-8 years. Prior to Ryan worked for ExpressOne.

Thornton said on the return to Guam he could see the lights of the island about 250 miles out. About 125 miles out he could see lights on the eastern side of the island.

About 125 - 127 miles out the first officer said he saw a red glow. All the clouds over Guam turned red but the glow went away before the captain could see it.

At 96 DME they started the descent and he may have been using the GPS for distance measuring. At 25-30 out he switched to VOR tracking and to the best of his recollection the DME was working.

They were cleared pilot discretion to 2,600' and were told to proceed direct to UNZ VOR. Because of the clouds they were unable to keep a visual on the airport without descending below 2,600'. He said ATC would not let them descend below 2,600' and about 3 miles from the VOR they asked ATC what they wanted the crew to do. They were given a heading of 240 and were told that an aircraft may have gone down west of the airport. They were turned to 210 degrees and asked if they could see any wreckage. Almost immediately the first officer said he could see a fire at three o'clock almost below the airplane.

They were given a right turn for the ILS to runway 6. The captain re-tuned his radio to the ILS and noticed as he dialed the frequency, the repeater DME from the first officers nav radio went off. He wasn't sure if that's when the DME went off or if the first officer also re-tuned his radio. Because of the crash, he felt crew coordination suffered somewhat.

Thornton said there were some clouds over the shore line with light rain. There was some lightening about 50-80 miles away. As they turned southwest of the airport they were in and out of the clouds but were never in any heavy rain. He saw the fire as they turned southwest and told ATC the crash was almost over the VOR. Over the airport there was light rain but no

low clouds. After they spotted the crash site they were re-cleared for a visual to 24. They did not need windshield wipers during the approach to 24.

Thornton said he made approximately two GS out approaches to runway 6 previously but cant recall much details about those approaches. He said the LOC and GS have slight dips and bends in them.

He recalled the ATIS mentioning the GS was out of service. He said he heard center or approach say at one time that the "GS was unreliable."

He remembered hearing flight 801 on the frequency and thought they said "Queen Air" instead of Korean Air. He does not recall anything else unusual about the radio transmissions.

Thornton said at night the hill looks like a big black hole. Sometimes a cloud will look like the hill and sometimes the hill will look like a cloud.

He said there were no disparities between the FAA and the contract tower operators.

As a check airman he has noticed that once crews are given a visual approach they have a tendency to press on even when they lose visual contact in hopes of regaining visual contact again. That's because so many approaches are visual and the clouds and rain showers are so localized.

He said he has some problem with the NOTAMS and maintenance of navigational equipment. For example he said the GS on Saipan has been NOTAM'd out for months but has been usable.

He said as a check airman he has had pilots descend below the GS and has heard the GPWS alert them of that.

He recalled the Guam DME had been NOTAM'd OTS for about 10 hours once previously.

He said the air around the airport when they were flying over the crash site was smooth.

Captain Park, P.W.
August 11, 1997

Captain P. W. Park led the operations group of a tour of the Korean Air headquarters facility in Seoul, Korea. During this tour the following information was gathered:

Korean Air was incorporated in 1969 as a private airline and has been a public company for the last 28 years.

Since June 1, 1997 there has been an audio-visual program for airport familiarization. This program was purchased from Japan Airlines. Guam is classified as a regular airport and not a special airport. As a result viewing the Guam video is not required but recommended by the company if a pilot has not been there for the past 3 months.

The accident captain viewed the Guam video and was given a charter briefing on Guam on July 4, 1997. First officer Song viewed the Guam video on July 8, 1997.These dates are based on records signed by the pilots whenever they viewed tapes.

The video presentation describes a visual to runway 6 but describes a turn inside Nimitz Hill. The ILS to 6 does not stress Nimitz Hill.

The audio-visual presentation is available for pilots to view on their own six days a week (except Sunday).

There is a system of Chief Pilots who oversee the pilot group. Each Chief Pilot oversees approximately 100 pilots. They are familiar with the pilots and also familiar with the pilots' personal lives. There is a separate Chief Pilot for the foreign pilot group. There are approximately 167 foreign pilots from 23 countries. Most of the foreign pilots are Americans and Canadians.

Pilots are paid a combination of salary and flight pay.

The pilots are required to arrive two hours prior to their trip. They find their paperwork packet and study the trip paperwork. This is known as the self-brief. After the self brief the full pilot crew takes the trip paperwork and goes to a Supervisor for a trip briefing. This briefing by the Supervisor begins 1:45 before departure time.

The Supervisors ensure that the pilots have reviewed all materials for the trip and check the pilots' licenses, medicals, passports and company identification. They also spot check Jeppesen and other manual revisions. 15 minutes are allotted for this briefing and it generally averages about 10 minutes. The Supervisors are retired airline captains and instructor pilots who have had no prior disciplinary action. In December, 1996, Korean Air began the policy of supervisor briefing. At first , the crews did not like it because it was a more cumbersome procedure, but now they accept it.

Following the briefing by the Supervisor, the pilots go to the flight attendant area and meet with the cabin crew. The captain provides a 5 minute briefing to the entire crew, and the crew rides the company bus together to the airplane.

Jeppesen and other manual revisions are placed in the pilot's mailboxes in the locker room.

The pilots do not have a pilot's union but the flight attendants have a union.

There is a four day academic CRM program which is held in a campus setting approximately 1 hour by car from Seoul. It is taken by 18-24 pilots at one time. The training does not include cabin crew.

Flight engineers generally don't upgrade to pilot although some have become first officers after they obtained the necessary licenses and ratings.

The minimum requirements for employment for a pilot are: a commercial license and 2,000 hours total time. Military trained pilots may be hired with less flying time since they have been trained on more complex equipment.

Korean Air trains some pilots from 0 flight time. These pilots are sent overseas for flight training and to receive the necessary ratings after which they return and are assigned to the smaller domestic airplanes like the MD-80 or F-100. This program has been in effect since 1989 and they train approximately 80 pilots a year through this program.

Upgrade to captain is based on qualifications and flight time, not on seniority. To upgrade to captain a pilot must have at least four years with the company and 3,000 hours for former military pilots or 4,000 hours for civilian trained pilots.

Generally a pilot begins at the smaller equipment, MD-80 or F-100 as a first officer and transitions up to the "jumbos" as a first officer. When he is ready to upgrade to captain his first captain position is usually on the smaller domestic airplanes.

Last year 1996, the FAA and ICAO made a world-wide airline safety assessment and Korean Air achieved the highest rating of "1". This was a two year evaluation program.

Korean operations are a copy of U.S. operations. Korea is also not on the metric system. They generally use "feet" and "miles". Korean pilots are familiar with American procedures because that is the way they are taught . The U.S. is the most frequently visited country for Korean Air pilots. The only difference is that Korea uses Hecto Pacals backed up with inches of mercury. As a result they are familiar with both systems.

The Korean M.O.C.T. conducts line checks and approves designated checkers. There are two M.O.C.T. checkers assigned to Korean Air and each of them has observed approximately 140 flights during 1996. The KCAB[2] belongs to the M.O.C.T. The KCAB provides oversight for Korean Air operations, maintenance and cabin sections of the airlines operations. The KCAB also approves the airlines procedures and manuals.

Korean Air has 12 different types of aircraft. The B-747, MD-11 and A300 utilizes company designated checkers to give ratings. On the smaller aircraft the M.O.C.T. checkers do all captain checker qualifications.

[2] Korean Civil Aviation Bureau (KCAB)

Mr. Park, Choon-Sik
August 11, 1997

Mr. Park is director of academic training. He has been an employee of Korean Air since 1970. He originally was a B-747 F/E but retired from that position in April of 1994.

He is responsible for academics, simulator training and CRM training.

Mr. Park did not know the accident pilots personally, only by face. He said he did know the accident F/E who was a friend of his from the time they served in the Air Force together.

He said the F/E had a very good sense of humor but was strict and excellent in his job.

CRM training is not graded so there are no grading records. The CRM program was started in Dec. 1986 and the UAL program was purchased as a model. It is a once-only, four day seminar and yearly LOFT training in the simulator.

Prior to the four day seminar, the students are given manuals to pre-study. When they arrive they are given additional materials.

The purpose of the CRM program is for the pilots to identify their own behavior then improve to a better attitude and behavior. The course emphasizes dilemma resolution. Films are shown such as “Twelve angry men.” The class is given different problem and conflicts to resolve. At first there was some cultural difficulties with the program but as the program developed they got beyond that. Pilots like the seminar.

The four day CRM class is composed of a maximum of 18 or 24 students, with teams of 6 representing captain, first officer, and flight engineer in equal numbers.

Pilots receive two training and check sessions each year. They receive 25 hours of ground school divided into one 13 hour session and one 12 hour session. Twice a year they are given two hours of simulator training and two hours of a simulator check. The last 1:30 minutes of a simulator check is the CRM LOFT program. This CRM LOFT program is given to a pilot once each year.

The LOFT emphasizes scenarios in problem solving without the assistance of the instructor. The session is video taped and reviewed by the students and instructor. The scenarios are based on actual situations which have occurred on the line and are changed and upgraded yearly.

The CRM program stresses “Advocacy”. Advocacy teaches the first officer and flight engineer to intervene when necessary. Park said that early in the program there were some problems getting the first officer or flight engineer to intervene but not so much any more.

He said the required maneuvers for training and check rides are the same as in the U.S. appendix F. They are also listed in the Flight Crew Training Guide and the Flight Instructor Guide.

Terrain consideration is taught in the simulator and the stall training uses terrain consideration during stall recognition and recovery.

The B-747 Guide Book has a standard callout section. Generally the pilot flying makes the TO and APP briefings. The approach briefing is generally accomplished 30-40 minutes prior to ETA. If there are several approaches the pilots are trained to brief accordingly. If an approach that was not anticipated is assigned, the pilots are expected to re-brief.

The Guide Book describes the advocacy call outs expected by the non-flying pilot and flight engineer if heading, airspeed or altitude deviations are made by the flying pilot. Most captain and first officer briefings contain a mention of advocacy and to feel free to intervene when necessary. Mr. Park said advocacy is not a problem at Korean Air.

There is a standard communications booklet which tells pilots to always be certain of a clearance. “If there is any doubt - always ask.”

In response to questions Mr. Park stated the following:

The elimination of referring to the GS out of service by ATC may have been confusing.

The CRM program was a result of the KAL 007 accident.

The Korean Air policy is for pilots not to be dual qualified but it occasionally occurs.

During a CAT II approach the radio altimeter is the primary altitude instrument.

During a CAT I and CAT II approach the pressure altimeters are set to QNH.

The radio altimeter is usually set to DA or MDA (on non-precision approaches.)

When asked about the standby altimeter, Mr. Park said the classic (B-747 - 100, 200, 300 and SP) did not have one.

The speed bug setting procedures are in the B-747 Guide Book but Mr. Park said the target speed is usually Vref +5.

Mr. Park said that pilots are trained to hand fly in the simulator and generally use the autopilot only for coupled CAT II approach training. On the line the autopilot usage depends on the pilot and his skills. Usually when the autopilot is off the auto throttle is also off.

Korean Air also has English Language Training. Pilots are given 120 hours of Aviation Language training by a native speaker, usually an American. They are also given 25-30 hours of ATC English for a total of about 150 hours of English language instruction.

Flight Engineer Choy, Kwang-Il
August 11, 1997

Mr. Choy flew a trip on August 2 with the accident captain that consisted of 2 round trip domestic flights to Cheju. The accident captain was the pilot-flying on both landings into Cheju, and, both times, he executed a runway 32L VOR-DME approach. He followed every altitude restriction on the VOR-DME requirement. When Mr. Choy learned of the accident, he did not believe it was the accident captain. He noticed nothing out of the ordinary. Weather was VFR.

Personally, the accident captain seemed calm, methodical. He upheld the regulations strictly. He made all standard callouts. They did not socialize outside work. This trip was the last time Mr. Choy saw the accident captain. After this trip, the captain was going to fly to Hong Kong. His mood was quite average and he had a calm personality. He never joked during the flight.

Mr. Choy knew Flight Engineer Nam very well, and did not know when he last saw him. He also instructed Mr. Nam. His strengths: very detail oriented, would not gloss over someone's mistakes. He also had a navigator background so he was versed in charts as well as pilot issues. Personally, he was certain, black and white. He did not joke.

On international flights, a flight engineer will have finished most of his paperwork and would be looking forward during the approach.

First Officer Park, C.K.
August 11, 1997

Mr. Park flew once with the accident captain in June. He graduated from Air Force Academy with First Officer Song and was a close personal friend. Flight Engineer Nam was his instructor during his initial training on the Airbus.

The trip with the accident captain in June was a charter flight with 3 legs: Seoul to Komatsu, Japan; Komatsu to Nagoya, Japan, as a ferry flight; and Nagoya to Seoul. The second leg is very short for a B-747, only 20 minutes, so the descent began even before the climb was complete. The accident captain flew the first leg, and First Officer Park flew the second and third legs. The accident captain exuded confidence. He allowed First Officer Park to fly the short leg, so he trusted himself to supervise. That was the first time they met, but communication was easy. It was a standard flight because it was absolutely smooth. Weather: few to scattered clouds at 3000-4000 feet. At a personal level, he felt that the accident captain would be a model for him as a captain. It is hard to be specific, but

everything went smoothly. With regard to advocacy [assertiveness with the captain], he might have taken advocacy but he does not recall any specific instance. He does not recall humor by the captain. This was the last time he saw the captain.

He last saw First Officer Song on August 4 at the company. He was leaving on a trip to Alaska, and First Officer Song was leaving for Cheju (he believes). He knew that First Officer Song was scheduled soon to fly a trip to Guam, and he planned to contact First Officer Song once he returned from Anchorage. They spoke by telephone regularly. First Officer Song's mood was normal. As a person, he "needs no law." This is an expression that means he always follows the rules without the need for surveillance. In Mr. Park's opinion, First Officer Song would have no difficulty taking advocacy with a captain.

He last saw Flight Engineer Nam in July, when they flew a trip together from Basel via Delhi to Seoul. First Officer Park went to Basel as part of a positioning crew and took 7 days to return to Seoul. He also flew with Flight Engineer Nam for one year on A-300 airplanes. Flight Engineer Nam often provided input based on his technical knowledge. When the crew tried to determine the cruising altitude, Mr. Nam would explain in detail why they should choose one altitude. If there were a difference of opinion between the captain and the first officer on altitude, and Mr. Nam was very good at mediating to reach a compromise without hurting the feelings of either pilot. Mr. Nam was senior to First Officer Park. He had an easy personality despite the age difference and Mr. Park dealt with him like an older brother. They always met through work and ate dinner after work, but did not meet socially.

First Officer Song was a good golfer, with a long drive, and he and Mr. Park played tennis. He spent time with his family. When he first received training on the B-747, he created a personal summary of the Aircraft Operations Manual. Mr. Park went to Air Force Academy with Mr. Song, but was trained by Mr. Nam. Mr. Nam was a simulator ground instructor on procedures. As an instructor, he was very detailed at explaining the why's of something.

First Officer Park, C.J.
August 11, 1997

First Officer Park flew with the accident captain on his previous trip to Guam on July 4, a round trip flight. The accident captain telephoned him one day before the trip and proposed that they should get a charter briefing since Guam was an airport they usually did not fly into.

They arrived at 1700 for a 2000 departure to allow one hour for self study and charter briefing. They received a charter briefing, with the Captain requesting the instructor to provide the briefing even though it was not required. Then they watched the AV video presentation on Guam together. They looked at their own copy of the Jeppesen chart and studied the airport for 20 minutes. The actual flight was ordinary. Everything went smoothly to an ILS approach. They spent 3 hours on the ground. This was First Officer Park's first visit to Guam, so he went out to the terminal while the captain rested in the airplane. On the return flight, there was nothing out of the ordinary.

The accident captain flew both legs. The weather in Guam was quite good, but he said that since this was an unfamiliar airport he would fly both legs. They flew the ILS 6L approach and the glide slope operated normally. The DME operated normally. Asked if he noticed any deviations on the localizer or glide slope during the approach, First Officer Park said that the weather was good and he did not remember. They probably received their landing clearance after they first contacted the tower. The weather at Guam was a scattered cumulous buildup, visibility was fine. They executed the ILS.

Asked whether the Nimitz VOR area seemed like a black hole, he said that he did feel that there was something weird about this area and that something was said in the briefing. When he studied with the accident captain, the captain mentioned that the Nimitz VOR area was a mountainous area that calls for care. The accident captain used the expression “black hole” a term that was unfamiliar to First Officer Park. First Officer Park remembered not feeling good when they passed over this area, and remembered that the captain said “mountainous area.”

Both takeoff and landing briefings were based on the landing cards and were done in detail. In his briefing, the accident captain briefed only the ILS approach. Referring to the Nimitz VOR area, the accident captain said “right here is a mountainous area so you have to be careful.”

On the ground in Guam, the accident captain went into the first class area and went to sleep in a passenger seat. He later said that he slept a little bit. When asked whether the accident captain seemed fatigued, he said that the captain did not say he was particularly tired.

First Officer Park once served as extra crew on a flight on which the accident captain provided instruction. This was last spring, but First Officer Park was not in the cockpit to observe the accident captain’s instruction.

It is a rare thing for a captain to telephone a first officer to obtain a briefing when it is not required. That was the first time it happened to First Officer Park. He thought favorably of the captain because of this, but felt that he should have telephoned the captain first.

First Officer Park was hired by Korean Air in November, 1992. He has 2,300 hours of flight time.

First Officer Park saw the accident captain twice on August 4 around the company. First Officer Park’s mother had died two weeks before, and the captain came to him and offered condolences. Later, he saw the captain again on the bus going to the parking lot. The captain said he was supposed to return from Hong Kong the day before but had been delayed by a typhoon and had to overnight. His mood had been serious and concerned when he offered condolences, but it was normal on the bus. He was kind, and First Officer Park always had a good impression of him and thought he was quite considerate of others. Asked if the captain seemed fatigued, he said no.

First Officer Park did not know Mr. Song or Mr. Nam.

About 40% of the B-747 flights are at night. Sleeping during a layover is quite common. After checking the terminal at Guam, First Officer Park came back to the airplane and intended to sleep.

First Officer Park did not remember what the accident captain emphasized in his briefing. He did remember that the captain mentioned "mountainous terrain" before the flight and during the approach (referring to the area of Nimitz VOR). During the flight, First Officer Park could not distinguish whether the Nimitz VOR hill was high or low. It was all black.

The accident captain did not tell many jokes. He indicated that, on days off, he took his family for drives. He did not describe his family.

Flight Engineer Baek, Hyun-Jong
August 11, 1997

Mr. Baek flew a short flight with First Officer Song on June 18, a round trip flight to Cheju Island and back. First Officer Song had good manners and etiquette, and was the first to greet using posture and words when they met. Flight Engineer Baek did not remember details of the trip. He assumes that First Officer Song was skilled in all areas since, if he had a problem area, it would have stood out in Flight Engineer Baek's memory.

Flight Engineer Baek last saw First Officer Song on August 5, when he went out on a flight to Australia that departed within 5 minutes of Flight 801. He ate dinner with First Officer Song at the company at about 1730 and they discussed personal matters. They discussed that First Officer Song's family had emigrated to New Zealand. Mr. Baek asked whether he felt lonely or bored in Seoul without his family, and First Officer Song said that the company had been pretty good about special consideration. He could see his family twice per month so he did not have periods of loneliness. They did not discuss the flight. Regarding mood, First Officer Song looked quite natural and comfortable with himself. They also discussed the costs of living in New Zealand, and First Officer Song said it only cost $900 per month. This dinner took place before the self brief and supervisor brief. They had already completed their paperwork, and first met in the eighth floor pilot area around 1700.

Flight Engineer Baek had flown previously with the accident captain and last saw him on August 5. They were on the same shuttle bus to the terminal. They had no conversation. The captain looked quite ordinary.

Flight Engineer Baek received instruction from Flight Engineer Nam on the A-300 and was also on the same recurrent training process with him. He said that Mr. Nam was very accurate. He was an instructor as well as a checker on the A-300. Whatever questionable areas Mr. Baek had on his recurrent, he would refer to Flight Engineer Nam for his judgment.

He last saw Flight Engineer Nam on August 5 when Flight Engineer Nam sat with him and First Officer Song for dinner. Mr. Nam said that if it only cost $900 per month to live in New

Zealand, it would be possible to educate your children quite inexpensively. He was quite impressed with the low cost of living in New Zealand. Relations between Mr. Nam and Mr. Song were good. Mr. Baek did not know if they ever flew together before. Neither one looked fatigued. Their conversation was held in Korean.

Flight Engineer Baek had flown once into Guam at night, landing and takeoff, and did not recall anything about it.

Flight Engineer Baek described the duties of a flight engineer during an instrument approach. As the captain briefs an approach, he verifies that frequencies are tuned properly on the nav aids. He checks the field elevation and runway length. He would note the decision height, monitor speed, glide slope and localizer deviations, and make a callout if the deviations were too large. He would review the go-around procedures, and call out the decision height if the first officer did not. During the briefing, the captain makes the approach plate available for everyone to see. During the approach, most of his attention is forward except when he checks the gear tilt.

Captain Lee, Han-Bok
August 11, 1997

Captain Lee flew with First Officer Song on July 24 or 25 on a trip to Cheju. Captain Lee described First Officer Song as quite calm, quite conscientious. He was thoroughly prepared for a flight. He went about his activities before the flight in an orderly and methodical way. This was a short flight and there was nothing particular about it. Captain Lee stated that if the captain made a mistake, First Officer Song would be able to say something about it. He last saw First Officer Song a few days later.

Captain Lee knew of the accident captain. The accident captain was quite calm and methodical, quite stable. Captain Lee had not heard of any first officer complaining about the accident captain, and did not know when he last saw the accident captain.

Captain Lee had flown with Flight Engineer Nam a long time before. All three members of the accident crew were phlegmatic in personality and in their preparation for flight.

Captain Lee was hired by Korean Air in 1979. He has 18,000 flight hours, with about 6,500 hours as a B-747 captain.

He might have flown with the accident captain when Mr. Park was a First Officer but he did not know. He did fly with Flight Engineer Nam. Mr. Nam did not shirk his duties and would not fail to intervene with a captain.

Captain Lee does not know of any changes that took place in Korean Air procedures as a result of the Flight 007 accident. [Captain P.W. Park, present in this interview, indicated the following changes as a result of the Flight 007 accident: Pilots review their computer plans during the flight, checking and writing at every fix including remaining fuel. Some also plot

courses on Jeppesen charts. These changes were not required, but pilots took it upon themselves to be more thorough.]

Captain Lee said that he saw inspectors from the government every year at his required check, but did not see them between required checks.

Asked what he liked about the company, he said that flying is of course the best part. Asked how the company has changed, he said that it has become bigger in size with many more airplanes and people. It seems to be expanding now, and has always grown. Asked about relations between the pilots and the company, he said that he was being put on the spot and found it hard to be specific. He flew into Guam, but a long time before on a night flight. Asked about pilot inputs on safety, he said that pilots communicate on a continual basis on safety. The safety department is in the Safety and Security Office.

Captain Lee is not a check airman. He is an instructor pilot (a route instructor) but is not active now.

Captain Lee, Hyun-Kyu
August 11, 1997

Captain Lee is the supervisor who briefed the crew before they departed on the accident trip.

He was hired by Korean Air is October, 1973. He became a supervisor in December 1996, after having served as a captain, instructor, and evaluator on the B-747. He has 24,330 flight hours.

He said he did not remember anything out of the ordinary about the briefing of the accident crew. The captain, first officer, and flight engineer were seated from left to right. He reviewed the flight data they brought. He asked about weather in Guam. With a typhoon in the area, they said they might experience turbulence on the way. He recommended use of the weather radar to maximize deviations on the way. He checked their ratings, licenses, passports, and company identification. He also briefed on special operations bulletins. He asked whether there were special things they wished to discuss. They said only the typhoon.

He told them about 6 notices concerning: 1) recommendations from the company to reduce ground time; 2) checking for the presence of a required raincoat; 3) effects of jet blast; 4) the Newark Federal Express accident, and how to prevent it; 5) noise abatement procedures at Kimpo; and 6) air security issues. He asked the crew to follow the checklist items more carefully, and to brief the landing briefing according to the checklist. Finally, he asked the crew if they had anything to discuss. It took about 8-9 minutes to brief these items.

He did not discuss the glideslope at Guam since it was not mentioned by the crew. He did not check the currency of the Jeppesen charts that night, although he often does.

The accident captain seemed absolutely normal and not at all fatigued. Captain Lee briefs 15-20 teams per day. He did not place this team as different than any other. He had never flown with the accident captain and did not know him personally.

He had flown with Flight Engineer Nam. They had both served in the military during the Vietnam War, Captain Lee said that Flight Engineer Nam helped in many cases with the knowledge he had obtained in the military.

The accident crew said hello when they arrived, and had little to ask. At the end of the briefing Captain Lee told them to come back safe and they said OK.

He indicated that he was not aware of any big changes in procedures being made as a result of the KAL Flight 007 accident.

He briefs foreign crews in English. He has never briefed crews who appeared fatigued or sick.

To provide a briefing, he looks at the package that the crew brings. The crew did not say that there were particular NOTAMS, so he did not discuss this. He was unaware of the glideslope NOTAM. His main concern is to confirm that crews have looked at the items closely. [A company representative explained that it is the responsibility of the captain, after his self brief, to discuss the NOTAMS with the dispatcher should there be any question. The responsibility of the supervisor is only to ask the captain if he reviewed the NOTAMS.]

He asked the crew if there were special things about the flight that they were aware of. [According to the representative, it is the responsibility of the captain to brief himself on the approach, but the supervisor would ask the captain if the procedures were understood.] He asked about weather, and the crew indicated there was a typhoon in the area. He remembered looking at the chart they brought, and the typhoon appeared far from the route of flight.

Captain Han, W. H.
August 12, 1997

D.O.H. August 1986
Title: Captain, - Chief Pilot of B-747

Ex Navy flew 2,600 hours in anti-submarine aircraft.
With Korean Air flew 727 first officer for 4 years and then the classic B-747 as a first officer. He then upgraded to captain on the B-727 and then to captain on the B-747. He has approximately 10,100 hours total flight time.

He has been the chief pilot for 10 months. There are two chief pilots on the classics to make sure one is always available.

He knew the accident captain. He said he saw him just before the accident captain took a trip to Hong Kong, which was two days before he went to Guam. The accident captain came to captain Han and said he was scheduled to go to Dubai when he returned from Hong Kong and asked for special information concerning the flight to Dubai. There was no video for Dubai so Han told him about flying in the Middle East and explained parking procedures in Dubai. Captain Han told the accident captain that flying in the Middle East was routine.

The accident captain had never received disciplinary action but had received a couple of awards. He received a "Well Done" award in Dec. 1989 for diverting from Taegu when the gear had an unsafe indication and for landing without mishap. He also received a "Flight Safety Award" in May, 1997, from the president himself for handling a inflight emergency when an engine failed at 400'. The Flight Safety Award is not a common award.

The accident captain never was the subject of complaints from crew members and Han said he was under the impression that the captain followed procedures very well.

As a check airman, the accident captain reported several students who were behind in their progress, but Han considered the captain a fair evaluator.

The scheduler called Han to take the trip to Dubai that the captain was scheduled on when it became apparent that the captain wouldn't have adequate crew rest to complete the trip.

Han was not aware of any special scheduling considerations that the captain required for personal reasons.

He was not aware if the captain and Song had flown much together.

He knew F/O Song and said he was "on the bright side, a smart guy," and his English was excellent. He had flown once with Song on the same team but not on the same crew. He said Song generally got along with captains because he was always involved in sports, particularly golf.

He had not flown with Nam but had often seen him talking to standardization and operations people discussing technical points about which he was knowledgeable.

Regarding CRM, captain Han said that, within the time that he has been chief pilot, because the captains and the first officers are all pretty young, they get along well together. It not like the old days. There is an "unmatching policy" to keep pilots separated who are not compatible. the last time he remembers it being utilized was in 1992 or 1993 when a first officer was unmatched with an older captain who had some peculiar or unusual policies.

Regarding the economic picture of the airline he said the entire country is in a recession so the company is going through some "belt tightening." Most of the employees have pride in Korean Air but of course there might always be someone who may complain.

The pay may not be up to par with the leading countries but over-all it is probably commensurate with Korea's economic standard.

CRM is a good program because it make pilots aware of how to recognize and resolve situations and conflicts.

Regarding safety proposals, Han said if a pilot reported something unsafe or unusual, the chief pilots would make every effort to make other pilots aware of it. He said 007 was before his time, but he heard the computer flight plan had not always been filled out prior to that accident. After 007 the CFP was always filled completely and all data was entered. As a result of 007, CRM was also instituted.

Captain Han said there were some fairly recent accidents, the most notable were the Cheju A300-600 accident in 1994 and the Mokpo B-737. After Cheju there might have been a heightened awareness in speed callouts. The Cheju accident resulted from a conflict between the Canadian captain and the Korean first officer. The captain was approximately 40-50 knots fast on approach because he misread the airspeed indicator. The first officer challenged him but the captain would not listen.

Both pilots were put in jail as a result of the accident. The captain eventually fled the country and the first officer lost his pilot's license.

Captain Han said that there is a good, cooperative atmosphere between the company and the Korean Civil Aviation Bureau (KCAB).

Han said he was responsible that captains go to the right airports and if someone flies too much or too little. If a pilot has personal problem he takes them off the flying schedule. He is also responsible for crew pairing or crew matching.

He said the flying schedule is known approximately 15 days in advance. He also said the captain is responsible for keeping track of his "unfamiliar or high minimums."

He said IOE is a part of the route qualification program and that takes about 250 hours before the captain is allowed to go without a check airman. During this program the captain visits almost every airport.

Regarding crew matching, the pilots are rated as either an A, B, or C. The C is the least experienced rating and he insures that 2 Cs don't fly together.

Pilots do not have a union but are represented by a kind of social organization.

There is no fuel saving bonus program.

The average total monthly flight time is approximately 60-65 hours in the seat or a maximum of 90 hours in the airplane, counting ferry flights, positioning equipment, etc.

Won, Eung-Jin
August 12, 1997

Chief of Crew Scheduling
Employed by Korean Air for 15 years. He has been Team Manager (Chief) for 1 year and worked as a crew scheduler for 8 years prior to becoming Chief.

In constructing flying assignments, Mr. Won said he is directed by management as to the flying requirements. The are 45 different constraints which affect flying assignment construction, such as: A crewmember's A-B-C rating, a captain's route qualification, operating regulations, duty, flight time and rest limitations, personal requirements of the pilot, required days off, etc.

The flying assignments are about half constructed by a computer program and about half by hand. Pilots know their flying schedule up to about 15 days in advance. Once the flying assignments are determined they are entered into the computer and are accessed by the pilots. That is how pilots are notified of their flying assignments.

Crews are expected to input a response into the computer acknowledging that they saw their flight schedule. At the end of the day, if any flying assignments have not been acknowledged by crew members, those crew members are called direct.

The flying assignment patterns are a continuous rolling process. Every day there are adjustments to the flying schedule for the period within the following 15 days.

Crews are able to request particular destinations on a particular day but most of the crews accept the schedules as they are made.

Then A-B-C- rating for pilots is based on experience, time with the company, flight time and other factors. It was not fully explained to members of the operations group. It appears to the operations group that the "C" rating is the least experienced and the "A" rating is the highest experienced level. It was determined that a "C" rating would be applied to a captain who had less than 500 hours in type. All crewmembers are rated by this system.

According to Mr. Won, all three accident crewmembers were rated "A".

When asked how rest scheduling was handled, Mr. Won responded that in actuality the crews received rest from duty far in excess of the operations regulations minimum.

Park, Jeung-Sik
August 12, 1997

Title: Instructor, Basic Simulator.

Employed by Korean Air for 24 years. Had previously been a B-747 captain until he retired in April 1994.

Mr. Park said he teaches all procedures, maneuvers and approaches in the simulator. He was asked to demonstrate an approach briefing for the ILS to 6L at Guam with the Glide Slope out of service.

Mr. Park stated the name of the approach and reiterated that the localizer did not have DME and the DME was with the VOR. He stated that the first officer's NAV radio would be tuned to the VOR and the captain's would be tuned to the ILS frequencies. He described the step downs as depicted on the approach plate and described the location of the MDA appropriately.

He responded to questions with the following answers although he did not specifically mention them when he demonstrated the approach briefing:

The crew would brief the missed approach as part of the approach briefing.

The crew would read all notes including the "DME Required" note.

The crew would describe the obstructions depicted on the approach plate.

Mr. Park was asked if he would expect pilots to use the "step downs" as described on the approach plate or make more of "gradual continuous descent". He at first responded that he would expect a gradual continuous descent. Then after some discussion he responded that it would be better to be at step down altitudes as soon as possible.

Mr Park said he would expect crews to tune the radios for the approach as soon as they are told they are on radar vectors for the approach. Korean Air policy is to "Tune and Identify" the radios.

He would expect the radar altimeter for that specific approach to be set to 304'. He also would expect the crew to use the latest barometric altimeter information whether they get it from ATIS or ATC.

He said the altitude window would be set to the next altitude in the approach step down all the way to MDA.

When asked about common problems observed during non-precision approach training the non-flying pilot would set the missed approach altitude after they reached MDA and were initiating the Go-Around. He said on a full ILS approach the missed approach altitude would be set in the window after glide slope capture.

He said the gear would normally be put down approximately 7 miles from the airport and the landing flaps would be selected no later than at the final approach fix or 1,500' feet AGL whichever is earlier.

He said the crew should point out the obstructions in their briefing discussion.

Mr. Park said he had never flown in to Guam.

When asked about common problems observed during non-precision approach training he said the most usual was inappropriate rates of descent. He said usually 1,000 - 1,200 feet per minute was too much and 500 fpm would be insufficient. For 160 kts for example, approximately 800 - 900 fpm would be appropriate. If hand flying the approach, the pilot flying should command the PNF to set the flight director pitch bars according to his command using the pitch wheel. For example, the flying pilot would command, “set 500 or 700 fpm”.

The flying pilot would tell the PNF the next step-down altitude to set in the altitude window, implying he knows. If he didn’t know, he should ask what is the next step down altitude. If the captain asks for the incorrect altitude to be set, the first officer should correct him. The flight engineer should be involved in the briefing and back up the pilots on procedures.

Mr. Park was asked to read the NOTAMS concerning the unusable GS at Guam which he did appropriately.

He said he knew the accident captain and saw him while mountain climbing, a sport they both enjoyed. The last time he saw him was approximately 4-5 months before the accident. He knew that the accident captain was an Air Force Major and that he flew B-727 and B-747 aircraft at Korean Air. He remembered he was gentle and smooth with the airplane and doesn’t recall how he did in the simulator. Everyone agrees he was a good pilot.

He did not know Mr. Song.

He knew Mr. Nam from the AF days during the war in Viet Nam. He said Nam was navigator, trained in the U.S.. As a flight engineer at Korean Air he had a lot of experience, spoke English pretty well and was a good fellow.

Shin, Dong-Sup
August 12, 1997

Instructor - Flight Engineer

Mr. Shin explained the preparation of the Landing Data Card.

He said the Vref entered on the card is the Vref speed for 30 degrees of flaps. The Bug speed and the Vref speed when 30 degrees of flaps are used is the same speed.

When 25 degrees of flaps are used for landing the bug speed is Vref+5 knots. Go Around speed is Bug + 10 knots.

On the Landing Data Card the abbreviation LDW means estimated landing weight. The abbreviation FOD means fuel over destination or arrival fuel.

Landing weight is normally computed by adding the arrival fuel (FOD) to the zero fuel weight (ZFW).

Mr. Shin said he was familiar with Capt. Park, the accident pilot and described him as calm and methodical.

Simulator Visit
August 12, 1997

Members of the operations group and other representatives of Korean Air visited the simulator training facility in Inchon. Simulator training was observed in the B-747-200 simulator which is the simulator used for all B-747 "Classic" flight training.

It was noted by the group that the flight director was the Collins yellow command bar type rather than the dual cue type. It was indicated that all B-747 "Classic" airplanes were equipped with the Collins command bar type flight director.

An approach to Guam International Airport was observed by the crew being trained. The approach utilized was the ILS approach to runway 6L with the GS out of service and not usable.

The following observations were made by the operations group concerning that approach:

The approach briefing was complete and contained at least the following items:

- Approach chart date
- The note, "DME Required"
- The inbound course
- The first officer remained tuned to the VOR
- The Captain (Flying Pilot) tuned to the ILS Frequency - 110.3
- The distances from the VOR and step downs in detail
- Directions to the PNF to call out runway in sight or any visual cues up to the middle marker.
- The missed approach procedure in detail.

ATC communications were utilized with the instructor acting in the role of ATC controller.

The aircraft weight used was 526,000 pounds and the Vref was 136 knots. The Radio altimeters were set at 306' and the barometric altimeters were set to QNH.

It was noted that the GS "Fail" flag did not appear on the Flight Director glide slope until the flight director glass was tapped several times. The flag appeared normally on the Horizontal Situational Indicator.

The captain commanded and the first officer set rate of descent using the auto pilot pitch wheel.

The step down altitudes were complied with according to the approach plate and crew coordination appeared to be natural and appropriate. Both the first officer and the flight engineer expressed themselves during the briefing and the approach.

Kim, Young-Woong
August 12, 1997

Deputy Director of Flight Operations

Employed by Korean Air since September 1980. Previously was Chief-Pilot of the A300-600 and Chief-Pilot of the B-747-400. He was also Managing Director of the Evaluation and Standardization Branch. He has held his current position since June 1, 1996.

Total Time: approximately 13,000 hours

Captain Kim said he knew the flight engineer, Nam, quite well. Nam was one year senior to him at the Air Force Academy. He had also flown with Mr. Nam on the A300. He did not recall seeing him in recent memory. He said he saw him last year at a party.

He said Mr. Nam was forthright and direct and thoroughly prepared for each flight. He said Nam was not hesitant about expressing himself if necessary.

Captain Kim said he has not compared Korean Air with foreign carriers but it is in an advantageous situation compared with Asiana. He said Korean emphasizes landing procedures better than Asiana. Reports from Kwangju regarding landing in the touchdown zone as reported by observers reported that Asiana landed outside the touchdown zone 16% of the time while Korean Air landed outside the touchdown zone 12% of the time.

Captain Kim said Korean Air currently had 115 aircraft but should have 175 by the year 2005. He said this was not exact but was a projected figure.

Korean Air started their expansion in 1985. Supply and demand drove the expansion process. Demand was high causing the expansion.

He said he did not know the current financial situation of the company.

He said it was difficult to get pilots. At the beginning of 1997 there were 110 foreign pilots but to date there are 166.

Until 1988 pilot demand was met by former military pilots but in 1989 they had to supply the demand for pilots by other means. The began the system of training pilots from zero time.

To date 389 pilots have been trained by this system. Starting next year, some of those pilots will become captains.

Most employees are positive about the company but pilots are not expected to be happy all the time. One of the complaints is perhaps pay. He doesn't anticipate any major pilot complaints regarding the company.

He said there used to be up to 20 hour differences in pilots schedules. Some pilots flew up to 20 hours more during the month than others. This difference has been reduced to 13.6 hours difference in some flight schedules. He said they are trying to equalize the schedules as much as possible. This will be facilitated when the crew schedule computer integration is completed by the end of the year.

Prior to the CRM program it was observed that there was not a complete synergistic interaction in the cockpit. But since the CRM program the attitude of the pilots has changed. The idea that the captain is king is no longer true. It is an anachronism.

Captain Kim said he did not want to talk about the company's relationship with MOCT with a representative present. He added that that should not be construed that he has anything negative to say about them.

He said that since June of 1996, there were 5 airplane incidents not counting 801. In 1996 there were 17 violations. He said he had to find out what was causing those problems. He decided the pilots had to spend more time with supervisors or someone in authority to provide Counseling and to review policies and procedures. That is how he started the supervisor system.

He also reviewed accident and incident data from other countries in order to make crews more alert. As a result in 1997 until 801,there was only one incident and 4 violations. This was a drastic reduction from previous years.

Captain Kim said he is not aware of any other company conducting a similar program to the supervisor program.

He said it costs more money to implement these programs but he was able to convince the president that safety above all things was necessary.

They purchased the Audio-Visual airport familiarization system on June 1, 1997 as an example of one of the improvements. Prior to the A-V system the primary way for pilots to become familiarized with airports was through the Route Qualification system.

The safety team is within the operations department but there is a safety and security department for the entire company. The safety team is under the vice-president of flight operations and the Safety & Security Dept. is under the resident of the company. Most accidents are handled by the Safety & Security Dept.

There is a monthly report published by Safety & Security to raise the safety awareness of the employees. There is a safety bonus program to minimize the recurrence of accidents and incidents. There is also a safety review each month which includes all departments. Each year there is an annual safety committee meeting to promote understanding between groups such as between pilots and maintenance.

Korean air was incorporated in 1969.

He identified 23 different types of accidents and found most took place on takeoff and landing. A simulator program was instituted with three simulator periods to stress takeoff and landing safety. Windshear, max cross wind operations, 15 knot tailwinds, severe headwinds, slippery runway, and not being in a position to land were some of the scenarios.

The company was begun at Korean National Airlines in the late 1950's. It was a national airline. It was founded as Korean Air Lines in 1969 as a public company. There are 17,400 employees and 1,578 pilots of which 129 are flight engineers.

Captain Kim was not familiar with the most common cause for delays but said maintenance delays were classified by the maintenance department according to type.

Korean Air has a 70-80% on time performance. The first B-747 operations started in 1974.

1995 was a good year but the last two years have been in the red. Lack of profit has not caused the cancellation of any safety programs, in fact some of the safety programs may have contributed to the lack of profit.

M.O.C.T. representatives
August 9 - 12, 1997

Safety Board investigators spoke with two representatives of M.O.C.T., the government agency with regulatory responsibilities over Korean Air. The interviews provided several observations:

According to one representative, the agency covers all areas of oversight but, due to limited manpower, can have difficulty being as detailed or thorough as would be ideal.

Most qualification of pilots is conducted with the use of designated examiners from the airline. Most pilots are accurate in their procedure, but a few require check ride reviews to reinforce the strict adherence to procedures. With regard to CRM training, after receiving training, Korean Air pilots appear to put a lot of effort into applying CRM processes.

Relations between the M.O.C.T. and Korean Air are quite cooperative.

Failure rates on check rides are not high, especially because pilots are provided retraining and recheck opportunities. The most common cause of failure is a lack of knowledge found during the oral examination, but sometimes the failure involves flying skills.

Occasionally, M.O.C.T has refused to certify proposed designee examiners because they did not meet the minimum requirements specified in the regulations.