

THE DEVIL WEARS PRADA

When we talk about safety on board, cabin crew uniforms might not be an obvious concern; but in fact, it is an extremely important issue.

Michael R. Grüniger and Capt. Carl C. Norgren point out the relevance



Receiving Passengers in Beauty

When beautiful, elegantly dressed female cabin crew members welcome the passengers on board so many times a day, they make people wonder whether their stylish uniforms were designed by Prada.

Beauty procures pleasure. Great attention is often given by airlines and business aircraft operators to the outfit of cabin crew. Although Prada might not be the prime supplier of aviation uniforms, there is a link between the well-known movie title “The Devil Wears Prada” and aviation safety.

What happens when beauty meets danger?

Push Back

The story unfolds on 4 October 2014. At 1405 UTC the commander of Emirates flight EK609 is notified by the Purser (SCCM) that the cabin of the Airbus 330 with registration A6-EAQ is ready and secured. The Copilot completes the necessary clearances with air traffic control while the Commander prepares for start-up on stand in Karachi’s Jinnah International Airport (JIAP).

At 14:06, ATC clears flight EK609 for an engine start on stand. After a successful start of engine 1, the ground crew pushes the A330. By the time engine 2 is started, the aircraft reaches the pushback stop position.

At 14:11, taxi clearance is received and they read back correctly to ATC. The fluctuating yellow system hydraulic pressure starts fluctuating and the master caution chime indicates low pressure of the yellow system hydraulic system on the Electronic Centralized Aircraft Monitoring (ECAM). The flight crew discusses the problem.

At 14:13, 1 minute 12 seconds after the first chime, the commander and co-pilot notice “terrible smoke” on the flight deck. The co-pilot suggests going back to the stand. At the same time, the ground engineer calls the flight crew informing them that the pushback is completed. The commander sets the brakes and informs the ground engineer that the cockpit experienced some smoke. The ground engineer informs the commander that he did not notice anything from outside. Asked by the commander the Senior Cabin Crew Member (SCCM) confirms that the cabin is “smoky and smelly”.

The co-pilot suggests again going back to the stand.

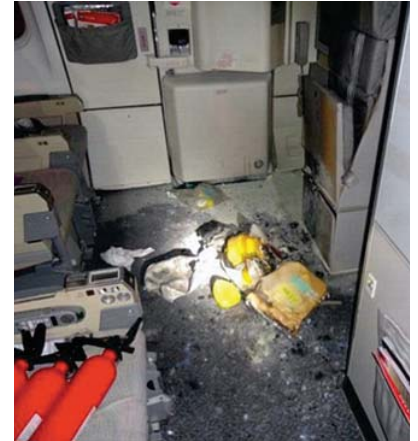
While the flight crew tries to sort out the mist problem, cabin crew reports that the cabin is in “very thick smoke and the passengers are agitated”. A chime alerts the commander that there is smoke in the lavatory. Now the commander requests the aircraft to be pulled back to the stand. The SCCM reports that the situation in the cabin is “very, very bad”. A minute later, she reports that the occupants of the cabin cannot breathe.

At 14:17 the commander orders to keep the Auxiliary Power Unit (APU) running and to shut down the engines.

Evacuation

Events now unfold quickly. The commander turns the APU bleed off in order to stop air circulation. The cabin crewmember at L4 door calls the cockpit and reports that the situation in the cabin was “really, really bad”. She could see only up to four rows. The commander asks whether she thinks an evacuation is necessary.

STYLISH
Today's cabin crew uniforms are designed by some of the world's top fashion minds.



She replies “yes”. Flight crew informs ATC and ground crew.

At 14:19, the commander receives a report from the cabin that there is a fire at the L3 door coming from the protective breathing equipment (PBE). The PBE had ignited after the cabin crew member had donned it and activated it by pulling sharply on the adjustment straps, as per the procedure. The cabin crew member immediately removed the burning PBE and dropped it on the floor adjacent to the L3 door. Four Halon fire extinguishers were used without success in an attempt to extinguish the fire.

At 14:20, the commander decides to evacuate the aircraft.

At 14:21 the commander orders the evacuation. Cabin crew members scramble to open the doors from the inside. The slides are deployed. Cabin crew members guide passengers to the next door and down the slides. Passengers and crew evacuate the aircraft. 8 People of the 82 onboard suffered minor injuries.

The Relevance of Beauty for Survival

One survivability aspect stands out in this case. In their interviews, the female cabin crewmembers stated that they were reluctant to slide down the escape chutes. They provided two reasons for this:

The first was that they were wearing skirts and so sliding down the chute could place them in an embarrassing situation.

Secondly, they were required to remove their medium-heel shoes (4.5 cm high heels) before sliding on the chute, whereas they would have preferred to protect their feet by keeping their footwear on.

It was noted that several of the female cabin crewmembers were wearing medium-heel shoes that should be worn only during passenger boarding and disembarkation.

Fashion vs. Safety

As strange as it might sound, skirts and medium-heel shoes may be hazards posing safety risks. The fear of embarrassment and injury reduced the assertiveness of cabin crew members to fulfil their tasks during the evacuation. They were inhibited in performing their duties in an assertive way. In this case the uniform requirements were hazards!

Emirates introduced a change to the cabin crew uniform in 1985 and the new uniform required the female cabin crewmembers to wear skirts.

In 1997, Emirates provided female cabin crewmembers with the option of wearing trousers or skirts. In August 2008, a revision of the uniform took place for all Airbus A380 cabin crewmembers and this was then introduced across all aircraft types in 2009. This change in uniform continued to offer the wearing of trousers as an option for female crewmembers.

On August 1, 2013, the option for female cabin crewmembers to wear trousers was withdrawn, and the wearing of skirts became mandatory for female crewmembers.

Regarding footwear, and according to Emirates’ policy, the female cabin crew must wear medium-heel shoes during the flight preparation and receiving the embarking passengers.

The shoes are then replaced by service flat shoes at some time after take-off as a preparation for passenger service.

At the time of the last uniform change of August 2013, the operator considered that the skirts would continue to achieve the same safety standard. Therefore, the operator did not undertake a safety risk analysis to determine the risks associated with the wearing of skirts.

Management of Change: Keeping Fashion Safe

As remote as it might have seemed at first glance, fashion and safety are indeed related to each other. Emirates had not safety-assessed the uniform requirements.

The UAE Air Accident Investigation Sector of the General Civil Aviation Authority has issued Safety Recommendation 46/2016: “Conduct a safety risk analysis of cabin crewmembers’ uniforms for appropriateness in dealing with onboard emergency situations.”

In aviation, beauty and safety must be one.



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EMERGENCY

An Emirates Airbus A330-200 was evacuated when the flight crew sensed a smoke in the cabin.