



FLIGHT SAFETY

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EDITORIAL

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In this issue, We look at the serious takeoff incidence at Manchester, UK involving an Excel Airways B737 which reaffirms the importance of NOTAMs and SOPs.

Next, we look into the importance of procedures and adherence to the procedures in achieving operational safety.

Rapid exit taxiways are meant for exits. But, IFALPA finds that it is being misused and

warns the pilots of the problems. In this issue we have this article.

As always, we look forward to your feedback, suggestions and contributions in the form of articles, anecdotes, pictures, etc. which can be sent to our office address given in this page.

Happy reading and many more safe landings.

EXCEL AIRWAYS B737 TAKEOFF INCIDENT

Based on AAIB Aircraft Accident Report No: 3/2006 (EW/C2003/07/04)

On July 16, 2003, at 1408 hrs. UTC, a Boeing 737-86N (G-XLAG) of Excel airways, was operating as a charter flight, flight number XLA 2146, from Manchester Airport to Kos in Greece, with a total of seven crew and 190 passengers on board. Runway 06L was in use but *the flight crew were not aware that it was being operated at reduced length*. This was due to work-in-progress to remove rubber deposits at the far end of the runway, which was out of sight from the 06L threshold end as the runway is built over a slight rise in the ground. Due to a difference in interpretation of information passed between Air Traffic Control (ATC) and the flight crew, the aircraft entered the runway from holding point AG, rather than the expected holding point A (see the runway plan below), and the takeoff was conducted using a reduced thrust setting calculated for the assumed normal runway length. *As the aircraft passed the crest of the runway, the flight crew became aware of vehicles at its far end but, as they were now close to their rotation speed, they continued and carried out a normal takeoff. The aircraft*



runway. The crews of all three aircraft were unaware of the reduced length available and, when informed, stated that it was insufficient for them to be able to land.

The scheduled departure time for the flight XLA 2146 was 1355hrs. As per the company procedures, the two pilots were due to report for duty at 1255 hrs, one hour before the scheduled departure time. The co-pilot arrived at about 1240 hrs and started to collect together the required paperwork for the flight. He then received a telephone call from the commander who explained that, due to traffic delays on his journey to the airport, he would be reporting slightly late. The co-pilot subsequently received a telephone call from the aircraft refuellers requesting the amount of fuel required, so that refueling of the aircraft could commence. In an attempt to prevent any delays the co-pilot took it upon himself to calculate the fuel load required by reference to the flight plan, the enroute and destination weather forecasts and the destination NOTAMs. *He did not however check for any NOTAMs relating to Manchester Airport, as he did not consider this necessary to complete the fuel calculation.*

Having completed his calculation the co-pilot passed the fuel quantity required to the refuellers by telephone and then left the crew room to make his way to the aircraft, a walk of approximately ten minutes.

The commander arrived about ten minutes after the scheduled report time and met the co-pilot as he was leaving the crew room. The commander stated he checked the fuel figures at that time by reference to the flight plan

NEWSLETTER TEAM

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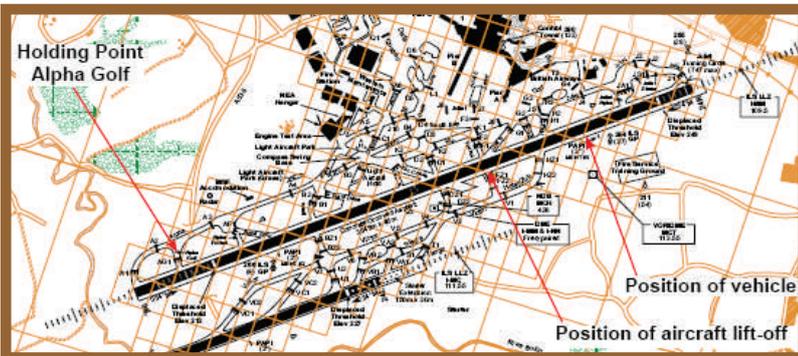
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Just because someone gets paid to fly airplanes does not mean that they are professional.



passed within 56 ft of a 14 ft high vehicle.

This serious incident was notified to the AAIB at 1724 hrs on 23 July 2003, seven days after it had occurred. The subsequent investigation revealed further incidents that had occurred during the course of the work, the most significant being on the night of 15 July 2003. On this occasion ATC had instructed three commercial passenger aircraft to go-around after they had knowingly positioned them to land on the reduced length

Flight Safety/aircraft Accident Links

kacops.kuwaitairways.com

www.nts.gov

www.bea-fr.org/anglaise/index.htm

www.bst.gc.ca/en/index.asp

www.bfu-web.de

www.aaib.gov.uk/home/index.cfm

www.atsb.gov.au/

and weather forecasts for the destination and alternate airports; however he did not read the relevant NOTAMs, deciding instead to check them once he was on the aircraft.

Once at the aircraft the co-pilot placed the flight paperwork on the flight deck instrument panel and went outside to complete the external checks. The commander remained on board to program the Flight Management System (FMS). On completing the external checks, the co-pilot returned to the flight deck to continue his part of pre-flight preparations. This included, as laid down in the standard operating procedures (SOPs), listening to the departure ATIS and copying the information onto the flight log. This was then used by the commander to complete the programming of the FMS. The commander did not recall listening to the ATIS, stating he referred only to the information written by the co-pilot on the flight log. The co-pilot stated that whilst he listened to the ATIS he may well have been interrupted by other pre-flight activities going on at the time.

ATIS information 'Romeo' was current at the time and broadcast as follows:

"THIS IS MANCHESTER DEPARTURE INFORMATION ROMEO AT TIME ER ONE TWO FIVE ZERO THE RUNWAY IN USE FOR DEPARTING AIRCRAFT IS ZERO SIX LEFT WIND IS ZERO SEVEN ZERO DEGREES THIRTEEN KNOTS WEATHER CA VOK AIR TEMPERATURE PLUS TWENTY-NINE, DEW POINT PLUS FIFTEEN QNH ONE ZERO ZERO FIVE MILLIBARS PILOTS BE ADVISED INTENSE BIRD ACTIVITY HAS BEEN REPORTED IN THE VICINITY OF BOTH RUNWAYS PILOTS SHOULD ALSO BE ADVISED DUE TO WORK IN PROGRESS ON ZERO SIX LEFT STOP END REDUCED TAKE OFF RUN AVAILABLE FOR ZERO SIX LEFT IS ONE THOUSAND NINE HUNDRED AND TWENTYSIX METRES FROM TIME THIRTEEN HUNDRED ZULU TO FOURTEEN THIRTY ZULU AIRCRAFT UNABLE TO ACCEPT REDUCED TAKE OFF AVAILABLE ARE TO ADVISE DELIVERY ON FIRST CONTACT TO ARRANGE A DEPARTURE ON ZERO SIX RIGHT REPORT AIRCRAFT TYPE AND DEPARTURE INFORMATION ROMEO RECEIVED ON FIRST CONTACT WITH MANCHESTER OUT"

The flight log showed that only part of the departure ATIS had been copied, which was written in the appropriate section, as follows:

R 06L 070/13 CAVOK 29/15 1005 No record was found on any of the relevant paperwork of either the bird activity or the work-in-progress.

At 1339 hrs, the co-pilot called Manchester Delivery for departure clearance:

Aircraft: "AH DELIVERY GOOD ER GOOD AFTERNOON IT'S EXPO TWO ONE FOUR SIX ER WE'VE GOT ROMEO WE'RE A SEVEN THREE SEVEN WE'RE ON STAND TWO OH SEVEN WE'RE LOOKING FOR OUR CLEARANCE TO KOS"

Manchester Delivery: EXPO TWO ONE FOUR SIX HELLO THERE WILL YOU BE ABLE TO ACCEPT THE REDUCED TAKE OFF RUN AVAILABLE ON ZERO SIX LEFT"

Aircraft: "YEAH FROM ALPHA GOLF EXPO TWO ONE FOUR SIX"

Manchester Delivery: "OKAY THAT'S COPIED AND YOUR CLEARANCE THEN IS TO KOS DESIG ONE SIERRA DEPARTURE SQUAWK OF FIVE TWO FIVE SIX AND ER QNH OF ONE ZERO ZERO FIVE"

Aircraft: "DESIG ONE SIERRA FIVE TWO FIVE SIX AND ER THE SQUAWK AND ONE ZERO ZERO FIVE EXPO TWO ONE FOUR SIX"

Manchester Delivery: "AND JUST CONFIRM THE SLOT IS ONE FOUR ONE ZERO"

Aircraft: ONE FOUR ONE ZERO THAT 'S COPIED EXPO TWO ONE FOUR SIX"

This information, together with the weather information from the ATIS, was used by the pilots to individually calculate the takeoff performance from holding point Alpha Golf (AG) on Runway 06L, (using the takeoff tables carried on the aircraft), for the normal runway length (See runway plan on page1). The pilots crosschecked their figures, which agreed, and these were used to finally complete the FMS programming and to prepare the aircraft for engine start. At 1350 hrs, the aircraft was ready for start and the co-pilot called ATC for clearance to push back to a remote stand to hold, awaiting their slot time. ATC replied, instructing him to change to the ground frequency to make the request. After a brief exchange with the ground controller the crew was cleared to start, without the need to hold at the remote stand, as they were now sufficiently close to their earliest cleared departure time of 1405 hrs.

By the time the aircraft pushed back, both pilots were aware that some work was being conducted on Runway 06L, largely as a result of listening to ATC communications with other aircraft. Later, neither pilot was able to elaborate further other than to say that they believed the work was either at the threshold end of Runway 06L, or in the stop end area, and that in either case it would not impinge on their performance requirements.

The crew carried out a normal start and called for taxi clearance, as follows:

Aircraft: "EXPO TWO ONE FOUR SIX REQUEST ER TAXI"

Manchester Ground: "EXPO TWO ONE FOUR SIX ROGER ER ONCE THE ADRIA'S PARKED MAKE A RIGHT TURN ON TO TAXI-WAY DELTA THEN ALPHA TO THE HOLDING POINTS RUNWAY ZERO SIX LEFT"

Aircraft: "ROGER DELTA AND ALPHA HOLDING POINT ZERO SIX LEFT EXPO TWO ONE FOUR SIX"

The aircraft then taxied with the commander acting as handling pilot and the co-pilot operating the radio. On instruction from ATC, the co-pilot changed frequency to the Tower and contacted the tower controller, as follows.

Aircraft: "TOWER GOOD AFTERNOON EXPO HM TWO ONE FOUR SIX"

Manchester Tower: "TWO ONE FOUR SIX AFTERNOON LINE UP AND WAIT ZERO SIX LEFT"

Aircraft: "LINE UP AND WAIT ZERO SIX LEFT EXPO TWO ONE FOUR SIX" PAUSE "AND

TOWER EXPO TWO ONE FOUR SIX WE'RE TAKING IT FROM ALPHA GOLF "

Manchester Tower: "IF YOU'RE HAPPY WITH THAT THAT GIVES YOU ER SIXTEEN SEVENTY METRES"

Aircraft: "ROGER"

The intonation in the co-pilot's reply of "WE'RE TAKING IT FROM ALPHA GOLF" indicated that the crew had some doubts as to their runway entry point clearance. The response indicated that the controller had taken this as a statement of intent, by the crew, rather than a question.

The aircraft entered Runway 06L via holding point AG and made a turn to the right through 270° so that when it was lined up with the runway centerline for the start of its takeoff run, the nose of the aircraft was level with holding point AG. Once lined up, the co-pilot took over as handling pilot. ATC then cleared the aircraft for take off and the co-pilot held the aircraft on the brakes whilst applying 40% thrust. Once this was set, *reduced thrust takeoff power was selected, as previously calculated on the basis of the normal length of the runway being available from holding point AG*, and the brakes were then released.

Runway 06L is built on sloping ground such that it is not possible from the AG entry point to see the far end of the runway from the cockpit of a Boeing 737. On cresting this rise, the pilots saw vehicles ahead of them on the runway. At that point, as the aircraft's airspeed was close to rotation speed, Vr, a normal rotation was carried out at the appropriate speed. The aircraft passed very low over the vehicles on the runway and continued its departure. No comments relating to the incident were made by ATC to the crew who later stated they did not consider at the time that the aircraft had been in any danger. They completed the flight to Kos, returning that night to Manchester without further incident.

Following their return, in view of the fact they had seen the vehicles ahead, the flight crew made enquiries about their original departure from Manchester but were unable to find anyone who had reported any concerns. Consequently, as they believed nothing untoward had occurred on the takeoff, no report was made to either their company, the CAA or the AAIB.

Following were the AAIB findings related to the crew:

- The work-in-progress was promulgated by NOTAM and transmitted on the ATIS to which the two pilots had access.
- The co-pilot listened to the ATIS broadcast, which contained details about the weather, bird activity and the work-in-progress, but only copied down details about the weather.
- Manchester ATC advised the pilots of the reduced runway distance available for take off.
- The pilots did not read the NOTAMs

relating to Manchester Airport prior to the aircraft's departure.

- The pilots correctly determined the aircraft's takeoff performance for a takeoff from Runway 06L had it been at full length, but this was incorrect at its reduced length.

- The pilots had no means of determining takeoff performance for the aircraft from Runway 06L at reduced length.

- The aircraft was more than nine tonnes over-weight to conduct a reduced thrust takeoff from the reduced runway length available.

- The taxi instructions issued to the flight crew by Manchester ATC did not include a specific holding point.

- The captain was handling pilot during the taxi.

- Radio communications between Manchester ATC and the flight crew regarding the lining up point on Runway 06L were misinterpreted by both parties.

- The aircraft was lined up on Runway 06L via holding point AG using a non-

standard technique.

- The co-pilot was the handling pilot during take off.

- The pilots used a non-standard technique to set takeoff power at the commencement of the takeoff roll.

- Seven vehicles associated with the work-in-progress were on Runway 06L at the time of takeoff; closest to the aircraft's point of rotation was a rubber removal vehicle 14 ft high.

- The pilots only became aware of the presence of vehicles as they crested the rise in the runway just prior to the aircraft attaining rotation speed, Vr.

- The aircraft was rotated at the pilots' calculated Vr speed.

- After becoming airborne, the aircraft passed within 56 feet of the vehicle.

- The pilots did not believe they had been involved in a serious incident and so did not make a report to their company, the CAA or the AAIB.

Following were the causal factors:

The crew of G-XLAG did not realize that Runway 06L was operating at reduced length due to work-in-progress at its far

end, until their aircraft had accelerated to a speed approaching the rotate speed (Vr), despite:

- Being in possession of a NOTAM concerning the work-in-progress

- The ATIS broadcast relating to the work-in-progress

- ATC passing information on the takeoff distance available.

At this point, the aircraft was approaching seven vehicles on the runway and was at a position which precluded an abort within the useable runway length remaining.

Under the safety recommendations the AAIB report stated that "*The serious incident which triggered this investigation resulted from a non-adherence to established procedures by the flight crew, rather than a failing in the procedures themselves*".

Following this investigation, AAIB made six safety recommendations to the Airport Operator, ATC, CAA and NATC.

CAA subsequently issued a NOTAL (**Notice To Aerodrome License Holders**) on the Safety of Operations with reduced Runway Length.

COCKPIT DISCIPLINE - THE IMPORTANCE OF PROCEDURES

Adopted from the article "Discipline as antidote" by Peter V. Agur, Jr. in the Feb. 2007 issue of Aerosafety World

There are events when the crew do something that does not fall into the Standard Operating Procedures (SOP) or do not adhere to the SOPs.

This could be just not going through the checklist completely or doing something to impress a colleague in the jump seat or something else we discussed under accident prone pilots article in the Feb. 07 issue of flight Safety.

While these may sound as stupid pilot tricks, the appropriate term for this is **PINC** coined by David Huntzinger, chief of safety at Korean Air, for **Procedural Intentional Non-Compliance**.

One of the frequent contributors to aircraft accidents & incidents is PINCs.

PINC is not always committed in a loss manner but are often the outcome of well-meaning pilots trying to do their job but willfully taking risks to achieve what should be the secondary goal, "completing the mission".

For example, making an attempt to land at a destination where due to bad weather the conditions are below the company minima and the SOP asks for diverting the flight to an alternate airport.

These pilots lose sight of their first responsibility: managing risks to ensure safe outcomes. When the efforts to get there include fudging the rules, the risks are raised.

PINC raises risks and lot of PINCs do occur everyday. As Safety is the primary concern of airline operation, series of steps have to taken to prevent PINCs: (1) Gain commitment, (2)

budget and develop resources and (3) ensure performance management.

1. Gain commitment

Everyone wants safety but if there were never a gap between what we say and do, there would never be PINCs.

We all learn early in life about the two sets of rules to live by: the formal rules-written and stated-and the "real" rules with which the game is actually played. When there is a significant difference between the two, the "real" rules become the standard.

The solution is establish and maintain a universal commitment to the formal rules—i.e. Flight Operations Manuals, Policies, procedures etc. That emphasis must start at the very top of the organization.

A safety committed CEO knows a PINC is ground for severe repercussions, whether it is committed by a technician, a scheduler, a flight crew or a senior passenger. A CEO committed to safety is the Chief Enforcement Officer. Anything less leaves the door open for informal rules and reluctant PINCs.

The commitment from the top management allows one to expect appropriate behaviors from the service providers and the passengers alike.

No PINCs are permitted, period.

With this as the starting point, it becomes aviation managers responsibility to get the necessary resources in play.

2. Budget and Develop resources

Aviation professionals tend to be highly service-oriented. They naturally push themselves and their equipment

to get the job done, so it is critically important that their leaders and managers provide them the right resources. If the delivery team doesn't have the right resources, they will stretch the ones they have to make the customer happy. *The results these heroic efforts populate accident investigation files. Even a well meaning crew can be sorely tempted to commit a PINC rather than disappoint their passengers.*

The most important resources are enough people, time and equipment to do the job. Also required are the guidelines for using them—effective policies, standards and procedures. These policies, standards & procedures are critical in ensuring the quality and continuity of organizational & individual performance, and the avoidance of PINCs.

Some aviation managers feel the need for certain vagueness in policies and procedures to give flexibility needed to get the job done. That approach sends a WRONG message that safety is a variable and service is absolute. That sets the stage for pushing and enough life are lost and aircraft wreckage as a result of crews pushing. Weak policies and procedures send wrong message.

On the other hand, SOPs must also establish clear guidelines for the use of judgment in a way that continues to assure safety while being flexible enough to adjust to unique service needs. Some aviation managers make a case for absolute SOPs that leave no wiggle room for judgment. Overly rigid

guidelines prevent the use of common sense to get the job done safely.

If we expect the team to make informed and collaborative decisions that are biased to the safety side, it is critical to have a comprehensive set of operational policies, standards and procedures. Once they are in place it is up to the team to perform ... top to bottom.

3. Performance management

While commitment and resources are foundation to safe operations, the way these are applied and the tasks performed that determines safety of the job done.

As the safety starts at the top, operational managers must not only be

the champions of proper performance but also the role models.

Operational managers must also catch those doing things right and routinely praised publicly for taking time and care to follow and implement proper procedures. In doing this, a culture of co-responsibility is created. Co-responsibility is the basis for CRM. Each PINC deserves unique attention and action from the management.

- A PINC is a deliberate violation of an established policy, standard or practice.
- A PINC often raises risks.
- A PINC perpetrator is likely to commit future PINCs.
- If other members of the organization

are aware of PINC event and they see no negative consequences, they may correctly assume management does not take the SOPs seriously. That is a nasty can of worms to open.

Consequences of PINCs should be emphasized; the flogging should be public. This not only provides positive public reinforcement of proper behavior but also applies strong pressure to avoid improper behavior to avoid public embarrassment.

PINC is a disease which unchecked will infect the entire operation. That would have extreme consequences. Sadly, the price of PINCs is paid by innocent people.

Antidote for PINCs is discipline.

MISUSE OF RAPID EXIT TAXIWAYS

Adopted from IFALPA safety bulletin 07SAB12 dtd. Jan 12, 2007

At a number of airports with large traffic volumes and consequently high movement rate including, but not limited to, London Heathrow, Frankfurt and Los Angeles, pilots are being asked to expedite clearance of the landing runway by entering rapid exit taxiways (RETs) at speeds higher than those normal for taxiing. Some airports, for example Oslo, have constructed rapid exit taxiways with a continuous curvature with the purpose of even higher exit speeds.

However due to the lack of a straight portion, braking, especially under degraded friction moments, is considerably reduced. As a result, safety is compromised not only through the risks from excessive speed, and reduced braking opportunities, but also because at airports where the rapid exit taxiway intersects with another runway the risk of incursions is elevated.

Taxiways are for taxiing

The IFALPA policy states that *the advantage of rapid exit taxiways is that less time is taken to turn off the runway and not that it allows part of the landing run to be completed on it.* Therefore, the IFALPA recommendation is that on roll out after landing pilots reduce speed to an appropriate taxi pace and then exit the runway via the next available exit. Furthermore, IFALPA policy goes on to state that *rapid exit taxiways shall be constructed in such a way that crossing a runway via a rapid exit taxiway is not possible.* Clearly, this is not the case at a number of airports and pilots should exercise due vigilance at these airports with a taxiway/runway configuration that

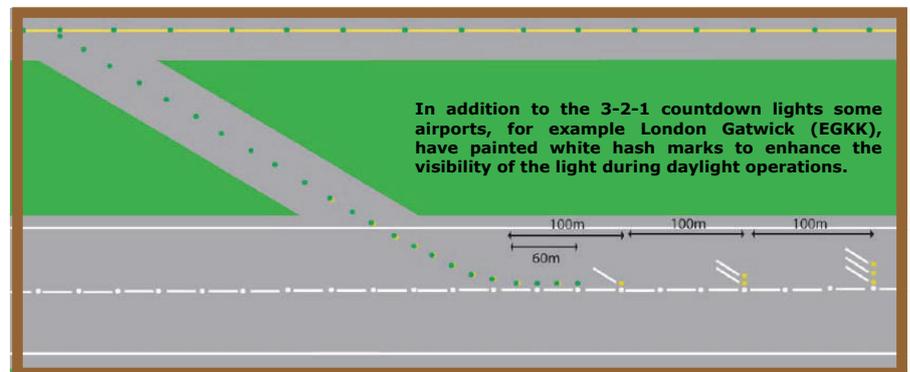
allows a direct crossing of a runway from a rapid exit taxiway.

In addition, crews should be aware that not all oblique taxiways are either designated, or designed as rapid exit taxiways, the geometry of some oblique taxiways precludes entry at speeds normally associated with true Rapid Exit Taxiways. Taxiway entry speeds are normally published in the aerodrome information.

Many airports routinely use Rapid EXIT Taxiways for departures, particularly of commuter type aircraft in an effort to increase departure throughput. ARET is designed as a runway EXIT and not as an entry.

clear view of the runway threshold area and the approach path is available to the crew waiting for departure clearance. This can only be adequately achieved when the runway entry is perpendicular to the runway which is why IFALPA's policy is that runway entries should be perpendicular to the runway direction.

In addition IFALPA recommends that airports consider the installation of rapid exit taxiway indicator lights (RETILs) these lights and markings a valuable assistance to pilots in regulating their deceleration rate to ensure they can exit the runway at an optimum but safe speed.



Because of the oblique design of RETs, this practice exposes the crews to a very real possibility of a runway incursion or worse because of the difficulty in seeing traffic either on the runway at the threshold which may be on a take off run, or traffic on final for the runway. Crews are encouraged to decline the use of any taxiways as departure points unless a completely

Capacity is important, however, safety is paramount, and therefore pilots should exit runways at a speed that is reasonable and safe for the prevailing conditions as well as the RET geometry and width but in any case this should be at a speed that is appropriate to the conditions.

WEB WATCH

<http://www.cbs6albany.com/sections/weather/research/topics/>

Weather—described in a simple language with illustrations— from an introduction to meteorology to the weather satellites.

The Confidential Aviation Hazard Reporting System (CAHRS) provides a means of reporting hazards and risks in the aviation system before there is loss of life, injury or damage. It is open to anyone who wishes to submit a hazard report or safety deficiencies confidentially and non-punitively. Reports help to identify deficiencies and provide safety enhancement in areas of aviation. CAHRS forms can be collected at different location of KAC (i.e. Flight Dispatch) Premises. Completed forms can be dropped in FS&QA allocated box at Flight Dispatch or e-mailed to kwioeku@kuwaitairways.com or faxed to 00965-4749823 or mail to Flight Safety and Quality Assurance office, Operations Department, P.O. Box 394, Safat 13004, Kuwait Airways –Kuwait.