

Finding Fuel Leaks



Julian Waumsley, of Aquilar, explains how the installation of cable-based external leak detection systems can find fuel leaks beneath the surface of airport paving.

The huge weight of a modern airliner means that the concrete used in today's airport runways, taxiways and aprons is almost twice as thick as that needed in years gone by. So consider the cost to the airport and the associated environmental consequences of having to dig up large areas of taxiways and apron to locate a leaking fuel pipe.

Many airports have aviation fuel pipes running beneath their surface, as it is the most convenient system of transporting liquid. However, if one of these pipes were to suffer from a leak at your airport, would you be able to find it? If an airport does not have the necessary means to detect fuel leaks then very expensive taxiways and aprons may have to be excavated to access the pipes.

The key is being able to pinpoint exactly where a leak is located. The solution is to install cable-based external leak detection in the backfill with the hydrant piping. The TraceTek leak detection cable was developed for this very purpose, manufactured by Tyco Thermal Controls LLC and distributed in the UK by Aquilar. The cable contains a hydrocarbon scavenger material and is installed within a slotted PVC conduit. Traces of any fuel spilled are drawn into the conduit by capillary action, which makes it possible to initiate leak detection and location.

The system requires that a small amount of liquid fuel comes into contact with the cable, from that moment it takes approximately one hour for the leak alarm to be triggered. The monitoring system can report the leak and identify the location where the fuel was detected, typically within +/- 3 feet (1m).

If a leak has been detected, the 'pull boxes' – access holes situated alongside the cable – and connectors allow the system to be inspected in small sections. In most leak detection situations (where no cable system is fitted), the airport maintenance team will insist on verifying that the leak is real before digging up taxiways and aprons. Having the ability to inspect a section of cable is a valuable extra benefit.

It is very clear that detecting leaks quickly and accurately is of paramount importance. In Aquilar's opinion, many

The cable based leak detection system was recently installed at Madrid Airport.

airports, and many fuel transporters, are still using expensive systems that are unable to detect leaks within the situations that they are employed to operate. They will tell you if a leak has occurred but not where it is. And if testing is done on an infrequent basis, it may be that weeks or months pass by before a leak is detected.

The potential costs are astronomical if the leak remains undetected and un-located for any length of time. Initially finding the source of a leak, exposing the damaged pipe for repair, plus costs attributable to repaving and the disruption to normal fuelling operations have to be paid for. Depending on the local regulatory environment, further environmental mitigation costs may be required and this

If an aviation fuel pipe was to suffer a leak at your airport, how would anybody know where to find it?
(BOTH AQUILAR)



can often exceed that of the initial repairs.

As well as the cost there are the dangers of contamination to the earth beneath the runway. Even a small crack or pinhole corrosion problems will eventually lead to the accumulation of large quantities of spilled fuel. The leakage will either spread to the perimeter of the paved areas or seep into adjacent drainage systems or natural waterways.

The cable-based leak detection system was recently installed at Madrid Airport to ensure rapid detection of leaking fuel despite local ground water conditions, which could in other circumstances make leak detection more difficult.

Contents

Volume 38 No.2

March 2005

4 News...News...News

Security

14 Improving Security Checkpoints

What further improvements can be made to passenger screening? Mark Laustra from Smiths Detection reports.

16 Smiths 500DT – Explosives and Drug Detection

Tom Allett looks at the Smiths 500DT - the latest development in the field of explosives and drug detection.

17 100% ID

Airports International spoke to French security specialist SAGEM about its role in the development of biometric systems.

Terminal Equipment

18 Seating for Comfort

Airports are choosing seating systems providing passenger comfort and looks in harmony with modern terminal designs. Carroll McCormick reports.

22 SkyMap – Airport Mapping

Clear airport mapping is a major factor in airport efficiency. Tom Allett spoke to SkyMap about its project at Athens International Airport.

24 Cruising Through Check-in

Remote airline check-ins – whether they are available at hotels in town or on cruise ships – demonstrably ease the check-in process for travellers, and can also result in a big pay-off for the airport. John A Dungan Director of Global Product Management, ARINC Airport Systems explains.

27 The Common Use Journey

From LA to Athens: The Olympic Games and the Common Use Journey. By Matthew Finn, Manager, SITA Airport Services.

Information Technology

28 Streamlining Airport Operations

Nancy Ornelas, product manager for the Streamline resource management systems at Sabre Airline Solutions looks at how technology can fully optimise your staff resources.

Ground Handling

30 All Change at Munich

Driven by Lufthansa's growth in hub traffic, Munich experienced record growth last year. Despite this, the airport has announced a re-organisation of core business processes, which should benefit its main user. Chris Penney reports.

32 What Tow-Tractor?

Today we take build and design quality almost as a 'given', so what else is there to look for when choosing between aircraft tow-tractors? Tom Allett considers the options.

Paving and Maintenance

34 Runway Rubber

Regular runway friction testing and rubber removal ensures good skid-resistance for aircraft. Carroll McCormick talked to the Cincinnati operations team.

35 Finding Fuel Leaks

Julian Waumsley of Aquilar, describes how the installation of cable-based external leak detection systems can find fuel leaks beneath the surface of airport paving.

36 Gatic Slotdrain – Airport Drainage

There are good reasons why BAA has approved and used Gatic Slotdrain on most of its UK-based airport sites. Jamie Kershaw from Elkington Gatic explains.

Airport Profile

37 DEN is Ten!

Size is no problem at Colorado's mile-high international gateway airport. Celebrating ten years of operation this year, Chris Penney offers an insight.

38 Brussels First Reveals Financing Future

In January, a Macquarie Airports-led consortium bought a 70% interest in Brussels International Airport. Maria Lemos, Associate Director of Project Finance & Transportation at Standard & Poor's, unravels the new financing environment behind the deal.

40 What's in a Name?

The names given to airports can say a lot about the history and politics of the country they serve. Carroll McCormick reports.

42 Events Diary

Our global listing of the industry's forthcoming events.

FRONT COVER – LAX (KEY archive)

Subscribe Free* at
www.airportsint.com

* Controlled Circulation - Terms of control in audit period AIRPORT INTERNATIONAL is available free to personnel working within the field of airports, airport authorities, airlines, federal, state and local organisations, international organisations, government ministries, ground services, airport equipment manufacturers, financial institutions, retail, training/educational/research and other allied to the field.

AIRPORTS
INTERNATIONAL

EDITOR
Tom Allett
tom.allett@keypublishing.com

DEPUTY EDITOR
Chris Penney
chris.penney@keypublishing.com

FRENCH CORRESPONDENT
Paul Michaud
PaulMichaud@compuserve.com

MIDDLE-EAST CORRESPONDENT
Mounrir Abboud
P.O. BOX 113-5099
Beirut - Lebanon

PRODUCTION DIRECTOR
David Sopher

COMMERCIAL DIRECTOR
Ann Saundry
ann.saundry@keypublishing.com

ADVERTISING MANAGER
David Plant
david.plant@keypublishing.com

ADVERTISING PRODUCTION
Janet Randall-Smith
janet.randall-smith@keypublishing.com

MARKETING MANAGER
Michelle McDonald
michelle.mcdonald@keypublishing.com

SALES & CIRCULATION MANAGER
Keiron Jefferies
keiron.jefferies@keypublishing.com

EDITORS SECRETARY
Julie Lawson

EXECUTIVE CHAIRMAN
Richard Cox

MANAGING DIRECTOR & PUBLISHER
Adrian Cox

Airports International is published by Key Publishing Ltd., 1-4 Gwash Way, Stamford, Lincs, PE9 1XQ, UK.
UK: Tel: 01780 755131
Fax: 01780 757261
overseas:
Tel: +44 (0)1780 755131
Fax: +44 (0)1780 757261
SSN number: 0002-2583
Periodicals Postage at Rahway, NJ.
Airports International is published 9 times a year. Subscription price is \$175. Periodicals Postage Paid at Rahway, NJ.
POSTMASTER: Please send address corrections to: Airports International, c/o Mercury Airfreight International Ltd, 365 Blair Road, Avenel, New Jersey 07001.
Monthly except combined issues in Jan/Feb, Jun/Jul and Aug/Sep. 9 issues per year.

Annual Subscription £95 or \$175.

PRINTED BY: WARNERS (MIDLANDS) PLC
Colour: Atelier Dataset Ltd
Whilst every effort is made to ensure that the information contained in this publication is correct, the publisher makes no warranty, express or implied, as to the nature or accuracy of such material to the extent permitted by applicable law.
©2005 Key Publishing Ltd.
No part of this publication may be reproduced, stored or used in any form or by any means, without specific prior permission from the publisher.

Subscribe at:
www.airportsint.com



12,011 copies periods
1st Jan 2003 - 31st Dec 2003

ABC