

USE OF X-RAY BODY SCANNER EQUIPMENT IN THE UK AND MATTERS TO CONSIDER TO KEEP DOSES ALARA



NEWS & CURRENT AFFAIRS

LONDON, THURSDAY 17.09.09

CRITICS' CHOICE

RESTAURANTS
DAVID SEXTON

"The view is great. Inside, though, it's another matter. Lower East positively aims at mid-Atlantic nowhere-ness."



Lower East Liquor Bar & Bistro

THEATRE
HENRY HITCHINGS

"It's a play of incessant exits and entrances, punctuated with big statements"



A New World

MUSIC
JOHN AIZLEWOOD

"She was a high-kicking, finger-pointing, charisma-oozing, hand-clapping ball of sex-tinged energy"



Beverly Knight

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Health fear over new airport scanners

Last updated at 00:07am on 22.05.07

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New X-Ray scanners at British airports could be exposing passengers to potentially dangerous levels of radiation, according to one senior radiologist.

The machines are designed to "strip search" passengers by using low-level X-Rays, which produce an image of their bodies, revealing whether they are secretly carrying weapons, explosives or illegal drugs.

But the scanners may not be safe for certain people, particularly children and women in the early stages of pregnancy, according to Dr Sarah Burnett, who works as an independent radiologist in London.

"It is illegal to expose people to any level of radiation without medical justification," said Dr Burnett, who raised her concerns after being asked to undergo a full-body scan at Luton Airport.



Danger? Passengers exposed to X-rays

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'Naked' scanner in airport trial

A scanner which produces "naked" images of passengers has started a trial at Manchester Airport.

The authorities say it will speed up security checks by quickly revealing any concealed weapons or explosives.

But the full body scans will also show up breast enlargements, body piercings and a clear black-and-white outline of passengers' genitals.

The airport has stressed that the images are not pornographic and will be destroyed straight away.

Sarah Barrett, head of customer experience at the airport, said most passengers did not like the traditional "pat down" search.

At Manchester Airport's Terminal 2, where the machine has been introduced, passengers will no longer have to remove their coats, shoes and belts as they go through security checks.

Ms Barrett said: "This scanner completely takes away the hassle of needing to undress."

Ms Barrett said the black-and-white image would only be seen by one officer in a remote location before it was deleted.

"The images are not erotic or pornographic and they cannot be stored or captured in any way," she said.

Passengers could refuse to be scanned, she added.



The images will be destroyed straight away, say the authorities

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Types of Personnel X-Ray Scanners



Backscatter x-ray units

- Scan body surface
- Dose per examination 100 nSv

Transmission x-ray units

- Whole body x-ray
- Dose per examination 5 – 15 μ Sv

Backscatter systems



Used by

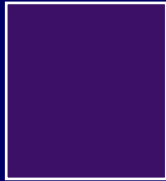
- Airports
 - Screen passengers prior to flight
- Police
 - Screen drug users for needles

Used in UK prior to May 2000



Secure 1000

Manufactured by Rapiscan Products Inc.



Transmission x-ray systems



Used by Customs

- Potential smugglers at points of entry to UK

Not in wider use prior to May 2000

- Requires Justification under 2004 Regulations

Potential uses

- Prisons
- Airports
- High security areas
 - Political party conferences
 - Military establishments
 - others



Operating parameters

- Better imaging software
- Appropriate filtration
- Reduction kV, mA

– PROVIDE SUITABLE TEST TOOLS!

Selection criteria for those to be scanned

Use of non-ionising radiation technology

Passengers

- Optimise doses
- Passenger information

Security personnel

- Reassurance and information
- Liaison with union and management representatives

Detector types

- Ionisation chambers
- Solid state detectors

Units!

- Air KERMA to Effective Dose
- Use of instrument specialists (metrologists)

Likely to see the wider use of personnel scanners

Need for professionals to provide standards for

- Equipment
- Use (where and maybe where not appropriate)

Information required

- Those scanned
- Those scanning

Any Questions?

