



by Clare Duffy, ESBI, Ireland

34

# SYSTEM

Vancouver, Canada  
14 July, 2008

United Kingdom  
27 May, 2008

Washington, DC, USA  
13 June, 2008

Barbados Island  
16 June, 2008

# POWER OUTAGES

blackout

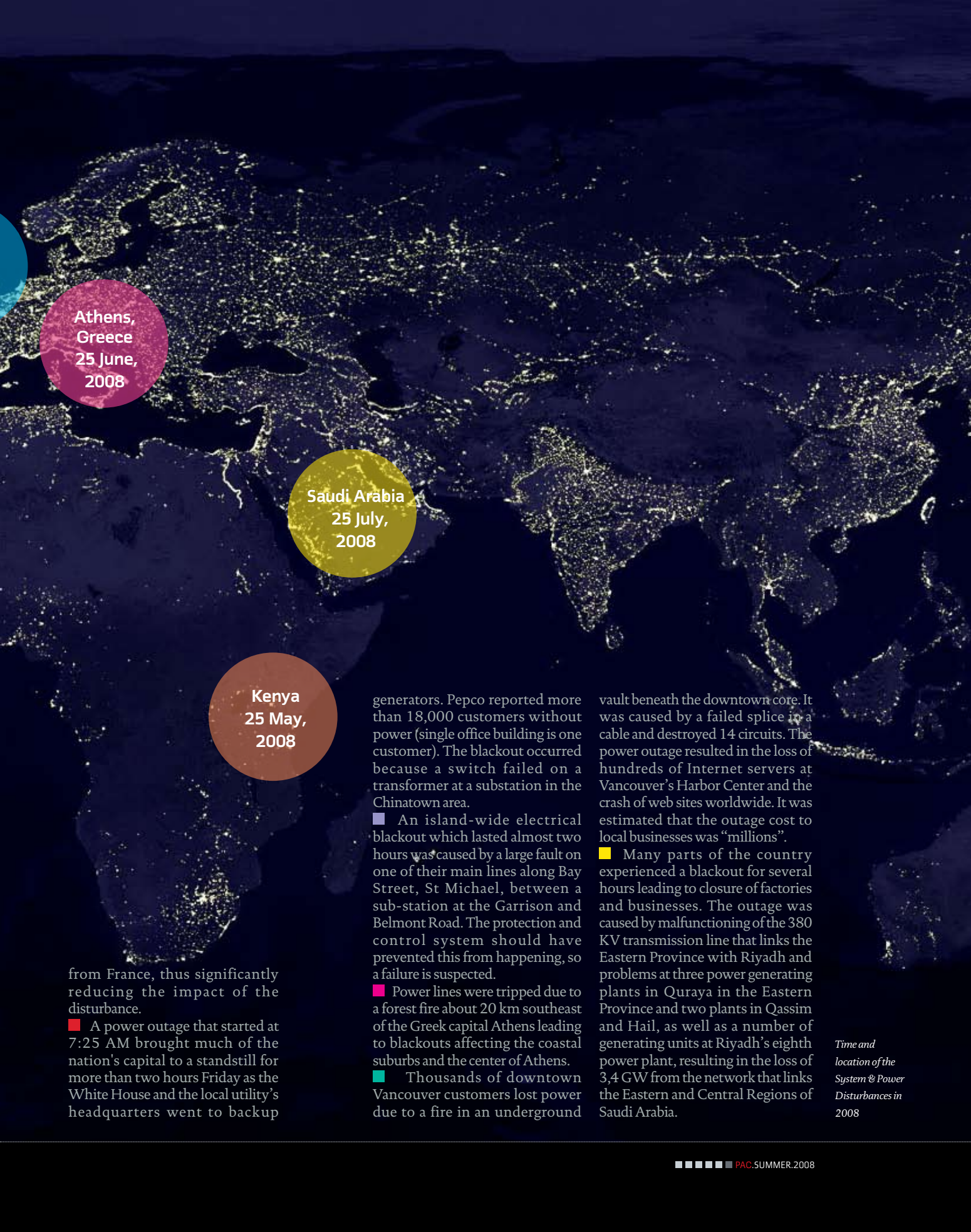
Watch

Analysis of system power outages can help us learn and avoid similar events in the future. If you have information on any blackouts, please e-mail to:

<http://editor@pacw.org>

■ A major power blackout that affected the entire country occurred at around 5:30 PM and lasted more than four hours. It was caused by a fault on the transmission system between Kamburu substation at the Seven Forks stations complex on River Tana and Dandora. It resulted in a mechanical breakdown at Kamburu power station. Protection misoperation was suspected.

■ The blackout happened when the Sizewell B nuclear power station in Suffolk and the Longanett coal-fired power station (near Edinburgh) both went off-line within several minutes of each other and removed 1,5 GW of generating capacity from the National Grid. In total, nine generating units across the country became unavailable. The fall triggered substations across the country to automatically trip, stopping power to homes and businesses. A cable under the Channel carried 2 GW of electricity



Athens,  
Greece  
25 June,  
2008

Saudi Arabia  
25 July,  
2008

Kenya  
25 May,  
2008

from France, thus significantly reducing the impact of the disturbance.

■ A power outage that started at 7:25 AM brought much of the nation's capital to a standstill for more than two hours Friday as the White House and the local utility's headquarters went to backup

generators. Pepco reported more than 18,000 customers without power (single office building is one customer). The blackout occurred because a switch failed on a transformer at a substation in the Chinatown area.

■ An island-wide electrical blackout which lasted almost two hours was caused by a large fault on one of their main lines along Bay Street, St Michael, between a sub-station at the Garrison and Belmont Road. The protection and control system should have prevented this from happening, so a failure is suspected.

■ Power lines were tripped due to a forest fire about 20 km southeast of the Greek capital Athens leading to blackouts affecting the coastal suburbs and the center of Athens.

■ Thousands of downtown Vancouver customers lost power due to a fire in an underground

vault beneath the downtown core. It was caused by a failed splice in a cable and destroyed 14 circuits. The power outage resulted in the loss of hundreds of Internet servers at Vancouver's Harbor Center and the crash of web sites worldwide. It was estimated that the outage cost to local businesses was "millions".

■ Many parts of the country experienced a blackout for several hours leading to closure of factories and businesses. The outage was caused by malfunctioning of the 380 KV transmission line that links the Eastern Province with Riyadh and problems at three power generating plants in Quraya in the Eastern Province and two plants in Qassim and Hail, as well as a number of generating units at Riyadh's eighth power plant, resulting in the loss of 3,4 GW from the network that links the Eastern and Central Regions of Saudi Arabia.

*Time and location of the System & Power Disturbances in 2008*