The Power behind the Olympic Games
Role of OCOG Energy

• Ultimate responsibility for delivery of Energy services,
• Overall Planning and Control of Energy projects; Utility Power, Temporary Power, Connections, UPS etc.
• Capture critical energy use / loading / consumption data
• Interface between Energy Sponsors + Providers and OCOG
• Managing Energy Venue Planning & Implementation
• Managing Energy Games operational workforce

DELIVER
Key Success Factors

- Safe Operational Environment
- Attainment of Service Level Agreements
- Minimal Change During Implementation
- Services Delivered to Agreed Milestones
- Effective Command & Control
- Discernable Legacy
- Maximise Use of Renewables & Successful Implementation of Energy Conservation Measures
- Delivery of OGKM Obligations

*No One Talks About Power During the Games!!*
London 2012 Delivery Structure

International Olympic Committee (IOC)

London Organising Committee of the Olympic Games and Paralympic Games (LOCOG)

Olympic Delivery Authority (ODA)

Delivery Partner

Olympic Board

BOA

GLA

LOCOG

GOVT
LOCOG Delivery departments

- Press Operations
- Ceremonies
- Catering Cleaning & Waste
- Logistics
- Broadcast
- Sport
- Technology
- Venues & Infrastructure
- Overlay
- Venue Management
- Olympic Park Operations
- Venue Development
- Broadcast
- Energy
First hearing that the Games was coming to London

6th July 2005
How did I get the role of Energy Services Group Lead

ATKINS
The official engineering design services provider for the London 2012 Games

Energy Services

Oct 2009
Gaining knowledge

Vancouver 2010
Gaining knowledge
Building the team
Energy Team Organizational Chart - GAMES

One year out: Total 111, Peak time 684
- LOCOG Energy: 28, 51
- Aggreko: 8, 200
- UKPN: 22, 200
- Other DNOs: 17, 100
- GE: 6, 60
- Contractors: 13, 40
- FM Teams: 9, 40
- Government: 8, 8

Staff numbers:
- D. Energy Team Assistant
- C. Venue Energy Manager
- B. Overlay Energy Manager
- A. Energy Group Lead

Graphical representation of staff numbers and teams.
Venue types

New Facility
- IBC
- Velodrome
- Main Athletes' Village
- Olympic Stadium
- Handball
- Aquatics

Temporary Facility
- Olympic Parklands
- Royal Artillery Barracks
- Weymouth and Portland
- Hyde Park
- Hadleigh Farm

New Temporary Facility
- MOC
- Tech
- Wimbledon
- North Greenwich Arena
- Earls Court
- Wembley Arena
- Wembley Arena

Existing Facility
- Lord's
- ExCeL
- North Greenwich Arena
- London Outside Races

New Facility with Temporary
- MPC
- Water Polo
- Basketball
- Olympic Parklands
- Hockey
- BMX

Existing Facility with Temporary
- Lee Valley WWC
- Eton Manor
- Eton Dorney
- Hyde Park
- Brands Hatch
- Hyde Park
- Brands Hatch

Temporary Facility
- Horse Guards Parade
- The Mall

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Venue types
Overlay Scope and Scale

36 Competition venues
- New permanent venues
- New demountable venues
- Existing sports venues
- Existing ‘convention’ venues
- Temporary venues

Villages
International Broadcast Centre
Main Press Centre
Training Venues
Other non-competition venues

Total = 130+ venues requiring overlay
Concepts of the electrical infrastructure

On Venue Results - OVR

London 2012 - UPS Responsibility Matrix
Working with partners and suppliers
UPS Statement of Works v11
UPS Durations Spreadsheet v19.1.7
Operational Planning
Operational Planning

**UPS**

**Statement of Work**

London 2012 Olympic Summer Games

Version FINAL
Command Post Exercise (CPX)

19/3  TR1

23/5  TR2

Power failover Tests

Cluster 3

Cluster 1

Cluster 2
Testing Field of Play Lighting
Installation challenges
Installation challenges
Games countdown
Key success factors

• Successful delivery of power services everywhere
• 100% utility reliability during the Games
• Energy Team development and delivery
• Early designs and appointment of temporary power supplier (Aggreko)
• Games time operational coordination with Utility companies, Aggreko and GE
• GE VIK used for UPS’s and Event style switchgear
• Use of particulate filters on temporary generators
• Energy transfer of knowledge through observer programme and data collection
Key challenges

• Agreement on scope and funding with Government for Utility Operational Readiness
• Matching detail design delivery with continuous scope changes
• Achieving early deployment of power to support venue overlay / fit out (especially, Technology and Security)
• Matching actual load profiles with generator selection
• Accreditation for suppliers, contractors and Utility companies
• Electrical certificates for Technology partners
• Cyber threat on Electrical Utility infrastructure
• Reprogramming of GE circuit breakers
Future OCOG recommendations

- Early resourcing of experienced Energy Team to manage test events
- Energy services integration into overall Venue operational planning process
- Plan for late changes of FA requirements and impact on design and equipment
- Integrated power ‘on’ programming across all functions and look at methods of providing temporary early solutions
- Ensure the wider Energy services are fully integrated into the operational readiness plan
- Plan for the unexpected
Transfer of Knowledge

Aquatics Centre

Media

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<tr>
<th>Date</th>
<th>30/07/2012</th>
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<tbody>
<tr>
<td>Venue</td>
<td>Aquatics Centre</td>
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<tr>
<td>Venue Type</td>
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<tr>
<td>Space</td>
<td>Media</td>
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<tr>
<td>Space Type</td>
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<td>Photo workshop</td>
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<td>Media conference room</td>
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Graph: Current (A) vs Time

Graph legend:
- Competition
- I1 (A)
- I2 (A)
- I3 (A)

Diagram: Floor plan of Aquatics Centre