



## NJUG CASE STUDY

### CASE STUDY 52: The North London Gas Alliance

#### ***Winner of the 2010 NJUG Award for Sustainability***

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The 39 companies<sup>1</sup> we represent work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc.

NJUG members need to continue to drive forward further improvements. We have therefore developed the NJUG Vision for World Class Street Works, which revolves around six main principles:

1. Safety is the number one priority
2. Utilities deliver consistent high quality
3. Utilities work together and in partnership with local authorities and contractors to minimise disruption
4. Utilities keep the public fully informed on all aspects of works
5. Utilities maximise use of sustainable methods and materials
6. Damage to underground assets is avoided

This case study is an example of NJUG delivering on these principles and turning the vision into reality.

#### **Overview:**

The NLGA is a partnership between Skanska UK and National Grid to undertake the replacement of gas mains across the North London and East Anglia networks. The project is part of a 30-year national programme to replace all metal gas mains across Great Britain with plastic piping, which will ensure a continued safe and reliable gas supply for the future. This project highlights the social, environmental and economic aspects of sustainability.

#### **Case Study:**

#### **Social Aspects**

**Stakeholder relations and communication:** Works are planned and agreed with the local authorities, Parish Councils, police forces and transport organisations. The NLGA also works with the Highways Authority to identify potential problems, and to work around school holidays when necessary. All local residents are informed of work by mail and are provided with a telephone helpline number for a local operational supervisor. A staffed mobile information centre is also used to inform local stakeholders about the project plans for their area. Door-to-door visits are also conducted and project updates are given in local newspapers and on radio stations.

**Reducing public disturbance:** NLGA teams work to minimise the length of time works take and prefer the insertion of new polyethylene pipes inside the old iron mains in order to reduce the amount of excavation and public disturbance. Battery powered traffic lights and noise-suppressed power generators are used to reduce noise disturbance when necessary. Particularly important gas mains are replaced at night and special consideration is given for affected residents.

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<sup>1</sup> NJUG's current members are Energy Networks Association (representing electricity and gas), Water UK (representing all water and wastewater companies), National Grid, Openreach, and Virgin Media. Our associate members are Clancy Docwra, Skanska Utilities, Balfour Beatty, Morrison Utility Services, Morgan Est, Nacap UK, PJ Keary, First Intervention, Carillion, Enterprise, Laing O'Rourke, Amec and SQS. Including members through trade associations, NJUG represents thirty-nine utility companies, and thirteen utility contractors.

**Public safety:** Old gas mains are replaced to avoid gas leaks. The initial phase replaces mains that National Grid has identified to be at the greatest risk of leaking. During works, all trenches or excavations are protected or covered and engineers provide a free safety inspection of all private gas appliances.

**Occupational health and safety:** Safety measures employed on high-speed roads and busy commercial areas include strict speed restrictions, safety barriers and lane closures. Five mark-out technicians equipped with specialist equipment and utility schematics were employed to identify the location of buried pipes and cables in order to avoid accidents. The number of incidences of power cable damage has been reduced from an average of one every 3.5 km of gas main replaced to every 4.5 km. The project also has a safety incident hotline.

**Charitable donations:** Regular donations are made, including US\$ 1.5 for every hazard and near miss report made and US\$ 30 for each individual or team award nomination received.



### Economic Aspects

**Construction employment:** Approximately 340 permanent employees and 450 contractors work on the NLGA project. Around 200 of the permanent positions are on site rather than administration roles.

**Vocational training:** The NLGA established a training college in Romford, which provides practical and management training to employees. It also involved in the National Grid Young Offenders Programme, which gives young offenders National Vocational Qualifications (NVQs) and employment opportunities.

**Reduced vehicle costs:** The Energy Saving Trust conducted a Green Fleet Review cost-saving analysis on the entire NLGA's vehicle fleet, which has reduced total fleet operating costs by up to 20%, through less fuel consumption as well as initiatives such as fuel cards and installation of GPS in vehicles to improve journey planning.

### Environmental Aspects

**Reducing environmental impacts during the project:** The NLGA environmental plan seeks to minimise impacts by strictly controlling effluents and dust pollution during replacement works. Drip kits and spill trays are used to avoid potential pollutants, such as oil, causing ground contamination. The plan also strives to identify potential environmental hazards, by encouraging employees to report environmental near misses and risks.

**'Dirtbag' surface water filtration:** NLGA project teams use water filtration bags or 'dirtbags' to capture suspended solids in water discharge. Dirtbags allow excavations to be drained without polluting surrounding watercourses or damaging aquatic habitats or flood defences.

**Reduced vehicle emissions:** The Green Fleet Review resulted in reducing vehicle fuel consumption by up to 20% and the introduction of efficient Euro 5 fuel standard vehicles where possible. Project vehicles and plant equipment are also regularly maintained to ensure they operated as efficiently as possible.

**Treatment and recycling of excavated material:** Excavated materials are treated and recycled on site to reduce the amount of material sent to landfill and the need for supplementary virgin aggregate. Over 200,000 tons of materials are excavated and reused to backfill the project's trenches each year and backfill material consists of less than 30% virgin aggregate.

**Vacuum excavation:** The NLGA has five vacuum excavators that excavate trench material whilst eliminating the risk of damaging tree roots or existing cables. The technique also reduces the amount of material that must be excavated compared with conventional mechanical excavation.

**Recycling:** The new polyethylene pipes are inserted inside the existing mains where possible to minimise social and environmental disturbance. However, the old iron mains are collected and recycled by a specialist company when they are excavated. The NLGA also participates in the SUPER scheme (Systems for Uponor PolyEthylene Recycling), which provides the project with a comprehensive service to collect, recycle and reuse waste polyethylene pipe off cuts.