

### Springfields Fuels Ltd., Site Report Information

Address: Springfields Fuels Limited, Salwick, Preston, Lancashire, UK

Lot area: 0.83km<sup>2</sup>, Building area: 0.40km<sup>2</sup>, Green ratio: 50%

Establishment: March 1946, Employees: 1318 (as of March 2010)

Major products: Manufacture of nuclear fuel and intermediates (UF<sub>6</sub>, UO<sub>2</sub> powder and AGR Fuel)

ISO 14001 certified: March, 1996, Re-certification: February, 2011  
(ISO Certificate number: LRQ 0770025)



### Message from Environmental Preservation Chief

As can be seen from the contents of this report, Springfields had some significant environmental achievements during 2010. Notable amongst these was being re-accredited against the Wildlife Trust's Biodiversity Benchmark, and re-certification to ISO 14001. Springfields remains only one of two Nuclear sites in the UK accredited to the Biodiversity Benchmark. During the year, we achieved our target of 95% of the workforce trained in environmental awareness.

Also during the year we established a Sustainability Forum whose remit is to bring a disciplined approach to implementing sustainability principles on site. I look forward to reporting on the impact this Forum has had in next years report.



**EHS&Q Director  
Geoff Gill**

### Major environmental activities in 2010

- Successful re-accreditation to Wildlife Trust Biodiversity Benchmark in November, for the third year running.
- Successful recertification against ISO 9001, 14001 and OHSAS 18001
- Waste Strategy Group set up
- Project completed to ensure flow measurement on trade and stormwater discharges leaving site meets MCERTS requirements, aim to improve monitoring/reporting of discharges (new requirement of Environmental Authorisations).
- Refurbished stack samplers now installed on all RSA Group 1 and Group 2 stacks. Aim of project was to improve reliability, function and standardise equipment.
- New wet deduster in Hex Plant- more efficient removal of particulates from gaseous effluent (capital project)
- Replacement of the existing high energy florescent tubing with more energy efficient tubes or LEDs. Two trials using LED's were successfully completed in 2010 and further areas have been identified where the lighting can be improved.
- 1 million pounds saved on energy usage
- Significant progress on residue recovery, reduces liabilities of potential waste and returns uranium to the fuel cycle.
- Oxides Fuel Complex – replaced centrifuge with a humidrier to treat contaminated water. The new humidrier increases significantly the amount of water that can be treated. The resultant water from the humidrier is extremely pure, and has no detectable uranium content, now looking at ways to reuse water.

### Development of products and environmental technologies, Environmental consideration point



### Environmental communication

- Quarterly liaison meeting with Regulators
- Environmental dashboard – updated bimonthly, provides information on discharges, environmental events, learning points. Displayed on plant notice boards.
- Articles in the monthly site internal newsletter 'Fuel Talk'.
- Quarterly Environmental Representatives Meeting
- Site Stakeholder Group meetings (attended by Regulators, council members and members of the public)
- School, university and club visits
- Annual site EHS&Q report issued on Springfields web site
- Monthly / Quarterly data reporting to Regulators, Annual Pollution inventory, all data is available on public register
- Member of Nuclear Industry Liaison Group (National Group)
- Member of Environment Agencies Requirements Working Group (National Group)
- Publish environmental data against nuclear sector plan objectives and targets (Regulator Web site)

## Environmental Policy

Springfields Fuels Limited's environmental policy is to continuously improve our environmental performance and integrate recognised environmental management best practice into our business operations.

Springfields Fuels Limited will achieve this by:

- ❖ Preventing environmental incidents
- ❖ Ensuring an environmentally aware workforce suitably trained in the environmental aspects of Springfields Fuels Limited's activities
- ❖ Applying Best Available Techniques to all our plants and processes.
- ❖ Maintaining our environmental management system to the standards set out in ISO 14001.
- ❖ Encouraging waste minimisation and promoting active employment of the waste hierarchy.
- ❖ Minimising use of natural resources and promoting energy efficiency
- ❖ Encouraging sustainable procurement throughout the business
- ❖ Proactively monitoring Springfields Fuels Limited's environmental impact
- ❖ Measuring and taking action to reduce Springfields Fuels Limited's carbon footprint
- ❖ Protecting the existing semi-natural habitat within the site boundary and optimising biodiversity within the constraints of business priorities.

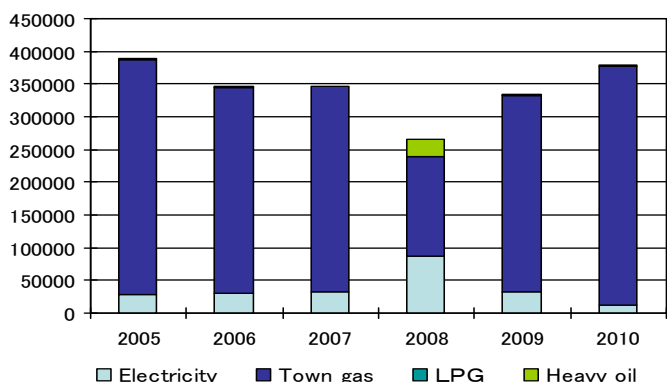
**Neil Longfellow**

**Managing Director**

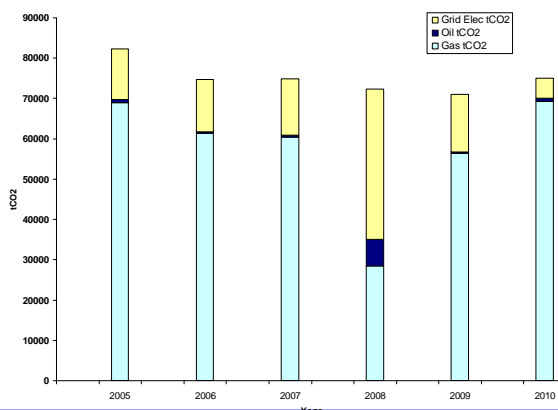
December 2010

**Environmental load data**

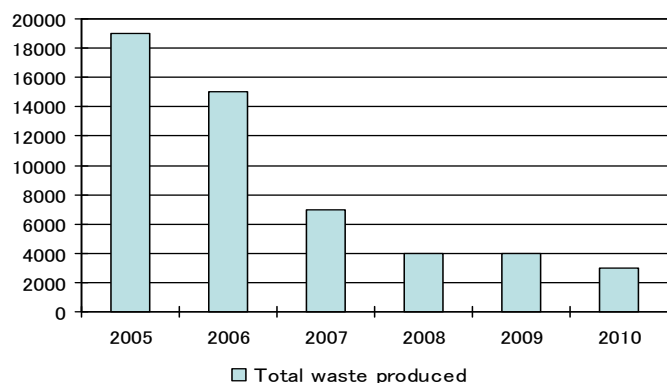
Energy usage (unit: MWh)



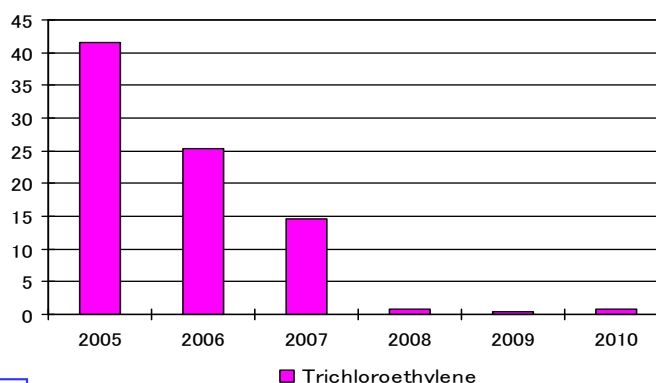
CO<sub>2</sub> emission (unit: tonne-CO<sub>2</sub>)



Total waste produced (unit: tonne)

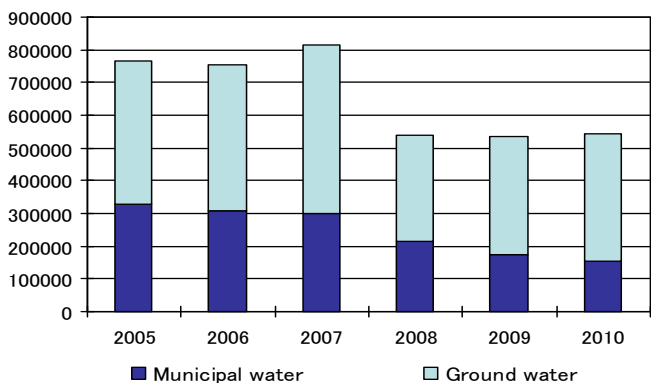


Trichloroethylene released to atmosphere (tonne)

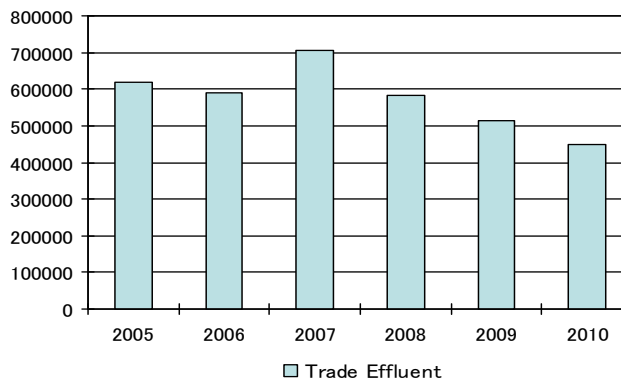


Major wastes: Decommissioning, process waste cakes

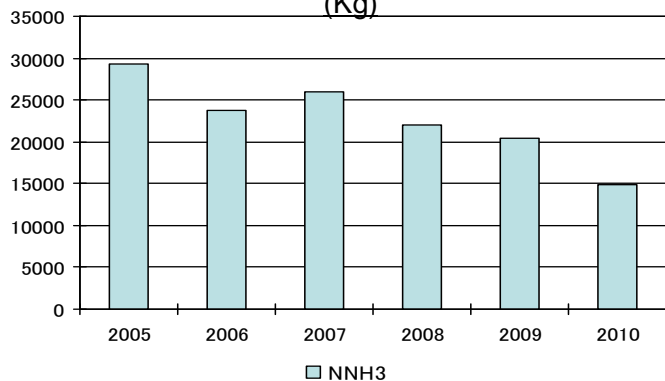
Water usage (unit: m<sup>3</sup>)



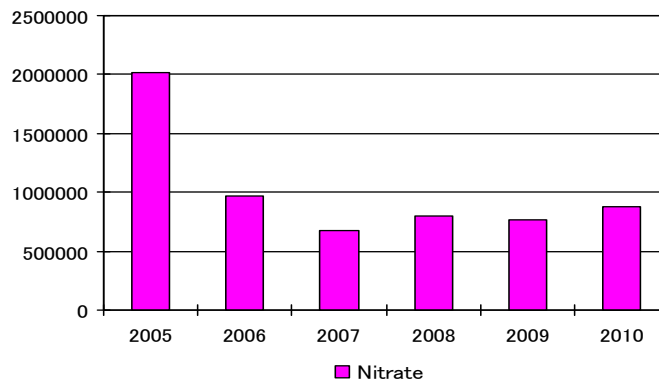
Trade effluent discharged (unit:m<sup>3</sup>)



Ammoniacal Nitrogen Discharges to River Ribble (Estuary) (Kg)



Nitrate Discharges to River Ribble (Estuary) (Kg)



Major chemical substances: Nitric acid, Sodium hydroxide, Ammonia, Anhydrous hydrogen fluoride

## Compliance management

### Atmospheric measurement results (Combined Heat and Power Plant (city gas): 2010)

|                                 | Regulation value | Self-control value | Actual measurement | Measurement frequency |
|---------------------------------|------------------|--------------------|--------------------|-----------------------|
| NOx (mg/m3)<br>Gas Turbine      | 185mg/m3         | 185mg/m3           | 106                | Continuous            |
| NOx (mg/m3)<br>Auxiliary Boiler | 350mg/m3         | 350mg/m3           | 120                | Continuous            |

### Other atmospheric measurement results – UF6 Production Plant

|                         | Regulation value  | Self-control value | Actual measurement | Measurement frequency |
|-------------------------|-------------------|--------------------|--------------------|-----------------------|
| HF(mg/m3)               | 5                 | 1                  | 0.342              | Daily                 |
| Uranium MBq (Wet stack) | 77.5<br>(monthly) | 75<br>(monthly)    | 33.69              | 8hrs                  |

### Wastewater measurement results (major results) Wastewater is treated at source before being discharged to the Effluent Handling Complex where it is monitored and discharged to the River Ribble (Estuary)

|                                 | Regulation value                   | Self-control value | Actual measurement       | Measurement frequency  |
|---------------------------------|------------------------------------|--------------------|--------------------------|--|
| Hydrogen ion concentration (pH) | 5 - 12<br>(agreed value)           | 6-11               | 8.83                     | Daily<br>(24hr flow proportional sample)                                 |
| Ammoniacal Nitrogen (mg/l)      | 300 (agreed value)                 | 240                | 36.9                     | Daily<br>(24hr flow proportional sample)                                 |
| COD (mg/l)                      | 500 (agreed rolling 7 day value)   | 400                | 47.73                    | Daily<br>(24hr flow proportional sample)                                 |
| Nitrate (kg)                    | 2,805,000<br>(annual agreed value) | N/A                | 874348<br>(annual total) | Monthly (flow proportional, composite sample derived from daily samples) |
| SS (mg/l)                       | 2500 (agreed value)                | 1500               | 913                      | Weekly   |

Note: Figures quoted in all tables for 'actual measurements' are the average values for the year, except Nitrate which is the annual total discharged

### Environmental accidents, administrative advices and complaints

|  | State   |
|--|---|
| Environmental accident   | Two minor accidents. (1) Small amount of uranic residue was ejected from a drum due to pressure build up, a small amount of residue may have been lost to atmosphere. (2) KOH leak to drain. The official sample exceeded the upper pH limit, the effluent leaving site and entering environment was below limit. |
| Environmental problem around the factory and in the local area | None  |
| Administrative advice or direction                             | 6 minor incidents (including 2 above) reported to the Regulators during 2010. The Regulator issued a warning letter to cover all incidents. No incident caused environmental harm, Regulator agreed that SFL actions taken were appropriate, therefore no further direction was required.                         |
| Complaint from neighboring residents                           | None  |