Stoke By Nayland street lighting working group

Open Meeting 17th February 2015

Presented by Jeremy Bloomfield

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Light locations see maps

Stoke By Nayland PC owns all of the street lamps in the parish, none are owned or operated by Babergh DC or Suffolk County Council.

These are situated at 28 locations, with 26 in the Village and two in Thorington street.

Most are mounted on wooden poles, most of which are owned by UK Power networks.

All 28 lamps are currently maintained through a contract with Suffolk County council, who in turn use contractors to carry out works to their guidance and request.

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Current lighting stock

24 of the units have lamps that contain Mercury Vapour, and are now no longer available, we are told their manufacture is being phased out by EU Directive.

These units pose a very low level of risk to the general public, who would probably have to have a number fall directly on them in completely still conditions while breathing very hard, to get an appreciable level of mercury ingested. Most if not all of the lamps have clear covers and these would also have to be broken or absent for the bulb to fall. So the risk is very small. This is why no wholesale public safety policy for immediate removal is required.

However if you work with them constantly, the probability of accidents occurring goes up dramatically, and hence the risk is high, even with precautions in handling them.

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Risk

Risk is the probability of something occurring, multiplied by the consequences.

The residual risk is the risk remaining after any precautions are in place and acted upon.

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Engineering Recommendation G39 (Copy available Para 7.2)

15 of our 28 units fall within this category (Although Primary School is no longer at risk)

This guidance is in relation to ensuring that lights are not placed within 1m of uninsulated conductors. SCC have worked on being within 1.5m of a conductor for existing equipment, most of ours are within the 1m.

Why?

The point is that anyone servicing the lamps may have difficulty in using a raised platform to access the lamps, and have an increased probability of coming into contact with the live cables.

The solution is to move the units, remove the units, employ UK Power networks to carry out the work, install temporary insulation and blankets. Photo.

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How maintenance and operation works

Our lamps are charged for electricity on whats called an unmetered supply. Assumptions are made as to the time its illuminated, and the power it consumes, and an appropriate charge is made on that basis. This is currently paid through SCC as part of their service agreement.

The county contractors carry out periodic checks on our kit and some cleaning , but any repairs and replacements have to be paid for separate from the base contract price.

Our lamps operate with light sensors and so come on from dusk to dawn (mostly)

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How is the connection made to the cables.

UK Power networks are the only organisation in our area who can make live connections to the overhead (Or Underground) cables.

These terminate in a fuse and connector, and belong to UK Power networks, and their installation or removal is chargeable at a fixed rate.

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Other issues,

A couple of years ago a section of un insulated separate conductor cables from the end of school street to opposite the Church was replaced with a fully insulated bundled conductor. The light outside the primary school was disconnected from its original cables which were removed. Originally this unit was within the too close to live conductor category . However even though the unit was now OK, the cable being fully insulated, UK Power Networks would not re connect the lamp. The fuse connector at the end of their cable was not up to current standards, and once a unit was disconnected they could not re-connect it. So the connector and fuse had to be replaced at additional cost at a later date.

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Other issues,

If a light unit is disconnected from the existing fuse and connector, a new connection should not be made, as to do so would be against electrical regulations for connections to non compliant un metered supply. SCC have negotiated an agreement with UKPN, so that an extended connection into a sealed box is provided and used for future periodic checks and maintenance.

Otherwise this means that in many locations replacement of a lamp unit with a new device, requires removal of the old un metered supply (Fixed cost) and supplying a new connection (Meets new standards and also a fixed cost) and if needs be further away from the un insulated cables.

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Other issues,

Many of the ironwork supports of our lights are no longer suitable for use with modern lamp units, and so would also need replacing.

Any such replacement has to be with the approval and inspection of the Pole by UK Power Networks.

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Power supply organisation structure

National Grid operate the very high voltage (ie 11kv) network, such as the Pylons across the area, these go to substations reducing the voltage down to around 1000V .

Power generators supply their power direct into the National Grid system, at very High voltage, and their need is co-ordinated by National Grid.

From the substations the power is fed out to the local network. This was split on roughly the areas covered by the old local electricity companies in our case Eastern Electricity. This is now UK Power Networks. We have no choice and only they can carry out works for us on their network.

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Alternatives.

The alternative solution offered by SCC and their contractors, was to replace most of the existing units with LED units. These may still be within the 1.5m but the New connection would be outside the limits, and so accessible for periodic tests. The Kit having between 10 and 25 year life would therefore not require regular checking and so reduces the probability of coming into contact with un insulated cables (Remember the Risk calculation)

A further refinement is the inclusion of timers turning off at Midnight and back on at 5.30am.

This had a cost of £23k and saved an annual power cost of just under £700 pa and shifting to close down between midnight and 5.30 would save around another £120pa in electricity costs.

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County proposal to take over the lighting.

SCC offered to take over the lighting system, if we paid to upgrade the existing lights and create a “System” with additional infill lights. This required a lamp about every 50metres and would have cost around £80k to implement.

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Issues of LED lights

1. May require new support framework.
2. Above may not be acceptable on existing UKPN poles.
3. Light pool is very different and more focused. Less spill.
4. Cannot in practice be run from Solar panels as the large area required to service the winter needs cannot be post mounted. Battery systems have an ongoing replacement cost, or much higher capital cost.

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Proposal to view the lighting set up we have.

Meet this Wednesday / Monday / or Tuesday evenings at 7.30pm at the Goldenlond/ Crossfield Garage area.

Proposal to view LED lit areas

Nayland some units

Assington almost blanket coverage

Arrange transport and date / time