BARTON WILLMORE

7 Soho Square
London
W1D 3QB

t 020 7446 6888
f 020 7446 6889

Steve Clarke
Principal Planning Officer
Maidstone Borough Council
Maidstone House
King Street Maidstone
Kent
ME15 6JQ

18685/A3/RM/ak

2nd February 2010

Dear Mr Clarke,

RE: CSC MAIDSTONE - UPS UPGRADE PROJECT – PEGASUS PLACE, LODGE ROAD, BOXLEY, PLANNING APPLICATION REF: 09/1569

Thank you for your email dated 1st February covering your meeting with a local resident last week. We understand that both yourself and the Environmental Health Officer support CSCs proposal, which meets all requirements. Our comments on the points raised are as follows:

Sink the generator compound into the ground

Whilst it is technically possible to sink the generator compound into the ground it is not, in our view, nor a view that you or your EHO colleague shares, necessary to undertake to make the planning application acceptable.

In addition, and most importantly, it is not certain that improvements will be achieved over and above the proposals as they stand and which are acceptable from a technical point of view. In fact the situation could be made worse. In considering the proposition we have had regard to the following points:

- The generators are standby only and will only operate under emergency mains power loss circumstances.
- The proposed generator enclosures are superior in all respects to the existing containerised plant and will be considerably quieter and environmentally cleaner. Proposed generator acoustic enclosures are designed, with all engines running, to operate at 69 db at 1 metre, existing plant 85 DB at 1 metre per machine. This represents an audible difference in sound level, and associated with the additional screening there will be a considerable reduction in sound level over the existing plant.
- Generators of this size require large amounts of air for cooling and for combustion (31.5 cubic m/sec/generator). If they are enclosed in a pit, the cooling radiators will have to be placed at ground level to get the required amount of air through them,

and to keep the pit to an acceptable plan size. Presently all of the cooling plant is run off the engine which is enclosed and acoustically treated in the same container, by separating the cooling plant additional energy will be required to run cooling fans for remote radiators which will add noise in their own right.

- A pit with concrete retaining wall sides could create more problems with hard surfaces reflecting and focussing unwanted noise.

- If the pit is designed with battered sides, the area required increases considerably e.g. for a 2 metre deep pit we would need a 6 metre battered slope. There would be an additional loss of car parking spaces.

- Structurally because the site is constructed on the "Hythe beds" (Kentish ragstone) a hard rocky strata, the noise generated breaking the rock during construction would be substantial.

- The additional cost of sinking the generators would be in the region of £600,000.

The current scheme offers the best technical and cost effective solution and all of our modelling indicates that the plant meets planning requirements. **After due consideration we will not be amending the submitted plans.**

Relocate the transformers to the east side of the new UPS building

Contrary to advice provided to the resident that your email refers to, the transformers have been placed to ensure cable flows and connections are kept without crossover or complication. To achieve what the resident requests will have knock on undesirable visual impact consequences and technically be very difficult to achieve in a cost effective manner. Again, in considering the feasibility of accommodating the request we have had regard to the fact that the existing proposal is acceptable technically as neither you nor your EHO has raised objection to the proposals and to the following points:

- 2 Mains cables enter and rise to the first floor HV switchgear on the first floor

- 6 Cables leave the HV switchgear, exit the building and connect to the transformers

- 28 Cables per transformer (6 transformers 168 cables) leave the transformers and travel in the floor void to the input switchboard on the ground floor

- From the input board overhead to the UPS using solid bus bar

- 3 Systems each with 32 cables exit the UPS and route into the existing building for connection to existing switchboards. Total 96 cables

- The complication with locating the transformers on the west side of the new building is the crossover of the 168 transformer cables, going back into the building, and the 96 UPS output cables leaving the building, which in order to overcome clashes the building would be required to be raised 1.5 metres to facilitate the crossovers. All transformer cables would need to route around the side of all switchgear panels because these stand on the structural floor not the raised floor. According to electrical regulations they are prohibited to pass through the switchgear. The Plan attached to this letter visually shows the cables and the points made above.

After due consideration we will not be amending the submitted plans. However, as set out below, are prepared to take residents concerns as best we can then proposing the enclose of the transformers.

Enclosing the Transformers

CSC has considered what it could do to help meet residents concerns. Whilst CSC cannot relocate the transformers to the east side of the proposed UPS Centre they are prepared **to totally enclose the transformers in acoustically treated enclosures**, at an additional cost of c£200,000. This could be secured by way of a condition on a planning permission.

Whilst CSC is of the view that this solution is not needed because the current proposal offers the best technical and cost effective solution they do want to help meet the concerns of residents. If Members do want to take up this solution and add a condition on the planning permission to such effect, then they should be aware that the downside of this decision is that forced cooling will have to be introduced to reject the heat generated by the transformers as opposed to free air cooling. This will introduce a new source of noise although will be within planning tolerances.

Chillers on the south side of the building

We understand the concern voiced by the neighbours about the introduction of further cooling plant onto the site. The plant in the new building will generate heat which will need to be rejected. In order to carry this out most effectively without causing nuisance, we propose the following:

- Oversized plant to ensure that it never works at maximum capacity.
- Selected new generation chiller compressors that utilise magnetic bearings as opposed to traditional roller bearings, which will reduce noise.
- Heat rejection fans are direct current motors, therefore very quiet.
- Increased the area of heat rejection coils to ensure low air flow and therefore low noise.

Our acoustic modelling using this plant has indicated no noise increase.

Landscape Buffer

CSC accepts the proposal to add a condition to any Planning Permission requiring the submission of a landscape scheme to enhance the boundary treatment to the East of the UPS building. Attached is a plan showing a potential scheme.

Conclusion

CSC take very seriously its impacts on neighbours and have sought to minimise noise generation from the proposals to a far more exacting standard than required by town planning or noise abetment legislation. We would hope that this approach is evident in the planning application submitted and the letters sent on 1 and 2 February.

If we can be of any further assistance prior to the committee meeting then please feel free to contact me.

Yours sincerely

ROBIN MEAKINS
Partner

Attached - Landscape Plan ref: 1226/503 Rev C2
- Transformers Plan ref: MD926-B-SK001 Rev 01

CC Steve Wilcox - MBC EHO