

# L.M. STRAUGHAN LIMITED

## HVAC & BMS Controls Specialist

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11<sup>TH</sup> AUGUST 2010

### RE: CHILLER SWAP OUTS, AND HVAC WORKS.

Nathan,

Following our recent conversations regarding the Chiller replacements at ODEON CINEMAS I have highlighted below each site separately with its relevant reasons for changing the plant.

#### CAMDEN TOWN, KETTERING, LEICESTER SQUARE AND MARBLE ARCH:

Replacing YORK YCAJ units for HITACHI units, the aged YORK units run on R22 refrigerant and are constantly developing leaks. As you may be aware the refrigerant R22 in its virgin state is banned, limited stocks of reclaimed refrigerant are available until 2014 but stocks are depleting rapidly now. At Leicester Square there are 2 units and only 1 is operational, the non operational unit is beyond repair and with such a high profile site both units need to be running with premiers and the like being staged there.

The proposed HITACHI chiller units run on R407C refrigerant and has a lower capacity more in line with the buildings requirements for cooling. In addition the overall size, noise criteria and electrical consumption falls more into line with new regulations for energy saving. The HITACHI unit also has a C.O.P of 3.5 which the existing YORK units do not have. This alone will show a dramatic energy saving and coupled with the reduced capacity and stepped capacity controls Odeon will see a dramatic reduction in their energy usage.

#### DUNDEE AND LEE VALLEY.

The existing units at these sites are once again extremely oversized and over specified, the existing HITACHI chillers have each an over capacity of 200kw-300kw over respectively. They also run on R22 refrigerant as the above sites therefore the same applies.

The proposed AERMEC NRC1500 units have been selected to fall more into line with the building requirements on each site with a small allowance for diversity ( about 5%). Therefore their size, capacity, noise criteria and above all energy use shall show a dramatic decrease in energy consumption at both sites. Once again these units have a C.O.P of 3.5 and slightly above with the use of a storage tank fitted as standard.

With capacity reduced to correct levels and stepped electronic capacity controls the energy savings will be noted with immediate effect.

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5<sup>TH</sup> AUGUST 2010

**RE: CHILLER SWAP OUTS, AND HVAC WORKS.**

Nathan,

I have compiled a list attached showing the sizes and weights of the existing plant and the replacement plant we are proposing to install.

I will send you the Holloway Tech subs when I have received them from SANYO.

On the Holloway Road site as you may have seen on the picture some units will be just swapped for new high tech plant, the new plant will be of the same type and size and some a lot smaller.

I hope this is some assistance.

Kind regards

Lee Straughan

Managing Director  
LM Straughan Ltd

## LM STRAUGHAN LTD

### ODEON CINEMAS REPLACEMENT CHILLERS COMPARISONS

Site	Old unit L	Old unit W	Old unit H	Old unit Kgs	New unit L	New unit W	New unit H	New unit Kgs	
<b>Camden Town</b>	2700 mm	2400 mm	2350 mm	4000	2190 mm	1900 mm	2340 mm	1560	
<b>DUNDEE</b>	11000	2300 mm	2400 mm	6000	4250 mm	4250 mm	2450 mm	2765	
<b>Kettering</b>	2700 mm	2400 mm	2400 mm	4000	3200 mm	1900 mm	2340 mm	2830	
<b>Lee Valley</b>	11000 mm	2300 mm	2400 mm +600 mm steel	6250	4250 mm	4250 mm	2450 mm	2765	
<b>Leicester Square X 2</b>	2700 mm	2400 mm	2350 mm	4000	2190 mm	1900 mm	2340 mm	1560 X 2	
<b>Marble Arch</b>	2700 mm	2400 mm	2350 mm	4000	3200 mm	1900 mm	2340 mm	2830	