



**Assumption used during SBEM 'Design Stage' BRUKL compliance calculations**  
**Project: IMRI - Great Ormond Street Hospital**  
**Date / Version: 25 January 2019 / Ver. 05**  
**Building Regulations: L2B 2013**

Element	Information used at 'Design' stage	Information required at 'As-Built' stage
Power Factor	>0.95	Letter confirming installation and value
Exposed walls	Maximum 0.15W/m <sup>2</sup> K, Km* defaulted	Letter confirming actual construction details including U-value and Km*-values
Exposed/Semi exposed Roof	Maximum 0.15W/m <sup>2</sup> K, Km* defaulted	As above
Ground Floor	Maximum 0.15W/m <sup>2</sup> K, Km* defaulted	As above
Accredited/Enhanced Construction Details	Default	N/A
Drawings	As per drawings provided	Letter confirming drawings have not changed
Air Tightness	Maximum 10.00 at 50 Pa (m <sup>3</sup> /hr-m <sup>2</sup> )	Air Pressure Test Certificate
Openings (W/m <sup>2</sup> K)	Max. 1.40 for glazing & 2.20 for the doors	Certificate of u-values including frame
Luminous efficacy	As per '1717 GOSH IMRI SBEM Lighting schedule_140417' document	Letter confirming installation as per document
Lamp Type	As above	As above
Sensors & Controls	As above	As above
Lighting Monitoring & Targeting	Yes, with Alarm for 'out-of-range' values	Letter confirming installation
Heating/Cooling (minimum efficiencies)	<b>CHP</b> Efficiency of plant (ratio) 0.780 Heat to power ratio 1.004 <b>LST radiators</b> from Boiler/CHP. Existing <b>Boiler</b> efficiency is 84.2% (88% used which includes an additional 4% for controls). <b>Chiller</b> efficiency EER/ESEER 2.60/5.11 <b>VRF</b> system COP/EER of 4.28/3.70	Letter of confirmation
Controls	BMS	Letter of confirmation
Mechanical	<b>AHU 1</b> Ductwork CEN Class A AHU leakage CEN Class L1 SFP 1.60 W/l-s <b>AHU 2</b> Ductwork CEN Class A AHU leakage CEN Class L1 SFP 1.51 W/l-s <b>AHU 3</b> Ductwork CEN Class A AHU leakage CEN Class L1 SFP 0.75 W/l-s	Letter of confirmation
HVAC Monitoring & Targeting	Yes, with Alarm for 'out-of-range' values	Letter confirming installation
Heat Recovery system	<b>AHU 1</b> Plate exchanger, 70.5% efficiency <b>AHU 2</b> Plate exchanger, 70.8% efficiency <b>AHU 3</b> None	Letter of confirmation
Extract (only)	0.50 (W/l-s) in Toilets. 0.80 for Sterile room.	Make/model number including a confirmation letter
Hot Water System	From CHP (89%) and Boiler (11%)	Letter of confirmation
Renewables	None	N/A
BREEAM Rating	'Excellent' level rating achieved with 5 credits (see 'BREEAM Calculation' on next page)	'As-Built' stage BRUKL report

\*Kappa values (Km) - This is the Thermal Mass or Heat Capacity (KJ/m2-K) as defined in EN ISO 13790.

