#### Kiran Singh

From:

Alex Bosman

Sent:

31 July 2013 16:37

To:

'Sharon.Fisher@rbkc.gov.uk'

Cc:

Siobhan Rumble; Sacha Jevans; Peter Maddison; Alasdair Manson

Subject: Attachments: RE: Claim Reference: N3TPC000006 Elec repair order 2.13 onwards.xlsx

Hi Sharon,

Please see attached Electrical repairs from February 2013 onwards relating to electrical works at Grenfell Tower.

Please let me know if there is any further information required.

Thanks,

Alex

Alex Bosman

Head of Contract Management Kensington & Chelsea TMO 292a Kensal Road



W10.5RE

From: Alex Bosman Sent: 29 July 2013 15:17 To: 'Sharon.Fisher@rbkc.gov.uk'

Cc: Siobhan Rumble; Sacha Jevans; Peter Maddison; Alasdair Manson

Subject: RE: Claim Reference: N3TPC000006

Hi Sharon,

Thanks for forwarding this letter; I am working to pull all the information together.

- Please see attached most recent block PIR which is dated 4.5.2010 and the completion certificate following the recent works. These were both carried out by our contractor RGE.
- We are currently preparing the repair history for the block and will be able to forward shortly.
- The Damage to the bus bars on the Ryfield boards was cause during investigation into the surges. These have now been made good.
- Grenfell Tower was built in 1975 and the electrics are original as installed at the time.

- The poor connection would arise over time; as the connection heats and cools depending on electrical load over the years the connection deteriorates.
- Following the reports on the 10.5 and the 16.5 electrical inspections were carried out within the individual flats with no faults found. UK Power Networks were contacted to investigate the reports of surges on the power supply side and reported that no faults could be found on the supply to the building, at this time it was not clear if the fault was within the individual properties or on the block supply.

I hope this information answers your questions and will forward the repair/compliant history once its compiled.

Please do not hesitate to contact me with any further questions.

Thanks,

Alex

Alex Bosman

Head of Contract Management Kensington & Chelsea TMO 292a Kensal Road W10 5BE



							Trade				
							code Descri				
	Repair	Logged		Current	Priority		ption for	Location code	SOR #tem		
Address line 2	number	<b>date</b>	Repair header. Repair description	ttage	code	wforcename	code	.Description for code	no.	WO fine.Repair description	Description line 1
GRENFELL ROAD	201242764	04/02/2013	ATTEND SITE TO RENEW ELECTRICAL SUPPLY THE WATER BOOSTER SET	5	2	RGE SERVICES	ELECTRICAL	PLANT ROOM	MANMA	SOR CODE FOR MANUAL WORKS DROERS	SOR CODE FOR MANUAL WORKS ORDERS
LANCASTER WEST ESTATE	201302331	13/04/2013	OOHRS CALL NUMH - DATE: 13/04/13 - TIME: 08:43	35	ОН	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	SEE NOTE	ELE120	RCD SOCKET REF. CRA 2426/03BGAND TEST; SUPPLY AND INSTALL.	RCD socket Ref. CRA 2426/03BGand test; Supply and install.
LANCASTER WEST ESTATE	201302521	17/04/2013	OOHRS CALL NUM; COMME - DATE: 12/04/13 - TIME: 21:10	35	OH	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circuitincluding check and reset fus	Rectify fault in power circuitingfuling check and reset fus
LANCASTER WEST ESTATE	201303783	24/04/2013	RECTIFY FAULT IN POWER CIRCUIT	35	N	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circuitingluding check and reset fus	Rectify fault in power circultingluding check and reset fus
LANCASTER WEST ESTATE	201304824	01/05/2013	RECTIFY FAULT IN POWER CIRCUIT	19	Ŋ	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	BATHROOM	ELEOLE	Rectify fault to power circultinaiding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	201306022	13/05/2013	RECTIFY FAULT IN POWER CIRCUIT	15	3	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circuitincluding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	201306637	15/05/2013	OOHRS CALL NUM;	35	OH	WILLMOTT DIXON PARTNERSHIPS LT	FLECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circultinoluding check and reset fus	Rectify fault in power circultincluding check and reset fus
LANCASTER WEST ESTATE	201307084	20/05/2013	RECTIFY FAULT IN POWER CIRCUIT	35	u	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	BATHROOM	ELEO13	Rectify fault in power circultingluding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	201307179	20/05/2013	RECTIFY FAULT IN POWER CIRCUIT LIGHTS	35	U	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circultingluding check and reset fus	Rectify fault in power circultincluding check and reset lus
LANCASTER WEST ESTATE	201307209	20/05/2013	RECTIFY FAULT IN POWER CIRCUIT AFFECTING LIGHTING THROUGHOUT	35	N	WREMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circultincluding check and reset fus	Rectify fault in power circuitingluding check and reset fus
GRENFELL ROAD	201307655	22/05/2019	SUPPLY AND INSTALL ENERGY MONITORING EQUIPMENT	5	2	RGE SERVICES	ELECTRICAL	ELECTRICAL INTAKE CB	MANMA	SOR CODE FOR MANUAL WORKS ORDERS	SOR CODE FOR MANUAL WORKS ORDERS
GRENFELL ROAD	201307823	23/05/2013	SUPPLY INSTALL COMMISSION SURGE PROTECTION EQUIPMENT	5	2	RGE SERVICES	ELECTRICAL	ELECTRICAL INTAKE CB	MANMA	SOR CODE FOR MANUAL WORKS ORDERS	SOR CODE FOR MANUAL WORKS ORDERS
LANCASTER WEST ESTATE	201308003	3 28/05/2013	RECTIFY FAULT IN POWER CIRCUIT - BATHROOM	35	E	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	BATHROOM	ELEO13	Rectify fault in power circultincluding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	201308266	29/05/2013	RECTIFY FAULT IN POWER CIRCUIT	35	E	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circuit/neluding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	201308272	29/05/2013	RECTIFY FAULT IN POWER CIRCUIT-LOST OF ELECTRICITY TO FLAT	35	£	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO33	Rectify fault in power circultinglyding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	201308275	29/05/2013	RECTIFY FAULT IN POWER CIRCUIT	35	Ε	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	LIVING ROOM	ELEC13	Rectify fault in power circuitingluding check and reset fus	Rectify fault in power circultincluding check and reset fus
LANÇASTER WEST ESTATE	20130840	8 80/05/2013	RECTIFY FAULT IN POWER CIRCUIT	35	E	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	SEE NOTE	ELEC13	Rectify fault in power circuitingluding check and reset fus	Rectify fault in power circultincluding check and reset fus
LANCASTER WEST ESTATE			B FAULTY ELECTRIC SHOWER	35	U	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	BATHROOM	MANMA	SOR CODE FOR MANUAL WORKS ORDERS	SOR CODE FOR MANUAL WORKS ORDERS
LANCASTER WEST ESTATE	20130846	2 30/05/201	RECTIFY FAULT IN POWER CIRCUIT	35	E	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	KITCHEN	ELEC13	Rectify fault in power circultingluding check and reset fus	Rectify fault in power circultincluding check and reset fus
LANCASTER WEST ESTATE	201308493	3 29/05/201	3 OOHRS CALL NUM: # DATE: 29/05/13 TIME: 18:27	35	ÓН	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	MANMA	SOR CODE FOR MANUAL WORKS ORDERS	SOR CODE FOR MANUAL WORKS ORDERS
LANCASTER WEST ESTATE	201308500	30/05/201	B RECTIFY FAURT IN POWER CIRCUIT	14	Ε	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEC13	Rectify fault in power circultincluding check and reset fus	Rectify fault in power circultincluding check and reset fus
LANCASTER WEST ESTATE	20130850	4 29/05/201	B DOHRS CALL NUM: 1000000 DATE: 29/5/13 TIME: 20:11	35	OН	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	MANMA	SOR CODE FOR MANUAL WORKS ORDERS	SOR CODE FOR MANUAL WORKS ORDERS
LANCASTER WEST ESTATE	201308503	5 30/05/201	B RECTIFY FAULT IN POWER CIRCUIT	14	E	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Restify fault in power circultincluding check and reset fus	Rectify fault in power circultinaluding check and reset fus
LANCASTER WEST ESTATE	20130658	8 30/05/201	BATHROOM LIGHT NOT WORKING AFTER POWER PROBLEM	35	U	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	8EDROOM	ELEO13	Rectify fault in power circuitincluding check and reset fus	Rectify fault in power circultincluding check and reset fus
GRENFELL ROAD	20130953	4 06/06/201	B EST LIGHT - EMERGENCY CALLOUT ATTEND IN 4HRS COMP IN 24HRS	5	6	RGE SERVICES	ELECTRICAL	EXTERNAL	CLEO02	EMERGENCY CALL OUT - ESTATE LIGHTING - ATTEND WITHIN 4 HRS -	EMERGENCY CALL OUT - ESTATE LIGHTING - ATTEND WITHIN 4 HRS -
LANCASTER WEST ESTATE			3 RECTIFY FAULT IN POWER CIRCUIT	35	U	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEC13	Rectify fault in power circultincluding check and reset fus	Rectify fault in power circultinduding check and reset fus
LANCASTER WEST ESTATE			B RECTIFY FAULT IN POWER CIRCUIT	19	ü	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	BATHROOM	ELFO13	Rectify fault in power circuit including check and reset fus	Rectify fault in power circultincluding check and reset fus
LANCASTER WEST ESTATE			3 RECTIFY FAULT IN FOWER GROUP	35	NF	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	BATHROOM	ELEO13	Rectify fault in power circultincluding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE			3 OOH 19/6 NO POWER THROUGHOUT PROPERTY	35	OH	WILLMOTT DIXON PARTNERSHIPS LT		THROUGHOUT	ELEGIS	RECTIFY FAULT IN POWER CIRCUITING UNDING CHECK AND RESET FUS	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE	20131238	5 25/06/201	3 FAULTY ELECTRICS IN FLAT TO RECTIFY - MOST PLUGS DON'T WORK	35	N	WILLMOTT DIXON PARTNERSHIPS LT	ELECTRICAL	THROUGHOUT	ELEO13	Rectify fault in power circultincluding check and reset fus	Rectify fault in power circuitincluding check and reset fus
LANCASTER WEST ESTATE			3 ESTATE LIGHTING - URGENT ATTEND AND COMP WITHIN 5 DAYS	5	7	RGE SERVICES	ELECTRICAL	EXTERNAL	CF5003	URGENT - ESTATE LIGHTING - ATTEND AND COMPLETE WITHIN 5 DAYS	URGENT - ESTATE LIGHTING - AFTEND AND COMPLETE WITHIN 5 DAYS
GRENFELL ROAD	20131294	7 28/06/201	3 EST LIGHT - EMERGENCY CALLOUT ATTEND IN 4HRS COMP IN 24HRS	3	6	RGE SERVICES	ELECTRICAL	COMMUNAL AREA	CFE003	EMERGENCY CALLOUT - ESTATE LIGHTING - ATTEND WITHIN 4 HRS -	EMERGENCY CALL OUT - ESTATE LIGHTING - ATTEND WITHIN 4 HRS -

Fax:-

## **ELECTRICAL INSTALLATION CERTIFICATE**

Issued in accordance with British Standard BS 7671 - Requirements for Electrical Installations

			Certificate Reference	Gren	fell Tower / 1	45002
1. DETAILS OF TH Client Address: The	IE GETENT Royal Borough of Kensi	ngton & Chelsea , TM	O, Network Hub, 292a	Kensal Road	, London, W10	5BE
24 DETATILS OF TH	HETNSTALLATION					
Installation Address:	Grenfell Tower, Grenfel	l Road, London, W11	1TQ			
Extent of the installation covered by this certificate:	New CC1H120mm MICC su riser cupboard.	pply cable from domest	ic riser sub-mains service	e head 2.to rise	r enclosure in v	valkway
The installation is:	New MA An addit	ion N/A An ai	teration 🗸			
3. DESIGN						
I/We being the person(s) particulars of which are o that the design work for 7671:2008, amended to	lescribed above, having e which I/we have been re	exercised reasonable : ponsible is to the best	skill and care when car : of my/our knowledge	rying out the	design, hereb	y CERTIFY
Details of departures from			NVA			
The extent of liability of t For the DESIGN of the		is limited to the work	described above as the	e subject of the	nis certificate,	
Name: N/A	I and the second	N/A	Signature:	N/A	Date:	N/A
Where there is divided				100		
Name: N/A	rosition,	N/A	Signature:	N/A	Date:	N/A
4. CONSTRUCTIO		unation of the plants	al lastallatina for india	abad bu mula		hala (A
I/We being the person(s) particulars of which are d CERTIFY that the constru	escribed above, having e	xercised reasonable s	kill and care when carr	ying out the	construction, I	nereby
accordance with BS 7671					e dila beller ili	
Details of departures from	o BS 7671 (Regulations 1	20 3 133 5):	N/A			
The extent of liability of t			described above as the	subject of the	is certificate.	
For the CONSTRUCTION	Tarabasa T	0.115-15		U Table 1	B	/07/00##
Name: Bob Gre		Qualified Supervisor	Signature:	#-	Date: 09	/07/2013
5. INSPECTION A /We being the person(s)	CONTRACTOR DESIGNATION AND ADMINISTRA	ction and testing of t	ne electrical installation	ı (as indicated	i by my/our si	onatures
pelow), particulars of whi esting, hereby CERTIFY I	ch are described above, i	naving exercised reas isting work for which	onable skill and care w I/we have been repons	hen carrying in the last the last the last the last to the last to the last to the last the l	out the inspec best of my/ou	tion and r
knowledge and belief in a	ccordance with BS 7671:	2008, amended to 20	11 except for the depa	irtures, if any	, detailed as f	ollows.
Details of departures from	n BS 7671 (Regulations 1	20.3, 133.5):	N/A			
The extent of liability of t			described above as the	subject of th	is certificate.	
or the INSPECTION A lame: Bob Gree	7	<b>tallation:</b> Qualified Supervisor	Signature:	Λ	Date: 09	/07/2013
Report reviewed and c		Quantica capervisor	Jognature: [	<i>₩</i>		, 0., 20.0
lame: Bob Gree	ene <b>Position:</b>	Qualified Supervisor	Signature:	<u> </u>	Date: 09	/07/2013
DESIGN, CONS	RUCTION, INSPE	CTION AND TES	ijne		35 - W 35	
/We being the person(s) by my/our signatures belo	ow), particulars of which	are described above.	having exercised reaso	nable skill an	d care when c	arrying
out the design, construction the best of my/our kno						
letailed as follows.			11.0			
etails of departures from he extent of liability of the			M/A described above as the	subject of th	ls certificate	
or the DESIGN, the CO					y compact.	
lame: N/A	Position:	iv/A	Signature:	N/A	Date:	87/\
teport reviewed and co	7.	N/A	Signature:	N/A	Date:	11/A
TOTAL CONTROL OF THE PARTY OF T	Position:	17775	Signature:	147.71	Date:	
NEXT INSPECTI /We the designer(s), REC	OMMEND that this instal	ation is further inspe	ted and tested after a	n j	2 Months	
nterval of not more than: his form is based on the i		6 of BS 7671:2008 a	imended 2011.	<u> </u>		age: 1 of 7

	THE ELECTRICAL (						
	ding Title: RGE Services	Ltd		Registration l	Uumbar		
Address:	19-21 Roebuck Road Hainault Business Park			(if applicable			
	Essex			Telephone Nu	ımber:	<b>-</b>	
APPROVED CONTRACTOR		stcode: IG6 3T	U				
	ding Title:						
Address:				Registration f			
	Pc	stcode:		Telephone Nu	imber;		
Construction Tra	ding Title:						
Address:	<del>Åone sureup name</del> r			Registration 1			
				(if applicable)			
	_			Telephone Nu	mber:		
Inspection		stcode:					
and Testing   Ira: Address:	ding Title:			D - 1-1 1 - 1			
				Registration N (if applicable)			
				Telephone Nu	mber:		
		stcode:					
HEADY IN COLUMN THE REAL PROPERTY OF THE PERSON OF THE PER	RACTERISTICS AN ober and Type of Live	<del>George and Anti-Anti-Anti-Anti-Anti-Anti-Anti-Anti-</del>	de de la company	EMENTS ture of Supply	, ,	Character	istics of
Type(s) ¦	ac: 🗸	dc: N/A	Nominal	Parameters		Primary Overcurrent	Supply Protective
TN-S / 1-pha: (2 win	e): N/A (3 wire): N/	2 pole: N/A	voltage(s):		1	Devic	
TN-C-S N/A 2-phai (3 win	e): N/A	3 pole: N/A		frequency, f: ive fault	50 Hz BS		? Fuse HRC
TNC N/A 3-pha	e): (4 wire):	Other: N/A	current,	lpf:	1.21 kA		gG
TI N/A Cother:	N/A	] 		earth fault edance, Ze:	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	ted current:	400 A
IT N/A Confin	mation of supply polarity		Number	of supplies:	2 <b>ca</b>	pacity:	80 k/
	RS OF INSTALLATI						
Means of Earthing Distributor's facility:	Type;	tails of Installati	on Earth E Location:	lectrode (whe	re applicab	le) N/A	
Installation earth electrode:	Electrode	V/A Ω	Method of measuren			N/A	
Maximum Demand (Loa	id): N/A N/A : tch or Circuit-Breaker	Protective measu		st electric shock ng and Protect		ADS	
Type P/A		Earthing	g conducte	or	nductor -	Contir	uity &
Number of NAA	Rated N. Current, In:	A material		csi		∆ mm² conne verifie	
Supply conductors N/A	RCD operating	Conducty	or	onding conduction Co	nductor	2 conne	
material: Supply	PCD operating	Bonding	g of extran	eous-conducti	ve parts	Vernie	
conductors   V/A m csa:	m <sup>2</sup> time:	ms water service:	N/A	Gas service: M/A	Oil service:	U/A Drotec	
		Structura Steel:		Other incoming service(s):		NZA	
11. COMMENTS	ON EXISTING INS	TAPPATION					
Would suggest monitor	ring all rising main conr	nections whilst su	rrounding	building works	ongoing. Vi	bration prese	nt. Existing
his form is based on th	e model shown in Appen	dix 6 of BS 7671:2	2008 amend	led 2011. Ref: 0	renfell Towe	er / 145002	Page: 2 of 7

**IWS00002253/5** IWS00∪∪∠∠⊍3\_∪∪∪∪

12. SCHEDULE OF ITEMS INSPECTED	
Methods of protection against electric shock  Both basic and fault protection:	Prevention of mutual detrimental influence  (a) Proximity of non-electrical services and other influences
N/A (I) SELV	(b) Segregation of Band I and Band II circuits or use of Band II insulation
V/A (ii) PELV	(c) Segregation of safety circuits
LIM (iii) Double or Reinforced Insulation	Identification    NAC   Presence of diagrams, instructions, circuit charts and
Basic protection: (i) Insulation of live parts	similar information
	Presence of danger notices and other warning notices
LIM (ii) Barriers or enclosures	Labelling of protective devices, switches and terminals
N/A (iii) Obstacles **	N/A Identification of conductors
V/A (iv) Placing out of reach **	Cables and Conductors  Selection of conductors for current carrying capacity and voltage drop
Fault protection: (i) Automatic disconnection of supply	N/A Frection methods
✓ Presence of earthing conductor	Routing of cables in prescribed zones or within
V/A Presence of circuit protective conductors	mechanical protection      Cables incorporating earthed armour or sheath, or run
97/A Presence of main protective bonding conductors	within an earthed wiring system, or otherwise adequately protected against nails, screws and the like
N/A Presence of earthing arrangements for combined protective and functional purposes	Additional protection provided by 30mA RCD for cables in
Presence of adequate arrangements for alternative	concealed walls (where required in premises not under the supervision of skilled or instructed persons)
source(s), where applicable  N/A FELV	
/ Choice and setting of protective and monitoring devices	✓ Connection of conductors
(for fault protection and/or overcurrent protection)	Presence of fire barriers, suitable seals and protection against thermal effects
(ii) Non-conducting location **	Seneral   Presence and correct location of appropriate devices for
Absence of protective conductors	Adequacy of access to switchgear and other equipment
(iii) Earth-free local equipotential bonding **	Particular protective measures for special installations
Presence of earth-free local equipotential bonding	Connection of single-pole devices for protection or
(iv) Electrical Separation	switching in line conductors only
Provided for 'one item' of current-using equipment  Provided for 'more than one item' of current-using	✓ Correct connection of accessories and equipment
equipment **	Presence of undervoltage protective devices
Additional protection:  Who Presence of residual current device(s)	Selection of equipment and protective measures appropriate to external influences
a reserve or residual content de rica(s)	Selection of appropriate functional switching devices
** For use in controlled supervised/conditions only	
13. SCHEDULE OF ITEMS TESTED	Protection against direct contact by barrier or enclosure
External earth fault loop impedance, Ze	provided during erection
Installation earth electrode resistance, RA	Tribulation of their Conducting hours of Halis
✓ Continuity of protective conductors	√ Rolaritý
74.90.00 (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	✓ Earth fault loop impedance, Zs
	√ Verification of phase sequence
✓ Insulation resistance between live conductors ✓ Insulation resistance between live conductors and earth	Operation of residual current device(s)
V Control of the Cont	√ Functional testing of assemblies
Protection by separation of circuits	Verification of voltage drop

All boxes must be completed. 'tick' indicates that an inspection or test was carried out and that the result was satisfactory. 'X' indicates than an inspection or test was carried out and the result is not satisfactory. 'N/A' indicates that an inspection or test was not applicable to the particular installation. 'LIM' indicates that, exceptionally, a limitation agreed with the person ordering the work prevented the inspection or test being carried out.

This form is based on the model shown in Appendix 6 of BS 7671:2008 amended 2011. Ref: Grenfell Tower / 145002 Page: 3 of 7

Tel:- Fax:-

stribu	tion board designation:	Sei	rvice l	Heac			Cardadan Pro-	Location:		Maii	n Intal	ke roor	
			-		condi	cuit uctors: sa	t time S7671	Overcum d	ent p evice	rotecti s	ve	RCD	
Greult number and phase	Circuit designation	Type of wining	Reference Method	Number of points served	Live mm2	cpc mm <sup>2</sup>	Max disconnect time permitted by BS7671	BS(EN)	Type No	⊅ Rating	Y Short-circuit Y Capacity	S Operating	S Maximum Zs
1 L1	Ground to tenth floor Flat Ryfields	Н	F	1	120	37	5	88-2	gG	400	80	N/A	N/
1 L2	Ground to tenth floor Flat Ryfields	н	F	1	120	37	5	88-2	gG	400	80	N/A	N/
1 L3	Ground to tenth floor Flat Ryfields	н	F	1	120	37	5	88-2	gG	400	80	N/A	NZ
		·										()	
·		.A	v 18. 4		100					, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		Viv.	
: : : : : : : : : : : : : : : : : : :				5 . 2 3 .		V.S.	N. 7.					1: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2:	
			. :						ì	·			
		1774.2											
N.		*-								`	* 3	1. 1	
				No. of the last contract of th				***************************************					
	Viring O-Other: N/A  DARD GHARACTERISTICS												
PLIES ply to rcurre	WHEN THE BOARD IS NOT CONNECTE  this distribution board is from:  ent protective device	D TC	THE C	gin	IN OF	THEI	N	LLATION o of phases: ating:	40	3 O A	Nomi Volta	nal	400
the di )	stribution circuit:  BS(EN):  BS(EN):  Non of supply polarity  75: N					RCD o	No	o of poles:			Ratin	Ac.	20052 / /\ ******

Tel: Fax:-

Fax:-

		න්ට්ට්ල් rd designa				Servic	е Неас	i <b>1</b>		Loc	ation:	Main Ir	ntake roc	om
		Circuit imp	edance:			Ir (recon	sulation d lower o	resistar or lowes	ice ( value)		Maximum measured	RC	D Operal times	ting
Circult number and phase	Ring f (meas	inal circuit ured end t	o end)	one con	rcuits lumn to pleted)	Line/ Line	Line/ Neutral	Line/ Earth	Neutral/ Earth	Polarity	earth fault loop impedance Zs	At In	At 5 In	Test button Operation
25 25 8 25	r1 (Line)	m (Neutral)	r2 (cpc)	R1+R2	R2	MΩ	MΩ	MΩ	MΩ	1	Ω	ms	ms	E P
1 L1	N/A	ŊZΔ	ANV	0.03	NZŽ	0.03	500>	500>	500>	✓	0.20	NJ / A	N/A	NZA
1 L2	NZA .	N/A	N/A	0.04	N/A	0.04	500>	500>	500>	✓	0.21	N/A	R/A	₩Æ
1 L3	N/A	W/A	N/A	0.05	N/A	0.05	500>	500>	500>	✓	0.22	N/A	N/A	∜/A
						V. 's	N.							
			\$4.	\ \ \ \ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				:3		4.1.4			
i		4,734			* * 2.		19.75		14.41,		71174			
			\ \		\					· · · · · · · · · · · · · · · · · · ·	1. 1.			
	į.										*** ****			***************************************
		7775												
	19.3										. ,			
														<del></del>
ZA D	≢PAIK	30ETE	3774	<u>जा</u> तगर	E7115									18/51
	Test In	struments		ate seria					e resistan	ce:		N/A		
nsulatio ontinuit	n resista v:	nce:			112 112		Earth f	ault loop	) impedai	nce:		RGE112 RGE112		
	SIED	BY Bob Greer	ne	Positi	on: Qu	ialified S	Supervis	or Sig	nature:		A-	Date	i 09/0	7/2013

IWS00002253/8

	UTFDEFATUS tion board designation:	Sei	rvice	Heac	12			Location:		Mai	n Intal	ke roor	n
			P		condu	cuit ictors: sa	t time 857671	Overcurn d	ent p evice	rotecti s	ve	RCD	357671
Grout number and phase	Gircuit designation	Type of wiring	Reference Method	Number of points served	Live mm <sup>2</sup>	cpc mm2	Wax disconnect time permitted by BS7671	BS(EN)	Type No	<b>≫</b> Rating	Short-draut Y Capacity	9 Operating	Maximum Zs permitted by BS7671
1	11th to 20th Flat Ryfields	Н	F	1	120	37	5	88-2	gG	400	80	N/A	N/Λ
2	11th to 20th Flat Ryfields	Н	F	1	120	37	5	88-2	gG	400	80	N/A	N/A
3	11th to 20th Flat Ryfields	Н	F	1	120	37	5	88-2	gG	400	80	NZA	3/A
								\$3.5					
									ì			1.	
											<u> </u>		
													m er remerementeler
													.,.,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
								1.15					
M-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1													
			enerum un annum									**************************************	
		_											
		<u> </u>											
						<u> </u>							
Tues -41	Wiring O-Other:	207506709											
	D CHARACTERISTICS		J										
APPLIE	6 WHEN THE BOARD IS NOT CONNECTE	D TC			IN OF	THE I	100000000000000000000000000000000000000						
Overcurr	o this distribution board is from:	en e	Orig	— Legislaniani sedan		wana an		o of phases:			Nomi		220
for the d	istribution circuit: DS(CN);	ecentary s	V: <del>weedsta</del> V/	nysene		sproperation		ating:	M/ N/		Volta	<b>9</b> 5.	230 V
RCD Confirma	BS(EN):  Ition of supply polarity N/A Zs: H		ı lpf:		kA	RCD c	Jackson	o of poles: ing At In:		ms	Ratin At 5		∕ mA // ms
	is based on the model shown in Appendix	-			J	<b>times</b> nded 2	011.F		<u> </u>				: 6 of 7

Tel: Fax:-

Fax:-

	RESU tion boa	STS rd designa	tion:			Servic	е Неас	12		Loc	ation:	Main Ir	ntake roo	om
		Circuit imp					sulation d lower (				Maximum measured earth fault	RC	D Operal times	ting
Circuit number and phase	Ring (meas	final circuit ured end t	s only o end)	fone co	rcuits lumn to pleted)	Line/ Line	Line/ Neutral	Line/ Earth	Neutral/ Earth	Polarity	loop impedance Zs	At In	At 5 in	Test button Soperation
	r1 (Line)	rn (Neutral)	r2 (cpc)	R1+R2	R2	MΩ	MΩ	MΩ	MΩ	1	Ω	ms	ms	TO RE
1	MAV	N/A	NZΑ	0.07	NEA	VZΑ	500>	500>	500>	✓	0.24	V/A	N/A	j\$/A
2	AVA	N/A	nj/A	0.05	N/A	AL/A	500>	500>	500>	✓	0.22	N/A	N/A	N/A
3	97A	N/A	\/A	0.05	(S/A)	6) / A	500>	500>	500>	✓	0.22	N/A	A W	VZA
~ · · · · · · · · · · · · · · · · · · ·														
· · · · · · · · · · · · · · · · · · ·								•						
· ···· · · · · · · · · · · · · · · · ·														=
	;													Magazine (1985 (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985) (1985)
													_	
77 7F 007 40 41 41 41														
							**************************************							
***														
etails c		TEST IN		tate seria		asset nu			resistan	ce;		N/A		
isulatio ontinuli	n resista ty:	nce:			E112 E112		Earth f	ault loop	) Impeda	nce:		RGE112 RGE112		
Φ= ame:	D) BY	Bob Gree	ne	Positi	on: Qu	ualified S	Supervis	or <b>Sig</b>	nature:		<u> </u>	Date	22 09/0	7/2013

IWS00002253/10

# PERIODIC INSPECTION REPORT (BS 7671:2008 as amended)

Client	Kensington & Chelsea	ТМО	Address	Charles house 375 Kensington high st London W14 8QH	reet	
Purpose of this report	Clients request					
Occupier Address	Kensington and Grenfell tower Grenfell tower			of premises	estic Commercial  x	industrial
	Grenfell road Lancaster west London W11 1TG	estate		Estimated age of the electr  Evidence of alterations or additions	ical installation  If yes estimated age	12 У <sup>лз</sup> N/A У <sup>лз</sup>
Date of previous Records of Installation avail		NOT KNOWN pre-	ctrical Installation Certifica vious Periodic Inspection I		N/A	
Extent of electric	cal installation covered by					
Agreed limitation	n of the inspection and te o access	sting				
within trunking a	and conduits, or cables ar orground have not been in	id conduits concealed under fi		as amended. Cables conceale merally within the fabric of the	d	
I/We, being the particulars of wh	person(s) responsible for nich are described above, that the information in this	having exercised reasonable report, including observations	skill and care when carryl soverleaf and the attached	as indicated by my/our signatur ng out the inspection and testi I schedules, provide an accura and the limitations of the insp	ng, ite assessment	
NSPECTION, TE	STING AND ASSESSME	NT BY:	Time in the second second	REPORT REVIEWED AND C	CONFIRMED BY:	
Signature	M Chasshar.		Signature	Dated		Y000011704980
Name I	M.Chessher		Name	D STEAD		
Position	ENGINEER		at product of a project			
Date	02/04/2010		Date	04/05/2010		Control and an analysis of the second

Copyright © AMTECH Power Software Ltd 1992 - 2008, FastTest Pro v9.2.1, RGE SERVICE

Page 1 of 1

54.2				and subject to the limitation		and Limitations section	
	No Remedial	work is required	*	The following o	bservations are made		
Item N	0						Code
1	No RCD protect	ion to intake SSo,	1 x RCD socket requ	ired, metal clad.			2
2	No up to date re	sus notices in inta	ke (main)				4
3	No insulated rub	ber matting in inta	ke (main) on floor				4
4	Co2 fire extingui	sher condemned					2
5	Circuit 1 DB LL1	l live cables, expos	sed circuits, unsafe				2
6	Circuit 3 MCB b	lowing faulty light					2
7	Grommet missin	g in bottom of DS	S0 close 20 mm 2 red	quired			4
8	Grommet missin	g in bottom of trur	king riser				4
					e and the law method as an assessment of the entertrans of the ent		
					- · · · · · · · · · · · · · · · · · · ·		
					and the second s		
			1.000 to \$ 450.00 a.c. a.c. a.c. a.c. a.c. a.c. a.c.				
Where of	bservations are mad ended	e the inspector will t	nave entered one of the	following codes against eac	ch observation to indicat	e the action (if any)	
		'requires urgent at 'requires further in		*requires improveme     *does not comply will		ended)'	
				This does not imply that			
Urgent R	emedial work recom	mended for Items:	N/A	Corrective ac	tion(s) recommended fo	ritems: 1,2,3,4,5,6,7,8	
UMA	RY OF THE IN	PECHONS:					
General	condition of the insta	liation					
Satisfa Rectifi	ectory ed circuit 1, item 1		er der Remeride andersondere Romanders deutsche Stadensche	ak yaya ada ada ada ada ay afaya kada ada ya ku ada ya ada ada ada ada ada ada ada ada		ి ప్రవేశించిన మొద్దులు మొద్దు మొద్దారు. అద్దారి ప్రవేశించి అదినే మొద్దులు మొద్దు కోర్టుకు అయిదే కే	
12.5	ed circuit 3, item 2						
ar G							[
Date(s) o	f the inspection		11/12/2009	Overall assesm of the installation		Satisfactory	
500000							

Page 2 of 14

Schedule of items schedules of items		Page 4	Additional pages, including additional source(s) data sheets	Pages NONE
NEXT INSPEC	that this installation is further insp			5 Years
delay. Observation	s attributed recommendation code  HE INSPECTION AND TE	e 2 or 3 should be acted or		
Address	19-21 Roebuck road Hainault Ilford Essex IG6 3TU		Telephone number  Fax number	
	ACTERISTICS AND PAR		NICEIC Enrolment No.  Branch No. (If applicable) N/A	
* System Type(s)	* Number and Type of 1.1		Nature of Supply Parameters  Nominal Voltage U 400 V Uo 230	* Supply protective device characteristics  (V) ES(EN)
TN-CS X TN-C X	1-Phase x 1-Phase (3 wire)  2-Phase x 3-Phase (3 wire)  3-Phase x 4 (4 wire)	x 2 Pole x 3 Pole x	Nominal frequency f 50 Hz  Prospective fault current to 2.09 kA  External loop ze impedance	1361 Fuse HBC Type 2 Nominal 400 A
* Means of Earthin	Other N/A  GENS ALLATON RESign Details	250,000,000,000,000,000,000	Number of supplies 1  SPRIFICATE  Actrode (where applicable)	Short circuit 88 KA
Distributor's facility Installation earth electrode	Electrode resistance, R A			re(s) against electric shock
No of poles  Supply conductors  Cop		400 V 400 A E	arthing and Protective Bonding Conductors rthing Main protective bon conductors  Copper Material Copper	Bonding of extraneous
material Supply conductors csa	current, I An  2 RCD  16 mm Operating time at, 1 An	N/A ms Continuity check	90 mm <sup>2</sup> csa 50 m	Oil Steel nm N/A N/A Lightning Other N/A N/A

<sup>\*</sup>Where a number of sources are available to supply the installation, and where the data given for the primary source may differ from other sources, a separate sheet must, be pro-vided which identifies the relevant information relating to each additional source.

e e e e e e e e e e e e e e e e e e e	OF TEND INSPECTED 150		
	VE MEASURES AGAINST ELECTRIC SHOCK	e note below Prevention	of mutual detrimental influence
	ve measures Adams; electric shock	r revenuou	Villowai veumpikai jillopike
	SELV	✓	Proximity of non-electrical services and other influences
		✓	Segregation of Band I and Band II circuits or Band II insulation used.
N/A	PELV		
N/A	Double or Reinforced insulation	N/A	Segregation of Safety Circuits
		identification	חכ
Basic protec	tion	<b>√</b>	Presence of diagrams, instructions, circuit charts and
<b>·</b>	Insulation of live parts		similar information
7	Barriers or enclosures	<b>\</b>	Presence of danger notices and other warning notices
		<b>₹</b>	Labelling of protective devices, switches and terminals
N/A	Obstacles **		
N/A	Placing out of reach **	<b>V</b>	Identification of conductors
		Cables and	Conductors
Fault protect Automatic di	lion sconnection of supply	✓	Selection of conductors for current-carrying capacity and voltage drop
· /	Presence of earthing conductor	<b>√</b>	Erection methods
	resolve a salung connect		Floring (10)149
<b>/</b>	Presence of circuit protective conductors	N/A	Routing of cables in prescribed zones
· ·	Occurs dealers with the dealers of the		Cables incorporating earthed armour or sheath or run in an
<b>Y</b>	Presence of main protective bonding conductors	<b>Y</b>	earthed wiring system, or otherwise protected against nails, screws and the like.
N/A	Presence of earthing arrangements for combined protective and functional purposes	N/A	Additional protection by 30mA RCD for cables concealed in walls (where required, in premises not under the supervision
			skilled or instructed persons)
N/A	Presence of adequate arrangements for alternative source(s), where applicable	✓	Connection of conductors
N/A	FELV		Presence of fire barriers, suitable seals and protection
		✓	against thermal effects
<b>,</b>	Choice and setting of protective and monitoring devices (for fault protection and/or overcurrent protection)	General	
Non-conduct	ling location **		Presence and correct location of appropriate
N/A	Absence of protective conductors		devices for isolation and switching
Earth-free eo	ulpotential bonding **	✓	Adequacy of access to switchgear and other equipment
N/A	Presence of earth-free equipotential bonding	<b>,</b>	Particular protective measures for special
		•	installations and locations
Electrical seg		✓	Connection of single-pole devices for protection or switching in fine conductors only
N/A	For one Item of current-using equipment		Correct connection of accessories and equipment
✓	For more than one item of current-using equipment **	<b>Y</b>	construction of stressories and adolings
Additional pr	otection	N/A	Presence of undervoltage protective devices
<b>√</b>	Presence of residual current device(s)		Selection of equipment and protective measures
		<b>.</b>	appropriate to external influences
** For sealer	Presence of supplementary bonding conductors controlled supervised/conditions only		Selection of appropriate functional switching devices
	OF ITEMS TESTED 1 see note below		Basic protection by barrier or enclosure provided
<b>√</b> .	External earth fault loop impedance, Ze	N/A į	during erection
		N/A	Insulation of non-conducting floors or walls
N/A	Installation earth electrode resistance, RA	<b>✓</b>	Polarity
✓ ]	Continuity of protective conductors	<b>✓</b>	Earth fault loop Impedance, Zs
N/A	Continuity of ring final circuit conductors		
		<b>Y</b>	Verification of phase sequence
✓	Insulation resistance between live conductors	<b>√</b>	Operation of residual current devices
· · · · · · · · · · · · · · · · · · ·	Insulation resistance between live conductors and Earth	<b>✓</b>	Functional testing of assemblies
N/A			Verification of voltage drop

<sup>†</sup> All boxes must be completed

N/A to indicate the inspection is not applicable to a particular item LIM to indicate that exceptionally, a limitation agreed with the person ordering the work prevented the inspection being carried out

<sup>√</sup> to indicate an inspection has been carried out and the result was satisfactory.

<sup>\*</sup> to indicate an inspection has been carried out and the result is not satisfactory

	DETA	LETED IN EVER	RYCASE			ONLY T					BUTION BO			CONNEC	TED	
Location					Supply to			RECT	YTOTHE	ORIGIN	OF THE IN	10.00	500000	RCD (if a	nv)	
	ion board	ground f	ike room loor		distribution board is fro		N/A		-				EN) N/			
Distribut	tion	DD 4 CI			No of phas				al Voltage	N/A		RCI	) No		VA .	
board de	esignation	DB 1 GL	/1		Туре	nt protecti N/A	ive devic	e for th	e distributio	n circuit itina	N/A A	ofp			<b>V</b> A	
					BS(EN)				130	wiiy	A.	, KCL , l∆n	) rating,	1	V/A	mΑ
C/RGU	le Medicary	y s			1		T.		Max							
Circuit	Circuit			Туре	Refe-	No	cond	rcuit luctors	per- mitted	Ov	ercurrent pro	tective	device	I	RCD	Max. per-
number and	designa	ation		of wiring	rence method	of points	Live	sa cpc	disc- onnec- tion		BS(EN)	Type No	Rating	Short circuit	Op. curr-	mitt- ed Zs
phase						served			time					capa- city	ent L	
							mm <sup>2</sup>	mm	<b>5</b> 5				Α	kA .	Δn	Ω
1/L1	1st flr lift	lobby lights	· · · · · · · · · · · · · · · · · · ·	B	В	7	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
1/L2	2nd fir lif	t lobby lights		В	B	7	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
1/L3	3rd flr lift	lobby lights		В	В	7	1.5	1.0		3871	мсв	2	6	10	N/A	5.71
2/L1		lobby lights		В	В	7	1.5	1.0		····	MCB	2	6	10	N/A	5.71
2/L2		lobby lights		В	В	7	1.5	1.0		ļ	MCB	2	6	10	N/A	5.71
		lobby lights		В	В	7	1.5	1.0			MCB	2	6	10	N/A	5.71
3/L1 3/L2	ļ	lobby lights		ВВ	В	7	1.5	1.0		3871	MCB	2	6	10	N/A N/A	5.71
3/L2		lobby lights		В	В	7	1.5	1.0			MCB	2	6	10	N/A N/A	5.71 5.71
4/L1		t lobby light		В	В	<u>'</u>	1.5	1.0		ļ	MCB	2	6	10	N/A	5.71
4/L2		t lobby light		В	В	7	1.5	1.0		3871		2	6	10	N/A	5.71
4/L3		t lobby light		В	В	7	1.5	1.0	0.4	3871	мсв	2	6	10	N/A	5.71
5/L1	13th fir lif	t lobby light		В	В	7	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
5/L2	14th fir lif	t lobby light	·····	В	В	7	1.5	1.0	0.4	3871	мсв	2	6	10	N/A	5.71
5/L3	15th fir lif	t lobby light		В	В	7	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
6/L1	16th fir lif	t lobby light		В	В	7	1.5	1.0	0.4	3871	мсв	2	6	10	N/A	5.71
6/L2	17th fir lif	t lobby light	***************************************	В	В	7	1.5	1.0	0.4	3871	мсв	2	6	10	N/A	5.71
6/L3	18th fir lif	t lobby light		В	В	7	1.5	1.0	0.4	3871	мсв	2	6	10	N/A	5.71
7/L1	19th flr lif	t lobby light		В	В	7	1.5	1.0	0.4	3871	МСВ	2	6	10	N/A	5.71
7/L2	20th fir lif	t lobby light		В	В	7	1.5	1.0	0.4	3871	MÇB	2	6	10	N/A	5.71
7/L3	1st-5th fir	main stairs		В	В	10	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
		Ir main stairs		В	В	10	1.5	1.0	0.4	3871	***************************************	2	6	10	N/A	5.71
		Ifr main stairs		В	В	10	1.5	1.0	0.4	3871		2	6	10		5.71
	16th-20th	fir main stairs		В	В	10	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
alan kanada	A I	B	c	T	D	T	E	I	F	T	G	\$64.20	Н		0	٦
PVC		PVC cables in metallic conduit	PVC cables in non-metallic conduit		PVC cables netallic trunk		/C cable on-metal trunking	lfic	PVC/SWA cables		PE/SWA cables	ins	ineral sulated ables	C	Other	

Page 5 of 14

<del></del>	NA ESTA Paresta	ARGUE TE	AS FOR	<u> FIE INSI</u>	<u> LLANO</u>	<b>Y</b>		2926	(i = 1/4)	let			
O	NLY TO BE (	COMPLETED I						TEST	NSTRUME	NTS (	SERIAL NUME	BERS) USEI	)
		INSTAL	LATION			loo	rth fault p pedance	95)	<sup>7</sup> 1044.		RCD	957104	4.
Zs	N/A (	times o	•	1	N/A r	ns Ins	ulation	95	71044.		Other	N/A	
<b>lpf</b>	N/A k	A associat RCD (if	env) "'	licable)	N/A r	ns	istance					N/A	
		polarity N/A				Col	ntinuity	95/	'1044.		Other	IVA	
Circis										1			
Circuit		Greu	timpedances Ω				Insulation re	esistance		P	Maximum	RCD or tin	eraung 1es
number and	Ri	ng final circuits	only		rcuits					a	measured earth fault	At	At
phase	(m	easured end to	end)	col	ist one umn mpleted)	Line/ Line	Line/ Neutral	Line/ Earth	Earth/ Neutral		loop impedance	lΔn	<sup>5l</sup> ∆n
	7,	r <sub>n</sub>	<sup>5</sup> 2	R <sub>1</sub> +R <sub>2</sub>	R <sub>2</sub>					У			
	(Line)	(Neutral)	(cpc)	1 2	2	мΩ	мΩ	мΩ	мΩ		Ω	ms	ms
1/L1	N/A	N/A	N/A	0.71	N/A	N/A	200>	200>	200>	~	1.00	N/A	N/A
1/L2	N/A	N/A	N/A	0.60	N/A	N/A	200>	200>	200>	1	0.89	N/A	N/A
1/L3	N/A	N/A	N/A	0.65	N/A	N/A	200>	200>	200>	1	1.12	N/A	N/A
2/L1	N/A	N/A	N/A	0.53	N/A	N/A	200>	200>	200>	<b>√</b>	1.14	N/A	N/A
2/L2	N/A	N/A	N/A	0.67	N/A	N/A	200>	200>	200>	✓	1.08	N/A	N/A
2/L3	N/A	N/A	N/A	0.90	N/A	N/A	200>	200>	200>	✓	1.09	N/A	N/A
3/L1	N/A	N/A	N/A	0.83	N/A	N/A	200>	200>	200>	1	1.16	N/A	N/A
3/L2	N/A	N/A	N/A	0.57	N/A	N/A	200>	200>	200>	✓	1.23	N/A	N/A
3/L3	N/A	N/A	N/A	0.60	N/A	N/A	200>	200>	200>	<b>✓</b>	1.19	N/A	N/A
4/L1	N/A	N/A	N/A	0.69	N/A	N/A	200>	200>	200>	✓	1.07	N/A	N/A
4/L2	N/A	N/A	N/A	0.81	N/A	N/A	200>	200>	200>	✓	1.11	N/A	N/A
4/L3	N/A	N/A	N/A	0.90	N/A	N/A	200>	200>	200>	<b>✓</b>	1.13	N/A	N/A
5/L1	N/A	N/A	N/A	0.77	N/A	N/A	200>	200>	200>	✓	1.18	N/A	N/A
5/L2	N/A	N/A	N/A	0.83	N/A	N/A	200>	200>	200>	✓	1.30	N/A	N/A
5/L3	N/A	N/A	N/A	0.68	N/A	N/A	200>	200>	200>	✓	1.06	N/A	N/A
6/L1	N/A	N/A	N/A	0.71	N/A	N/A	200>	200>	200>	✓	1.74	N/A	N/A
6/L2	N/A	N/A	N/A	0.82	N/A	N/A	200>	200>	200>	<b>/</b>	1.66	N/A	N/A
6/L3	N/A	N/A	N/A	0.74	N/A	N/A	200>	200>	200>	<b>/</b>	1.17	N/A	N/A
7/L1	N/A	N/A	N/A	1.08	N/A	N/A	200>	200>	200>	<b>V</b>	2.00	N/A	N/A
7/L2	N/A	N/A	N/A	1.03	N/A	N/A	200>	200>	200>	<b>✓</b>	1.80	N/A	N/A
7/L3	N/A	N/A	N/A	0.86	N/A	N/A	200>	200>	200>	<b>V</b>	1.94	N/A	N/A
8/L1	N/A	N/A	N/A	0.92	N/A	N/A	200>	200>	200>	<b>✓</b>	1.86	N/A	N/A
8/L2	N/A	N/A	N/A	1.00	N/A	N/A	200>	200>	200>	<b>V</b>	2.02	N/A	N/A
8/L3	N/A	N/A	N/A	0.89	N/A	N/A	200>	200>	200>	<b>✓</b>	2.16	N/A	N/A
	ature	7	(Chushar				Position		ENG	SINEE	R		
Nam	ie	M.Ch	essher				Date of te	sting	04/0	5/201	0		

	DETAILS BE COMPLETED IN EVE	RY CASE			ONLYT					BUTION BO			CONNEC	TED.	
Location distribu	n of Main int tion board ground i	ake room floor		Supply to distribution board is fro		N/A					1	ociated I	RCD (if a	ny)	
Distribu board d	tion esignation DB 1 GI	L/1		No of phas Overcurrer Type BS(EN)				il Voltage e distributio	N/A in circuit ating	1	of p	) rating,		V/A	mA
cisci	IITOETALS)										ļ¹Δr	l .			
Circuit number and	Circuit designation		Type of viring	Refe- rence method	No of points	cond	rcuit luctors :sa	Max. per- mitted disc- onnec-		ercurrent pro	Туре			RCD Op.	Max. per- mitt- ed
phase			9	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	served	Live mm <sup>2</sup>	cpc mm²	tion time			No	Α	circuit capa- city kA	curr- ent l\Deltan	Zs Ω
9/L1	Lights in intake main		В	В	2	4	2.5	0.4	3871	MCB	2	32	10	30	1.07
9/L2	Lift lobby sockets 1-4		В	В	4	4	2.5	0.4	3871	мсв	2	32	10	30	1.07
9/L3	Lift lobby sockets 5-8		В	B	4	4	2.5	0.4	3871	мсв	2	32	10	30	1.07
10/L1	Lift lobby sockets 9-12		В	В	4	4	2.5	0.4	3871	MCB	2	32	10	30	1.07
10/L2	Lift lobby sockets 13-16	5	В	В	4	4	2.5	0.4	3871	МСВ	2	32	10	30	1.07
10/L3	Lift lobby sockets 17-20	)	В	В	4	4	2.5	0.4	3871	МСВ	2	32	10	30	1.07
11/L1	SPARE		-	-	-	-	-	-		-	-	-	_ <b>-</b>	-	-
11/L2	SPARE		-	-	-	-	-				: -	<u>.</u>	-	-	-
11/L3	Lights office staircase		В	В	6	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
12/L1	SPARE		-	-	-	_	-	-		-	: -	<u>-</u>	-	-	-
12/L2	SPARE		-	-	-	•	-	-		-		-	-	-	-
12/L3	Socket intake main		В	В	1	2.5	1.5	0.4	3871	MCB	<b>, 2</b>	20	10	N/A	1.71
13/L1	SPARE		-	-	-	-	-	-		-	-	-	-	_	-
13/L2	SPARE		-	-	•	-	-	-			-	-	-	-	-
13/L3	SPARE		-	-		-	-	-	ļ	-	-	-	-	-	-
14/L1	BT socket riser deck lev	/e	Н	С	1	2.5	1.5	0.4	60898	MCB	В	10	10	N/A	4.60
14/L2	Air con unit 2		F	С	1	4	35	0.4	60898	MCB	В	20	10	N/A	2.30
14/L3	Air con unit 1		Н	С	1	4	35	0.4	60898	MCB	В	20	10	N/A	2.30
15/L1	SPARE		-	-	-	-		-		-	-	-	-	-	-
15/L2	SPARE		-	-	-	-	-	-		<u> </u>	<u> </u>	-	-	-	-
15/L3	SPARE		-	-	-	-	-	-		-	-	-	-	•	-
16/L1	SPARE		-		-	-	-	-		-	<u> </u>	•		-	-
16/L2			-	•	-	-	-	-		_	-	-			-
16/L3				-		-	-	-		-	-	-	-	-	-
WERN	CODE														
PVC	A B C/PVC PVC cables in metallic conduit	C PVC cables in non-metallic		D VC cables tallic trunk		E /C cable: on-metal	lic	F PVC/SWA cables		G PE/SWA cables	ins	H ineral ulated		O Other	
		conduit	<u> </u>		<u>, J</u>	trunking			_		_ c	ables		Page 7	

Pro-reprovement of the second	idle (e) s edge elegiste	PIRCUIT TES	TEFOR!	HEINST	MLAFIO			2926	i3 - Ma	der			
C	ONLY TO BE	COMPLETED IF NECTED DIRECT						TEST	NSTRUM	ENTS	(SERIAL NUME	IERS) USEI	D
•	) NOT CORN	NECTED DIREC INSTALE		OKRINO	Inc	100		957	71044.		RCD	957104	l <b>4</b> .
Zs	N/A (	times of	<b>-</b>	Secretaria de Caracteria d	N/A r	ns Insi	oedance ulation	95	71044.		Other	N/A	
<b>l</b> pf	N/A k	A Associate RCD (if a	anvi ""	licable)	N/A n	ns	istance					N/A	
		ypolarity N/A	,			Cor	ntinuity	95	71044.		Other	NA	
(c) R(C)	10 (6-6) 6					1				1	1	l son -	3 (d. d)
Circult		Ulicun	itimpedances Ω				insulation re	:Sistance		P 0	Maximum		perating nes
number and phase	Ri	ing final circuits o	only		ircuits ast one			tion!		a r	measured earth fault loop	At	Al
Pillor	(m	neasured end to e	and)	colu	umn empleted)	Line/ Line	Line/ Neutral	Line/ Earth	Earth/ Neutral	1   1	impedance	lΔn	<sup>5j</sup> ∆n
	14	ſn.	· 12	R <sub>1</sub> +R <sub>2</sub>	R <sub>2</sub>					у			
	(Line)	(Neutral)	(cpc)			мΩ	мΩ	мΩ	мΩ		Ω	ms	ms
9/L1	N/A	N/A	N/A	0.42	N/A	N/A	200>	200>	200>	~	0.60	N/A	N/A
9/L2	N/A	N/A	N/A	0.39	N/A	N/A	200>	200>	200>	<b>✓</b>	0.48	18.0	17.3
9/L3	N/A	N/A	N/A	0.43	N/A	N/A	200>	200>	200>	<b>'</b>	0.51	17.0	16.6
10/L1	N/A	N/A	N/A	0.46	N/A	N/A	200>	200>	200>	<b>/</b>	0.52	19.1	17.6
10/L2	N/A	N/A	N/A	0.48	N/A	N/A	200>	200>	200>	✓	0.52	18.9	17.4
10/L3	N/A	N/A	N/A	0.44	N/A	N/A	200>	200>	200>	′	0.64	17.8	16.0
11/L1	-	-	-	-	-	-	-	-	-	•	-	-	-
11/L2	-	-	-	-	-	-	-	-	-		-	-	-
11/L3	N/A	N/A	N/A	0.46	N/A	N/A	200>	200>	200>	<b>V</b>	0.53	N/A	N/A
12/L1	-	-	-	-	-	-	-	-	-	•	-	-	-
12/L2	-	-	-	-	-	-	-	-	-	•	-	-	-
12/L3	N/A	N/A	N/A	0.24	N/A	N/A	200>	200>	200>	<b>√</b>	0.31	N/A	N/A
13/L1	-	-	-	-	-	-	-	-	-	•	-	-	-
13/L2	-	-	-	-	-	-	-	-	-	•	-	-	-
13/L3	-	-	-	-	-	-	-	-	-	•	-	-	-
14/L1	N/A	N/A	N/A	0.39	N/A	N/A	200>	200>	200>	<b>✓</b>	0.48	N/A	N/A
14/L2	N/A	N/A	N/A	0.42	N/A	N/A	200>	200>	200>	<b>V</b>	0.56	N/A	N/A
14/L3	N/A	N/A	N/A	0.47	N/A	N/A	200>	200>	200>	<b>~</b>	0.60	N/A	N/A
15/L1	•	*	-	•	•	•	•	-	-	•	-		•
15/L2	*	-	•	-	•	-	-	•	-	•	-	<b>-</b>	•
15/L3	-	-	-	-	-	-	-	-	-	•	-	-	
16/L1 16/L2	-	-	-	-	-	-	-	-	-	•	-	<u>-</u>	-
16/L3		-	_	-	_		-			_	_	-	_
HESTE	DPY									<u> </u>			
	nature	И	(Chusher.				Position		ENC	GINEE	E <b>R</b>		and the second
Nan	ne	M.Che	essher				Date of tes	sting	04/0	05/201	10		

	DETAILS BE COMPLETED IN EVER	Y CASE		ONLYT	O BE CO	MPLETE RECTLY	D IF THE	DISTRIBUTION BO	DARD I	S NOT O	CONNEC	TED	
Location distribut	of 1st floor r	iser cupboard	Supply distributionard I	tion	N/A					ciated f	RCD (If a	ny)	
Distribut board de	ion DB L1/L1			rrent protect		Nominal ' a for the c			RCE of po		ı	VA.	
710211	IT DETAILS		Type BS(EN	) NA			Ra	ting N/A A	RCE I∆n	rating,	1	V/A	πA
Circuit	Circuit	7)	ype Ref		cond	rcuit luctors	Max. per- mitted	Overcurrent pri	otective	device	<u> </u>	RCD	per-
number and phase	designation		of renc ring meth		Live	coc	disc- onnec- tion time	BS(EN)	Type No	Rating	Short circuit capa- city	Ор. curr- ent	mitt- ed 2s
					mm²	mm²	3		1	A	kA	lΔn	Ω
1/L.1 2/L1	Socket riser CC TV		D B	1	1.5	1.5	0.4	3871 MCB 3871 MCB	2	20 6	10 10	30 N/A	5.71
	Time clock  Deck level lobby lights		ВВ	3	1.5	1.0	0.4	3871 MCB	. 2	6	10	N/A	5.71
	Ground level lobby lights		в в	3	1.5	1.0	0.4	3871 MCB	2	6	10	N/A	5.71
5/L1	Riser cupboard luminaire	es I	в в	1	1.5	1.0	0.4	3871 MCB	2	6	10	N/A	5.71
6/L1	Riser cupboard luminaire	es I	ВВ	1	1.5	1.0	0.4	3871 MCB	2	6	10	N/A	5.71
	777 F 1997 46766 halls												
									1				
									!				
									1				
									-				
	Walleton Walleton												
									:				
												<u> </u>	
									:				
William	i (C(1)):								<u> </u>				
20	A B //PVC PVC cables in	C PVC cables in	D PVC cat	les in P	E VC cable:	s in P	F VC/SWA	G XLPE/SWA	М	H ineral		O Xther	7
	bles metallic conduit	non-metallic conduit	metallic tr	1	on-metal trunking	llic	cables	cables	ins	ulated ables		•	

Page 9 of 14

BOARE	NESTS	COMPLETED IF ECTED DIRECTIONS INSTALL	THE DISTR	IBUTION BO	ARD	Eal	rth fault	TEST		:NTS (	SERIAL NUME		
Zs lpf	N/A Ω	Operatin times of	B All∆r ad 5l∆n			ns Ins	p pedance ulation istance		71044. 71044.		RCD Other	957104 N/A	4.
	ion of Supply		(п арр	licable)		Cor	ntinulty	957	71044.		Other	N/A	
CIRCUI Circuit number	MESIS	endes desenda desenda e	impedances Ω				Insulation re	esistance		p 0	Maximum measured	RCD op	
and phase	(me	ng final circuits of assured end to a	and)	All ci (At lea COIL to be cor	ımn	Line/ Line	Line/ Neutral	Line/ Earth	Earth/ Neutral	a r i t	earth fault loop impedance	Al I∆n	At <sup>5</sup> ∆n
	f <sub>1</sub> (Line)	<sup>r</sup> n (Neutral)	r <sub>2</sub> (cpc)	R <sub>1</sub> +R <sub>2</sub>	R <sub>2</sub>	мΩ	мΩ	мΩ	мΩ		Ω	ms	ms
1/L1	N/A	N/A	N/A	0.25	N/A	N/A	200>	200>	200>	<b>✓</b>	0.29	17.0	16.5
2/L1	N/A	N/A	N/A	0.22	N/A	N/A	200>	200>	200>	1	0.26	N/A	N/A
3/L1	N/A	N/A	N/A	0.47	N/A	N/A	200>	200>	200>	1	0.59	N/A	N/A
4/L1	N/A	N/A	N/A	0.50	N/A	N/A	200>	200>	200>	<b>✓</b>	0.67	N/A	N/A
5/L1 6/L1	N/A N/A	N/A N/A	N/A N/A	0.41 0.49	N/A N/A	N/A N/A	200>	200> 200>	200> 200>	✓	0.51 0.68	N/A N/A	N/A N/A
										7.25 700			
Sign. Nam	ature.	M.Che	C <b>hussha</b> v. esher				Position  Date of less	sting		SINEE 05/201			

12.00 State	D DETAILS BE COMPLETED IN EVER	RYCASE		ONLYTO				DISTRIBUTION BO			CONNEC	STED.	
Location distribut	of 14st floo ion board	or riser cupboard	Supply to distribution board is fr	om I	WA			)	1	ociated I	RCD (if a	iny)	
Distribu board d	tion esignation DB LL1		Overcurre Type BS(EN)			Nominal	distribution	N/A V n circuit ting N/A A	of p	) rating,		V/A N/A	mА
CIRCI	(TOETAILS)		1						¦ <sup>†</sup> Δτ	1			
Circuit	Circuit		/pe Refe-	No	cond	rcuit uctors	Mex per- mitted	Overcurrent pro	otective	device		RCD	Max. per-
number and phase	designation		of rence ring method	of points served	Live mm <sup>2</sup>	cpc mm <sup>2</sup>	disc- onnec- tion time	BS(EN)	Type No	Rating A	Short circuit capa- city kA	Op. current	ed Zs
1/L1	SPARE				# Constitution of the Constitution	-	_	-		- Commission and	-	-	-
2/L1	Lights to staff room		в в	6	1.5	1.0	0.4	3871 MCB	2	6	6	N/A	5.71
3/L1	Lights floods adj staffro		ВВ	3	1.5	1.0	0.4	3871 MCB	2	6	6	N/A	5.71
4/L1	Lights w/way deck level	E	з в	5	1.5	1.0	0.4	3871 MCB	2	6	6	N/A	5.71
5/L1	SPARE			-	-	-		-	-	-	-	-	-
6/L1	SPARE			-	-	-	-	-	-	-	_	-	_
7/L1	Lights deck level		3 B	5	1.5	1.0	0.4	3871 MCB	2	6	10	N/A	5.71
8/L1	Lights bottom of stairs	E	3 B	3	1.5	1.0	0.4	3871 MCB	2	6	10	N/A	5.71
9/L1	.1 Lights bottom of stairs			-	-	-		-		-	-		•
10/L1	SPARE			-	-	-	-	-	-	-	-	-	-
11/L1	SPARE			-	-	-	-	-	<del>-</del>	-	_	-	-
12/L1	SPARE			-	_	-	-	-	-	-	-	-	-
								·					
			<u> </u>										
								······					
	: Solution												9-25
200	A B	c I	D	<u> </u>	E	T	F	Тв		Н	1	0	
PVC	t/PVC PVC cables in bles metallic conduit	PVC cables in non-metallic conduit	PVC cables metallic truni		/C cables on-metal trunking	lic	VC/SWA cables	XLPE/SWA cables	ins	ineral sulated ables		Other	

ejeyarı					oles capa es				29 - Mai				
C E	NLY TO BE ( S NOT CONN	COMPLETED IF ECTED DIREC INSTAL	TLY TO THE	BUTION BO ORIGIN OF	ARD THE	loo			NSTRUME 71044.		SERIAL NUME	957104	
Zs	N/A S	Operatin	g At1 <sub>Δn</sub>		200	ns	edance ulation						
lpf	N/A k	associat	ed <sup>51</sup> Δn		N/A n		istance	95.	71044.		Other	N/A	
Confirma	tion of Supply		(if appl	icable)		Co	ntinuity	957	71044.	1000	Other	N/A	
	Profession (C)												
Circuit		Circui	timpedances Ω				Insulation re	sistance		P	Maximum	RCD op tim	
number and phase	Rin (m	ng final circuits o easured end to	only end)	(At lea	ımn	Line/ Line	Line/ Neutral	Line/ Earth	Earth/ Neutral	A T	measured earth fault loop impedance	Al J_D n	Al 5l∆n
	71	r <sub>n</sub>	12		mpleted)					l y			
	(Line)	n (Neutral)	(cpc)	R <sub>1</sub> +R <sub>2</sub>	R <sub>2</sub>	мΩ	мΩ	мΩ	мΩ		Ω	ms	ms
1/L1	-	-	-	-	-	-	-		-	•	-	-	-
2/L1 3/L1	N/A N/A	N/A N/A	N/A N/A	0.78 0.70	N/A N/A	N/A N/A	200> 200>	200>	200>	✓ ✓	1.08	N/A N/A	N/A N/A
3/L1 4/L1	N/A	N/A	N/A	0.70	N/A	N/A	200>	200>	200>	V	1.16	N/A	N/A
5/L1	IN/A	IN/A	IN/A	U.36	N/A	- IN/A	-	-	200>		1.10	IN/A	IN/A
6/L1	_	_	-	_	_	-	_	_	_	•	-	_	-
7/L1	N/A	N/A	N/A	0.74	N/A	N/A	200>	200>	200>	<b>v</b>	1.24	N/A	N/A
8/L1	N/A	N/A	N/A	0.80	N/A	N/A	200>	200>	200>	1	1.00	N/A	N/A
9/L1		-			-	•	-	-	•	•	-	-	-
10/L1	-	-	-	-	-	-	-	-	-	•	<u>.</u>	-	-
11/L1	-	-	-	-	-	-	-	-	-	•	-	-	-
12/L1	<b>.</b>	-	-	-	-	-	-	-	-	•	-	-	-
TESTEL Sign	ature	~	Chester.				Position		ENI	SINEE	R		17
		/ \	<b>√08€</b>						FIAC	- 11 <b>T</b> LL	13		
Nan	) <b>e</b>	M.Che	essher				Date of tes	sting	04/0	5/201	0		

TO		APLETED IN EVE	RY CASE			ONLY TO					BUTION BO OF THE IN			CONNEC	TED	
Location	n of tion boar	TMO es	tate office		Supply to distribution	252542424345	V/A					Ass	ociated f	RCD (if a	ny)	
					board is fr No of phas		/A   1	Nominal <sup>1</sup>	Voltage	N/A	,   v	i i	EN) N/	4		
Distribu board d	ition esignatio	on DB DL			Overcurrer -	nt protecti	ve device	e for the c	listribution			RCI		١	I/A	
					Type BS(EN)	N/A			Ra	ting	N/A A	RCE J An	) rating,	1	√A	mΑ
CIRCL	(inters	rajisj														
Circuit	Circu	भी		Type	Refe-	No	1000	rcult uctors	Max. per- mitted	Ov	ercurrent pro	xective	device		RCD	Max. per-
number and		nation		of wiring	rence method	of points	Live	sa cpc	disc- onnec- tion		BS(EN)	Type No	Rating	circuit	Op.	mitt- ed Zs
phase						served			time					capa- city	ent la	
							mm²	mm <sup>2</sup>	3				Α	kA	'Δn-	Ω
1/L1	Lights	c/t mess		D	В	10	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
1/L2	Lights	c/t mess,lobby,w	/C	D	В	12	1.5	1.0	0.4	3871	МСВ	2	6	10	N/A	5.71
1/L3	<del> </del>	estate office		D	В	9	1.5	1.0	0.4	3871	MCB	2	6	10	N/A	5.71
2/L1	SPAR			-	-	-	-	- 	•		-	<u>; -</u>	-	-	-	-
2/L2 2/L3	SPAR			-	-	-	-	-	-			-	-	-	<del>.</del>	ļ -
3/L1		s c/t mess		D	В	4	4	2.5	0.4	3871	MCB	2	32	10	N/A	1.07
3/L2		or fan, shower do	or	D	В	2	4	2.5	0.4	3871		2	32	10	N/A	1.07
3/L3	<u> </u>	s dado estate off		D	В	6	4	2.5	0.4	3871		2	20	10	N/A	1.71
4/L1	Socket	s c/t mess		D	В	4	4	2.5	0.4	3871	мсв	2	20	10	N/A	1.71
4/L2	Lights	estate office		D	В	9	1.5	1.0	0.4	3871	мсв	2	6	10	N/A	5.71
4/L3	Socket	s dado estate off	ice	D	В	10	4	2.5	0.4	60898	мсв	С	32	10	N/A	0.72
<u> </u>												1				
												:				
		·									 					
									:							
											: :					
											1					
y (Run	AVMOJE P	<b>9</b>		e e e e e e e e e e e e e e e e e e e			107									
PVC	A C/PVC	B PVC cables in	C PVC cables in		D VC cables		E /C cables		F VC/SWA		G PE/SWA		H ineral	C	O ther	] ]
	bles	metallic conduit	non-metallic conduit		tallic trunk		on-metal trunking	lic	cables	'	ables		ulated ables			

-	ULE OF C	(KOUTTES	TS FOR I	HE INSTI	M. ATIC			2928/	0 - Mai	e e			
O B	NLY TO BE O NOT CONN	COMPLETED IF ECTED DIREC INSTAL	TLYTOTHE	BUTION BO ORIGIN OF	ARD THE	100			NSTRUM! 71044.		SERIAL NUME	957104	
Zs	N/A 🕻	times of	•••		N/A 1	ns I	edance ulation	Q5	71044.		Other	N/A	
lpf .	N/A k	A RCD (if a	ed <sup>5l</sup> ∆n any) (ifappl	icable)	N/A <sub>f</sub>	ns	istance					N/A	
THE PROPERTY OF		polarity N/A					ntinuity	95	71044.		Other	IVA	
Sell State		Circui	i Impedances				Insulation re	eletance				RCD op	eration
Circuit		Cilcui	Ω				п заприси т	. SISIBILITY		P	Maximum		ies
number and phase	Ri (m	ng final circuits basured end to	only end)	(At lea	ımn	Line/ Line	Line/ Neutral	Line/ Earth	Earth/ Neutral	a r i	measured earth fault loop impedance	At l∆n	At <sup>5l</sup> ∆n
	f <sub>1</sub> (Line)	<sup>f</sup> n (Neutral)	f <sub>2</sub> (cpc)	R <sub>1</sub> +R <sub>2</sub>	R <sub>2</sub>	Ωм	мΩ	мΩ	мΩ	ý	Ω	ms	ms
1/L1	N/A	N/A	N/A	0.67	N/A	N/A	200>	200>	200>	1	1.00	N/A	N/A
1/L2	N/A	N/A	N/A	0.70	N/A	N/A	200>	200>	200>	<b>V</b>	0.86	N/A	N/A
1/L3	N/A	N/A	N/A	0.69	N/A	N/A	200>	200>	200>	~	0.94	N/A	N/A
2/L1	•	-	•	-	•	-	-	-	-	-	-	-	-
2/L2	•	-	-	-	-	-	-	-	-	•	-	-	-
2/L3	-	•	•	•		•	-	-	-	•	-	-	-
3/L1	0.38	0.40	0.41	0.41	N/A	N/A	200>	200>	200>	<b>✓</b>	0.56	N/A	N/A
3/L2	0.46	0.45	0.50	0.38	N/A	N/A	200>	200>	200>	<b>V</b>	0.46	N/A	N/A
3/L3	0.60	0.58	0.49	0.42	N/A	N/A	200>	200>	200>	<b>V</b>	0.64	N/A	N/A
4/L1	0.50	0.51	0.55	0.43	N/A	N/A	200>	200>	200>	<b>'</b>	0.55	N/A	N/A
4/L2 4/L3	N/A N/A	N/A N/A	N/A N/A	0.51 N/A	N/A 0.33	N/A N/A	200>	200>	200>	✓ ✓	0.72	N/A N/A	N/A N/A
4/L3	IN/A	N/A	IN/A	IN/A	0.33	IN/A	200>	200>	200>	•	0.59	IN/A	N/A
					***************************************								
		San	panyagan maadii aa a		anna we and to at the			todesimonali sir — ***					
YESTEI Sign	ature	И	Chasiler.				Position .		EN	SINEE	R		
Nam	e	M.Ch	essher				Date of tes	sting	04/0	)5/201	0		

Page 14 of 14

### **ELECTRICAL INSTALLATION CERTIFICATE**

Issued in accordance with British Standard BS 7671 - Requirements for Electrical Installations

					ertificate Ref	erence: Grennen	Tower	145002
1. DE	TAILS OF	THE CLIENT						
Client Ac	ldress:	The Royal Borou	gh of Kens	ington & Chelsea , TMO,	Network Hul	o, 292a Kensal Road, Lo	ndon, W	10 5BE
2. DE	TAILS OF	THE INSTAL	LATION					
Installati	on Address:	Grenfell Tov	ver, Grenfe	II Road, London, W11 1T	Q			
	f the on covered ertificate:	New CC1H120		upply cable from domestic	riser sub-main	s service head 2.to riser en	iclosure i	n walkway
The insta	allation is:	New N/A	An add	ition N/A An alte	ration 🔻			
particula that the	ng the perse rs of which design work	arè described abo c for which I/we h	ve, having ave been re	ign of the electrical insta exercised reasonable sk eponsible is to the best o artures, if any, detailed	ill and care w of my/our kno	hen carrying out the des	ign, her	ebý CERTIFY
Details o	f departure:	s from BS 7671 (F	tegulations	120.3, 133.5):	N/A			
The exte	nt of liabilit	y of the signatory,	signatories/	s is limited to the work d	escribed abov	ve as the subject of this	certifica	te.
For the	DESIGN of	the installation	<b>.</b>				7	
Name:		N/A	Position:	N/A	Signature:	N/A	Date:	N/A
	there is div	ided responsibil		-		NI ČA		NI ZA
Name:	2-24-1-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1	N/A	Position:	N/A	Signature:	N/A	Date:	N/A
I/We bei particula CERTIFY	rs of which that the co	on(s) responsible are described abo nstruction work fo	ve, having r which I/v	struction of the electrica exercised reasonable sk ve have been reponsible 1 except for the departu	ill and care wist to the best res, if any, de	hen carrying out the con of my/our knowledge a	structio	n, hereby
Details o	f departure:	s from BS 7671 (F	egulations	120.3, 133.5):	N/A			
		, ,,	_	s is limited to the work d	escribed abov	e as the subject of this	certifica	te.
Γ		CTION of the ins		Our life of Company for an	<b>.</b>	<u> </u>	<b></b>	00/07/2012
Name:	БОІ	o Greene	Position:	Qualified Supervisor	Signature:	AL-	Date:	09/07/2013
I/We bei below), ¡ testing, l	ng the personarticulars of hereby CER	of which are descri TIFY that the insp	for the insp bed above ection and	pection and testing of the having exercised reason testing work for which I/ 1:2008, amended to 201	nable skill and we have beer	d care when carrying out n reponsible is to the be	the ins	pection and /our
Details o	f departure:	s from BS 7671 (F	egulations	120.3, 133.5):	N/A			
		·	1 <del>77</del> 2	s is limited to the work d	escribed abov	e as the subject of this	certifica	te.
		ON AND TESTING  b Greene	1	stallation: Qualified Supervisor	Cianatuua		Data	04/09/2013
Name:   Report		nd confirmed by	Position:	Qualified Supervisor	Signature:	<i>8</i>	Date:	04/09/2013
Name:		o Greene	Position:	Qualified Supervisor	Signature:	A-	Date:	05/09/2013
6. DE	SIGN, CO	NSTRUCTIO	N, INSP	ECTION AND TEST	ING			
I/We bei by my/or out the o to the be	ng the persour signature design, cons	on(s) responsible es below), particul struction, inspectio	for the des ars of whic n and testi	ign, construction, inspec h are described above, h ng, hereby CERTIFY that cordance with BS 7671:2	tion and testi aving exercis : the design w	ed reasonable skill and o ork for which I/we have	care who	en carrying eponsible is
Details o	f departure:	s from BS 7671 (F	egulations	120.3, 133.5):	N/A			
				s is limited to the work d			certifica	te.
Name:		N/A	Position:	N/A	Signature:	N/A	Date:	N/A
	reviewed a	nd confirmed by		a secret is		3. per 30 s		
Name:		N/A	Position:	N/A	Signature:	N/A	Date:	N/A
7. NE	XT INSPI	ECTION						
	designer(s of not more		at this inst	allation is further inspect	ed and tested	d after an	18 Mc	onths
			n in Append	dix 6 of BS 7671:2008 ar	mended 2011			Page: 1 of 8

8. DETAILS	OF THE	ELECTRICA	L CONTRA	ACTOR							
Design (1)	Trading	Title: RGE Servi	ces Ltd								
Address:	19-2	21 Roebuck Road				Registrat	tion Number able):				
	n nonette	ault Business Pa	rk								
RPPROVED		×		IG6 3T	n	Telephor	ne Number:				
CONTRACTO			Postcode:	100 01							
Design (2)	Trading	Title:									
Address:						Registrat	tion Number able):				
			Postcode:			Telephor	ne Number:				
	<b>-</b> -		Tostcode:								
Construction	Trading	litle:			Ĭ						
Address:						Registrat (if applic	tion Number able):				
						Telephor	ne Number:				
			Postcode:					<u></u>			
Inspection and Testing	Trading	Title:									
Address:						Registrat	tion Number				
						(if applic					
						Telephor	ne Number:				
			Postcode:	_							
		CTERISTICS						. Ch-	voctovicti		
System Type(s)	Numbe	er and Type of L	ive Conduct dc:	N/A	!	Nature of Si Paramete		Pr	iracteristi imary Sup urrent Pro	cs or oply	10
TN-S 🗸	1-phase (2 wire):	ac: 1-phase	N/A 2 pole		Nominal voltage(s	s): U: 400 y	V Uo: 230 \	di Overc	Device(s	)	
TN-C-S N/A	2-phase (3 wire):	N/A (3 wire):	3 pole		i	al frequency		BS(EN):	88-2 Fu	se HR	С
TNO NUA	3-phase (3 wire):	N/A 3-phase (4 wire):	✓ Other	0.0000	Prospe curren	ective fault t, lpf:	1.21 k/	Type:	g	G	
i	Other:		N/A			al earth faul		Rated cur	rent:	400	A
					1 '	npedance, Z	.e:	Short-circles capacity:	cuit	80	kA
		ion of supply pola			1	er of supplie:	s: 2	i capacity.			10,
10. PARTIC Means of Earth		OF INSTALL				Flectrode	(where appl	icable)			
Distributor's facility:	9	¦ ¦ Type:	N/A		Location		(Wilere appl	N/A			
Installation earth electrode:	N/A	Electrode resistance, RA:	Ν/Α Ω		Method	of		N/A			
Maximum Demai				ve meası 		inst electric :			ADS		
Type	IN SWITCH	or Circuit-Brea Voltage rating:	N/A V	Earthi	Eart 1g conduc		rotective Bo		Continuit	y &	
BS(EN): Number of	N/A	Rated	25.42	Conduc materia		N/A	Conductor csa:	N/A mm	connection verified:	on N	I/A
poles: Supply	IN Z Z	current, In:	N/A A	Main p	rotective	bonding co	onductors Conductor		Continuit		
conductors material:	N/A	RCD operating current:	N/A mA	materia		N/A	csa:	N/A mm <sup>2</sup>	connection verified:	on N	I/A
Supply conductors N	/A mm <sup>2</sup>	RCD operating time:	N/A ms	Water	81.7.8	Gas	nductive par Oil	NI / A	Lightning		1/A
csa:		amer		service Structu	ral	service: Other inco	oming	ice.	protection	n: IN	4.53
				Steel:	N/A	service(s)			N/A		
THE RESERVE THE PROPERTY OF TH		EXISTING I	AND	and the second second second							
Would suggest r	monitorino	g all rising main	connections	whilst s	urroundin	g building v	works ongoir	ıg. Vibratio	n present.	Existir	ng

This form is based on the model shown in Appendix 6 of BS 7671:2008 amended 2011. Ref: Grenfell Tower / 145002 Page: 2 of 8

#### 12. SCHEDULE OF ITEMS INSPECTED Methods of protection against electric shock Prevention of mutual detrimental influence Both basic and fault protection: (a) Proximity of non-electrical services and other (i) SELV (b) Segregation of Band I and Band II circuits or use of Band II insulation N/A N/A (ii) PELV N/A (c) Segregation of safety circuits LIM (iii) Double or Reinforced Insulation **Identification** Presence of diagrams, instructions, circuit charts and Basic protection: N/A similar information (i) Insulation of live parts **V** Presence of danger notices and other warning notices N/A LIM (ii) Barriers or enclosures N/A Labelling of protective devices, switches and terminals N/A (iii) Obstacles \*\* N/A Identification of conductors Cables and Conductors N/A (iv) Placing out of reach \*\* election of conductors for current carrying capacity and N/A voltage drop Fault protection: (i) Automatic disconnection of supply N/A Erection methods Presence of earthing conductor Routing of cables in prescribed zones or within N/A mechanical protection N/A Presence of circuit protective conductors Cables incorporating earthed armour or sheath, or run LIM within an earthed wiring system, or otherwise adequately protected against nails, screws and the like N/A Presence of main protective bonding conductors Presence of earthing arrangements for combined protective and functional purposes N/A Additional protection provided by 30mA RCD for cables in concealed walls (where required in premises not under the supervision of skilled or instructed persons) N/A Presence of adequate arrangements for alternative source(s), where applicable N/A N/A FFI V Connection of conductors Choice and setting of protective and monitoring devices Presence of fire barriers, suitable seals and protection (for fault protection and/or overcurrent protection) X against thermal effects General (ii) Non-conducting location \*\* Presence and correct location of appropriate devices for X isolation and switching Absence of protective conductors Adequacy of access to switchgear and other equipment X (iii) Earth-free local equipotential bonding \*\* Particular protective measures for special installations N/A Presence of earth-free local equipotential bonding Connection of single-pole devices for protection or N/A switching in line conductors only (iv) Electrical Separation Provided for 'one item' of current-using equipment Correct connection of accessories and equipment Provided for 'more than one item' of current-using equipment $\ensuremath{^{**}}$ N/A Presence of undervoltage protective devices Selection of equipment and protective measures Additional protection: N/A appropriate to external influences N/A Presence of residual current device(s) N/A Selection of appropriate functional switching devices N/A Presence of supplementary bonding conductors \*\* For use in controlled supervised/conditions only Protection against direct contact by barrier or enclosure 13. SCHEDULE OF ITEMS TESTED N/A provided during erection 1 External earth fault loop impedance, Ze N/A Insulation of non-conducting floors or walls N/A Installation earth electrode resistance, RA Polarity 1 Continuity of protective conductors Earth fault loop impedance, Zs N/A Continuity of ring final circuit conductors Verification of phase sequence Insulation resistance between live conductors N/A Operation of residual current device(s) Insulation resistance between live conductors and earth Functional testing of assemblies

All boxes must be completed. 'tick' indicates that an inspection or test was carried out and that the result was satisfactory. 'X' indicates than an inspection or test was carried out and the result is not satisfactory. 'N/A' indicates that an inspection or test was not applicable to the particular installation. 'LIM' indicates that, exceptionally, a limitation agreed with the person ordering the work prevented the inspection or test being carried out.

Verification of voltage drop

Protection by separation of circuits

N/A

This form is based on the model shown in Appendix 6 of BS 7671:2008 amended 2011. Ref: Grenfell Tower / 145002 Page: 3 of 8

	IRCUIT DETAILS														
Distribut	tion board designation:			Ser	vice l	Head				Location:		Mair	Intak	e room	
					þ		condu	cuit ctors: sa	ct time BS7671	Overcurre de	nt pr evices	otectiv	e e	RCD	BS7671
Circuit number and phase	Circuit desigr	nation		Type of wiring	Reference Method	Number of points served	Live mm <sup>2</sup>	cpc mm <sup>2</sup>	ω Max disconnect time ω permitted by BS7671	BS(EN)	Type No	⊅ Rating	Short-circuit S Capacity	B Operating S current	© Maximum Zs © permitted by BS7671
1 L1	Ground to tenth floor Fla	at Ryfields		н	F	1	120	37	5	88-2	gG	400	80	N/A	N/A
1 L2	Ground to tenth floor Flat Ryfields				F	1	120	37	5	88-2	gG	400	80	N/A	N/A
1 L3	Ground to tenth floor Fla	at Ryfields		H	F	1	120	37	5	88-2	gG	400	80	N/A	N/A
												-			
												ed FC			
										-					
								185		5		<u> </u>			
**	Wiring O-Other:		/A												
	OARD CHARACTER														
	S WHEN THE BOARD IS to this distribution board is		INECT	ED TO		<b>ORIG</b> igin	IN OF	· THE		ALLATION No of phases:		3			
	rent protective device listribution circuit:	BS(EN):				/A			=	Rating:		00 д	Nom Volta	inal ige:	400 V
RCD		BS(EN):			N	/A			_	No of poles:		4	Ratir	ng:	I/A mA
Confirm	ation of supply polarity	Zs:	N/A g	Ω lpf:	N/A	kA	RCD time:	opera s	ting At In:	N/	A ms	At !	5ln:	I/A ms	

This form is based on the model shown in Appendix 6 of BS 7671:2008 amended 2011. Ref: Grenfell Tower / 145002 Page: 4 of 8

	. TEST RESULTS  cribution board designation:						e Head	1		Loc	ation:	Main Intake room			
		Circuit imp	edances	(Ohms)			nsulation d lower o				Maximum measured	RC	D Operat times	ing	
Circuit number and phase	Ring final circuits only (measured end to end)			All cir (one col be com	umn to	Line/ Line	Line/ Neutral	Line/ Earth	Neutral/ Earth	Polarity	earth fault loop impedance Zs	At In	At 5 In	Test button operation	
Circui and p	r1 (Line)	rn (Neutral)	r2 (cpc)	R1+R2	R2	мΩ	ΜΩ	MΩ	ΜΩ	1	Ω	ms	ms	Test	
1 L1	N/A	N/A	N/A	0.03	N/A	0.03	500>	500>	500>	✓	0.20	N/A	N/A	N/A	
1 L2	N/A	N/A	N/A	0.04	N/A	0.04	500>	500>	500>	✓	0.21	N/A	N/A	N/A	
1 L3	N/A	N/A	N/A	0.05	N/A	0.05	500>	500>	500>	✓	0.22	N/A	N/A	N/A	
														×	
		ų .													
	lo.							8							
						,								,	
						D								9	
														ed.	
						2								×	
						ži.								9	
						3								9	
						£								8	
						-								~	
						×									
						×									
		S OF TE											<u> </u>		
Details c Multi-fur		nstruments	used (s		al and/o E112	r asset r			le resista	nce:		N/A			
Insulatio				RĞ	E112				p imped			RGE112	2		
Continui	ty:			RG	E112		RCD:					RGE112	2		
18. TI	ESTED	ВҮ													
Name:		JAMIE JOI		Posit			INEER		gnature:		renfell Tower	Dat		7/201 je: 5 of	

**IWS00002253/30** IWS0บบบ∠∠วจ\_บบจบ

Tel:-

	CIRCUIT DETAILS  Distribution board designation:  Service Head 2  Location:  Main Intake room													
Distribut	tion board designation:		Ser	vice	Head				Location:		Main	Intak	e roon	
				po		condu	cuit ictors: sa	ct time BS7671	Overcurre de	RCD		RCD	Zs by BS7671	
Circuit number and phase	Circuit design	nation	Type of wiring	Reference Method	Number of points served	Live mm <sup>2</sup>	cpc mm <sup>2</sup>	Max disconnect time ρ permitted by BS7671	BS(EN)	Type No	⊅ Rating	Short-circuit ト Capacity	3 Operating 5 current	⊗ Maximum Zs ⊗ permitted by
1	11th to 20th Flat Ryfield	ls	Н	F	1	120	37	5	88-2	gG	400	80	N/A	N/A
2	11th to 20th Flat Ryfield	ls	Н	F	1	120	37	5	88-2	gG	400	80	N/A	N/A
3	11th to 20th Flat Ryfield	ls	Н	F	1	120	37	5	88-2	gG	400	80	N/A	N/A
					1									
					]		]							
				F	1									
					1									
					1		1							
									2		<u> </u>			
					1									
						1	1				i.			
Type of	Wiring O-Other:	N	/A		J		J.							
	D CHARACTERISTI													
	S WHEN THE BOARD IS	7	NECTED T			SIN OF	THE				1			
	o this distribution board i rent protective device distribution circuit:	BS(EN):		Origin N/A					No of phases: Rating:		N/A A		inal	230 V
RCD	and an extension	BS(EN):		N	I/A			=	No of poles:	N	/A	Ratir		I/A mA
	ation of supply polarity	Zs: N/A	$\Omega$ lpf	N/A	kA	RCD time:	opera		N/	A ms	At !		I/A ms	

This form is based on the model shown in Appendix 6 of BS 7671:2008 amended 2011. Ref: Grenfell Tower / 145002 Page: 6 of 8

Distribution board designation:						Servic	e Head	2		Loc	ation:	Main Ir	ntake roo	m
Circuit number and phase		Circuit imp				nsulation d lower o				Maximum measured	RCD Operating times			
	Ring final circuits only (measured end to end)			All cir (one col be com	umn to	Line/ Line	Line/ Neutral	Line/ Earth	Neutral/ Earth	Polarity	earth fault loop impedance Zs	At In	At 5 In	Test button operation
Circu and p	r1 (Line)	rn (Neutral)	r2 (cpc)	R1+R2	R2	MΩ	мΩ	MΩ	мΩ	<b>✓</b>	Ω	ms	ms	Tope
1	N/A	N/A	N/A	0.07	N/A	N/A	500>	500>	500>	✓	0.24	N/A	N/A	N/A
2	N/A	N/A	N/A	0.05	N/A	N/A	500>	500>	500>	<b>√</b>	0.22	N/A	N/A	N/A
3	N/A	N/A	N/A	0.05	N/A	N/A	500>	500>	500>	✓	0.22	N/A	N/A	N/A
										ŧ.				
														2
														*
FΤΛ	TI S OF	TEST I	NSTRI	IMENT	S									
tails		nstruments		tate seria		r asset r			e resista	nce:		N/A		
sulati	on resist	ance:		RG	E112		Earth	fault loc	p imped	ance:		RGE112	2	
ntinu	ity:			RG	E112		RCD:					RGE112	2	
STI	D BY													

Tel: Fax:- IWS00002253/32 IWS0υυυ∠≥οა\_υυο∠

# **CONTINUATION FOR GENERAL COMMENTS**

GENERAL COMMENTS
General Comments for the Installation or Inspection of the report:
Recordings taken after 2 months of install.
Service Head 1.
L1=36.45a
L2=38.21a L3=36.46a
Service Head 2.
L1=33.32a L2=36.60a
L3=34.39a
All recordings taken on 4th September 2013 between 08:30 to 09:30.
an recordings taken on tan september 2013 between 00.30 to 03.30.

Tysoft EasyCert © Copyright Tysoft 2013.

Ref: Grenfell Tower / 145002 Page: 8 of 8