Issue: FIRST ISUE

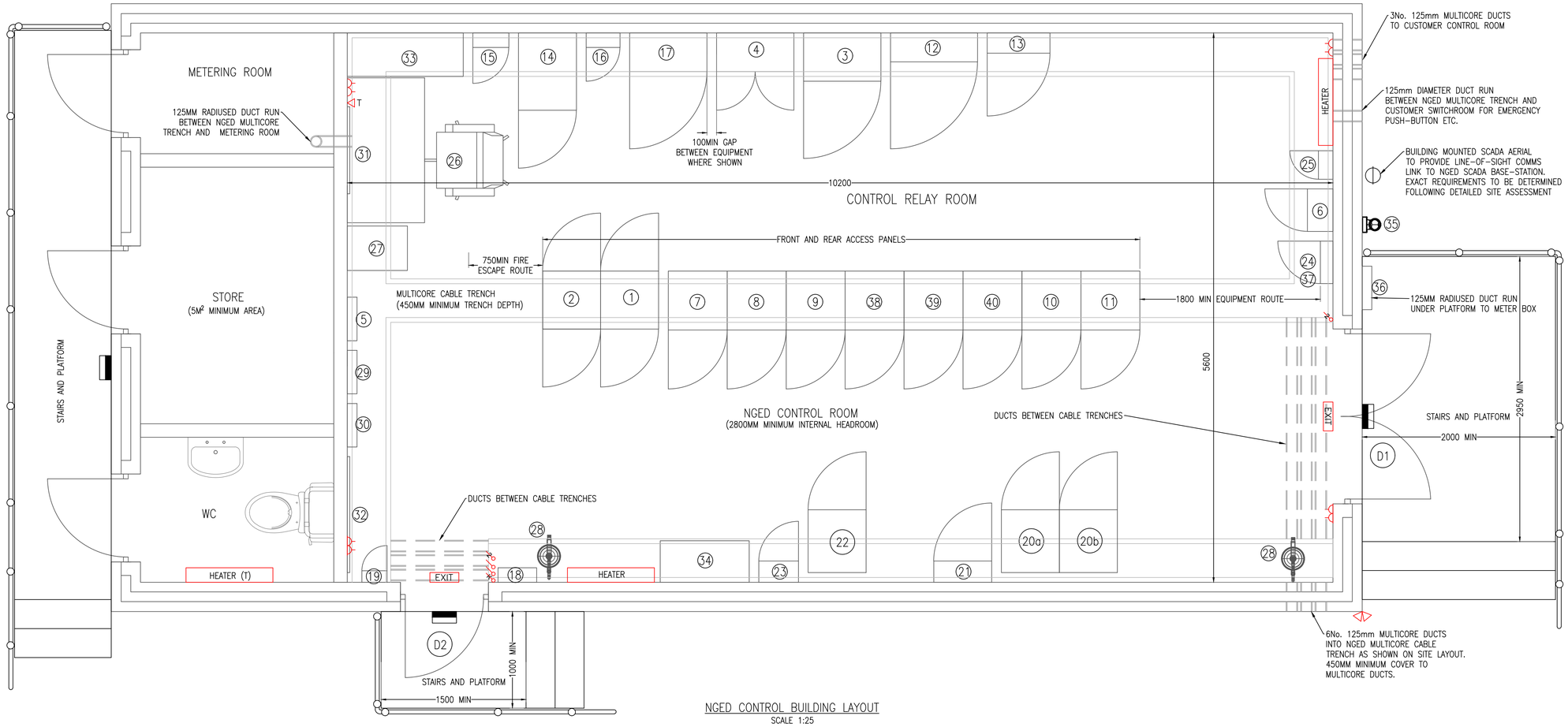
NOTE: TYPICAL NGED CONTROL BUILDING LAYOUT PROVIDED FOR GUIDANCE ONLY – THIS MAY BE SUBJECT TO CHANGE IN SITE SPECIFIC DETAILED DESIGN. NOT TO BE USED FOR CONSTRUCTION PURPOSES

FINISH FLOOR LEVEL

FINISHED FLOOR LEVEL OF NGED CONTROL BUILDING SHALL BE RAISED TO MINIMISE FLOOD RISK. THIS IS A MINIMUM OF 500MM ABOVE GROUND LEVEL AND AT LEAST 500mm ABOVE THE 1 IN 1000 YEAR FLUVIAL FLOOD LEVEL OR 1 IN 1000 YEAR PLUVIAL FLOOD LEVEL AND 1 IN 200 YEAR TIDAL FLOOD LEVEL. LANDING PLATFORM/STEP DETAILS ADDRESSED ACCORDINGLY.

WC TO INCLUDE:

- WC SUITE
- WASH HAND BASIN WITH COLD TAP AND INSTANTANEOUS ELECTRIC HOT WATER HEATER
- SEPARATE BIB TAP WITH DOUBLE CHECK VALVE FOR HOSE CONNECTION
- STOP TAP FOR INCOMING WATER SUPPLY
- WARM AIR HAND DRYER
- TOILET ROLL HOLDER
- COAT HOOK
- EXTRACTOR FAN WITH OVER –RUN TIMER CONNECTED TO LIGHTING CIRCUIT
- DOOR MATT WITH NON–SLIP BACKING



NGED CONTROL BUILDING LAYOUT
SCALE 1:25

EQUIPMENT SCHEDULE

REF	DESCRIPTION	DIMENSIONS (MM)	WEIGHT (KG) *	CONTESTABLE / NON CONTESTABLE
1	MULTIPLEXER PANEL 1	800(W)X800(D)X2200(H) FLOOR MOUNTED	600	NON CONTESTABLE
2	MULTIPLEXER PANEL 2 (INCLUDING TELECOM PB RACK)	600(W)X600(D)X2000(H) FLOOR MOUNTED	600	NON CONTESTABLE
3	D400/G500 RTU PANEL	800(W)X800(D)X2200(H) FLOOR MOUNTED	210	NON CONTESTABLE
4	RTU MARSHALLING KIOSK (MEDIUM ASSUMED)	800(W)X800(D)X2200(H) FLOOR MOUNTED	160	NON CONTESTABLE
5	FIBRE OPTIC WALL BOX – TELECOMS	450(W)X400(D)X450(H) WALL MOUNTED	50	NON CONTESTABLE
6	PQM WALL BOX (AC6 WALL BOX)	400(W)X265(D)X485(H) WALL MOUNTED	11	NON CONTESTABLE
7	FEEDER 1 RELAY PANEL	610(W)X610(D)X2275(H) FLOOR MOUNTED	500	NON CONTESTABLE
8	FEEDER 1 INTERTRIPPING PANEL	700(W)X660(D)X2275(H) FLOOR MOUNTED	500	NON CONTESTABLE
9	CB110 PROTECTION RELAY PANEL	610(W)X610(D)X2275(H) FLOOR MOUNTED	500	CONTESTABLE
10	G99 PROTECTION RELAY PANEL	610(W)X610(D)X2275(H) FLOOR MOUNTED	200	NON CONTESTABLE
11	G99 SIGNALLING / INTERTRIP COMMS PANEL	700(W)X660(D)X2275(H) FLOOR MOUNTED	190	NON CONTESTABLE
12	CUSTOMER CONNECTION PANEL	900(W)X300(D)X800(H) WALL MOUNTED		NON CONTESTABLE
13	CUSTOMER CONNECTION INTERFACE WALL BOX	650(W)X210(D)X375(H) WALL MOUNTED		NON CONTESTABLE
14	RELIANCE MIDAS CABINET	600(W)X800(D)X1297(H) FLOOR MOUNTED		NON CONTESTABLE
15	GALLAGHER DUAL CABINET	372(W)X150(D)X620(H) WALL MOUNTED		NON CONTESTABLE
16	RELIANCE DISTRIBUTION BOARD	350(W)X150(D)X270(H) WALL MOUNTED		NON CONTESTABLE
17	ELECTRIC FENCE CONTROL CABINET	800(W)X400(D)X1600(H) FLOOR MOUNTED		NON CONTESTABLE
18	INTRUDER ALARM PANEL & KEY PAD	400(W)X150(D)X500(H) WALL MOUNTED		NON CONTESTABLE
19	SUMP PUMP CONTROL UNIT	260(W)X120(D)X320(H) WALL MOUNTED		CONTESTABLE
20a	110V DC 25A BATTERY CHARGER + BATTERY 1	600(W)X650(D)X1960(H) FLOOR MOUNTED	480	CONTESTABLE
20b	110V DC BATTERY 2 + BLACK START CONTROLLER	600(W)X650(D)X1960(H) FLOOR MOUNTED	405	CONTESTABLE
21	110V DC 12 WAY DISTRIBUTION BOARD	600(W)X220(D)X600(H) WALL MOUNTED	48	CONTESTABLE
22	48V DC 25A BATTERY CHARGER X 2	600(W)X611(D)X2007(H) FLOOR MOUNTED	400	CONTESTABLE
23	48V DC 6 WAY DISTRIBUTION BOARD	545(W)X305(D)X500(H) WALL MOUNTED	48	CONTESTABLE
24	BUILDING LVAC DISTRIBUTION BOARD	440(W)X130(D)X482(H) WALL MOUNTED	50	CONTESTABLE
25	BUILDING SERVICES INTERFACE WALL BOX	295(W)X150(D)X295(H) WALL MOUNTED	25	CONTESTABLE
26	DESK & CHAIR			CONTESTABLE
27	FILING CABINET			CONTESTABLE
28	FIRE EXTINGUISHER X2			CONTESTABLE
29	SUBSTATION KEY BOX (PLANT & RELAY PANELS)			CONTESTABLE
30	LOCK OUT BOXES			CONTESTABLE
31	SUBSTATION MIMIC BOARD (A1)			CONTESTABLE
32	SUBSTATION SITE SAFETY BOARD (A0)			CONTESTABLE
33	SHELVING FOR COMMISSIONING RECORDS, PLANT MANUALS AND SITE RECORDS			CONTESTABLE
34	A0 DRAWING TANK (SITE DRAWINGS)			CONTESTABLE
35	AUXILIARY GENERATOR SOCKET			CONTESTABLE
36	OUTSIDE METER BOX			CONTESTABLE
37	LVAC SUPPLY CUTOUT			NON CONTESTABLE
38	BUS SECTION CB120 RELAY PANEL	610(W)X610(D)X2275(H) FLOOR MOUNTED	200	NON CONTESTABLE
39	FEEDER 2 RELAY PANEL	610(W)X610(D)X2275(H) FLOOR MOUNTED	200	NON CONTESTABLE
40	FEEDER 2 INTERRIPPING PANEL	610(W)X610(D)X2275(H) FLOOR MOUNTED	200	NON CONTESTABLE

*WEIGHTS ARE INDICATIVE AND WHERE SPECIFIED FOR CONTESTABLE APPARATUS, THEY RELATE TO THOSE OF NGED VARIANTS & MAY BE DISCOUNTED IF NOT APPLICABLE

NOTE: TYPICAL EQUIPMENT SCHEDULE PROVIDED FOR GUIDANCE ONLY – THESE MAY BE SUBJECT TO CHANGE IN SITE SPECIFIC DETAILED DESIGN

LEGEND – BUILDING SERVICES:

- EXIT — ILLUMINATED EMERGENCY EXIT SIGN.
- PIR ACTIVATED LED FLOOD LIGHT
- TWIN–HEAD LED FLOOD LIGHT
- SINGLE GANG 1 WAY SWITCH. SURFACE MOUNTED, METAL CLAD. (1NO. FOR BUILDING EXTERNAL LIGHTING, 1NO. FOR COMPOUND LIGHTING).
- SINGLE GANG 2 WAY SWITCH. SURFACE MOUNTED, METAL CLAD (2NO. SWITCHING ALL INTERNAL LIGHTING).
- INTERNAL LIGHTING EMERGENCY LIGHTING KEY TEST SWITCH SURFACE MOUNTED, METAL CLAD.
- T — BT MASTER SOCKET (DEDICATED EXT LINE)
- 13A TWIN SWITCHED, SURFACE MOUNTED METAL CLAD SOCKET OUTLET
- HEATER — WALL MOUNTED HEATER – RATED TO PROVIDE ROOM TEMPERATURE LIFT OF 0–18°C. (T) = BUILT IN THERMOSTAT
- 18 — INTRUDER ALARM (SINGLE ZONE) WITH DOOR CONTACT ACTUATION FOR ALL NATIONAL GRID DOORS.
- 24 — BUILDING LVAC DISTRIBUTION BOARD WITH 4NO. SPARE 20A MCB WAYS RESERVED FOR NATIONAL GRID USE.

NOTE: EXACT REQUIREMENTS FOR NGED CONTROL, AND ASSOCIATED SCADA (AND POTENTIALLY INTERTRIPPING EQUIPMENT) ARE TO BE AGREED ON A PROJECT SPECIFIC BASIS

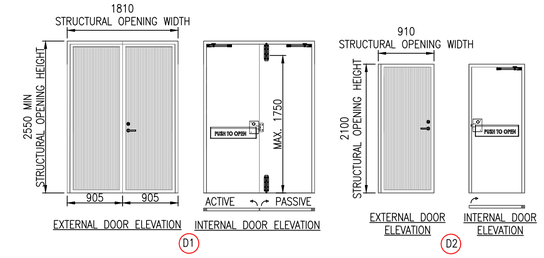
BUILDING SERVICES NOTES:

1. PROVIDE INTERNAL LIGHTING WITH A MINIMUM ILLUMINANCE OF 300 LUX AVERAGE AT FLOOR LEVEL IN CONTROL ROOM AND METER ROOM, 200 LUX MINIMUM FOR WC & STORE ROOM. INTERNAL LIGHTING SHALL HAVE INTEGRAL EMERGENCY LIGHTING.
2. ALL EMERGENCY LIGHTING SHALL BE 3–HOUR DURATION SELF–CONTAINED, NON–MAINTAINED AND SHALL COMPLY WITH BS 5266.
3. ALL INTERNAL LUMINAIRES SHALL HAVE A MINIMUM LUMINOUS EFFICACY OF 60 LUMEN / CIRCUIT WATT.

CONTROL ROOM CONSTRUCTION NOTES:

1. DO NOT SCALE THIS DRAWING
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE PROPOSED NGED LOOP CONNECTION SITE LAYOUTS AND THE 132kV CONNECTION GUIDE DOCUMENT.
3. DETAILED CIVIL DESIGN IS THE RESPONSIBILITY OF THE CUSTOMER, BUT THE INFORMATION PROVIDED ON THIS DRAWING MAY BE INCORPORATED INTO THE CUSTOMERS OVERALL DETAILED CIVIL DESIGN DRAWINGS AS NECESSARY (ASSUMING THAT THE CUSTOMER HAS CHECKED THE VIABILITY OF THE INFORMATION TO THE PRESENTED SITE CONDITIONS).
4. GROUND INVESTIGATION, FLOOD SURVEY AND STRUCTURAL CALCULATIONS TO BE CARRIED OUT BY THE CUSTOMER.
5. EXTERNAL BUILDING FABRIC TO PROVIDE A MAXIMUM U VALUE OF 0.45W/m2K
6. BUILDING TO PROVIDE 1 HOUR MINIMUM FIRE RATING.
7. TOLERANCES FOR FINISHED FLOOR IN NGED CONTROL ROOM TO BE =/– 3mm OVER 3.0m, OVERALL =/– 3mm
8. CONCRETE NGED CONTROL ROOM FLOORS TO RECEIVE POWER–FLOAT FINISH AND TREATED WITH WATCO CEMTECH ETCHING PRIMER, FOLLOWED BY TWO COATS OF WATCO SAFETY COAT, LIGHT GREY, 2ND COAT TO BE APPLIED AFTER INSTALLATION OF CONTROL EQUIPMENT, ALL TO MANUFACTURERS RECOMMENDATIONS (OR SIMILAR APPROVED).
9. PROVIDE ONE MIST COAT AND TWO TOP COATS OF BRILLIANT WHITE EMULSION TO INTERNAL WALLS AND CEILINGS.
10. WHERE THERE IS ANY RISK OF GROUND–WATER INGRESS, A SUMP OF INTERNAL DIMENSIONS 300x300x300mm SHALL BE PROVIDED WITHIN THE MULTICORE CABLE TRENCH FLOOR.
11. EARTHING CONNECTIONS TO REINFORCEMENT AND/OR PILES NEED TO BE IDENTIFIED ON STEEL REINFORCEMENT CIVIL DESIGN.
12. CABLE DUCTS TO BE 'EMTELLE' POWER PRODUCT, CLASS 1–SOLID, SMOOTH WALL PVC–U DUCT TO BE USED THROUGHOUT.
13. NGED APPROVED CABLE DUCT SEALING PRODUCTS EITHER 'ROXTEC', CSD RISE' OR 'HAUFTECNIK' TO BE USED THROUGHOUT.
14. AN UNOBSTRUCTED PASSAGEWAY OF 750MM WIDTH MUST BE PROVIDED ALONG FIRE ESCAPE ROUTES.

DOOR DETAILS



DOOR NOTES:

ALL DOORS SHALL BE LPS1175 SR2 RATED & MIN 1 HOUR FIRE RATED. TO BE OUTWARD OPENING & CONSTRUCTED USING MAINTENANCE FREE MATERIALS. 2 NO. EARTH STRAPS PER DOORLEAF (ALIGNED WITH TOP & BOTTOM HINGES). LOW PROFILE DOOR THRESHOLD.

DOORS TO BE PROTECTED DURING INSTALLATION AND DURING INSTALLATION OF ELECTRICAL EQUIPMENT

THRESHOLD TO BE SEALED AGAINST THE DOOR TO PREVENT AGAINST COLD AND WEATHER INGRESS.

DOOR HARDWARE:

SINGLE POINT LOCKING SYSTEM WITH AUTO DEADLOCKING

SINGLE ACTION ESCAPE VIA PANIC BAR OVERRIDE

EXTERNAL ACCESS VIA HIGH SECURITY CYLINDER GUARD. KEYED EXTERNALLY VIA ABLOY RIM CYLINDER (CY405–PT–SC–MK) SUPPLIED FITTED AND LEVER HANDLE

PASSIVE LEAF RECEIVER AND 2NO. HEAVY DUTY TOWER BOLTS. TOP BOLT TO EXTEND DOWN TO 1750mm ABOVE FINISHED FLOOR LEVEL.

HEAVY DUTY DOOR STAY FITTED TO BOTH ACTIVE AND PASSIVE LEAF. STAYS TO BE CAPABLE OF HOLDING THE DOORS OPEN AT 90 DEGREES FITTED WITH EXTENDED HANDLES FOR RELEASE.

Rev	Drawn	Chk'd	App'd	Date	Revision Note
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0	JS	KRS	CH	----	FOR INFORMATION

nationalgrid Electricity Distribution

Engineering Design Department (East Midlands)
Pegasus Business Park, Castle Donington, DE74 2TU.

Title: NGED 145KV STANDARDS LOOP CONNECTION LOOP IN SUBSTATION CONTROL ROOM LAYOUT

Scale:	Drg. No.	Rev No.
AS SHOWN@A1	GCS0020–5	0

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