[●insert name of contractor●]	Date:	[●]
[●insert address of contractor●]	Co. Registration No.:	[●]
	Your Ref:	[●]
	Our Ref:	[●]

Dear Sir

REQUIREMENTS FOR EARTHWORKS [●insert location●] (Site Meeting Date: [●])

1. We refer to your Notice for Commencement of Earthworks (“NCE”) at the above-mentioned location ("Worksite") dated [●] and note that you will commence earthworks (as defined in Section 2 of the Electricity Act (Cap. 89A) (the "Act")) ("Earthworks") from [●] to [●].

2. Pursuant to Section 80(4)(a) of the Act, you are required to comply with the following requirements when carrying out the Earthworks:

2.1. **Establishing Electricity Cable Positions and Electricity Cable Routes**

2.1.1. You shall engage a Licensed Cable Detection Worker (“LCDW”) to create an electricity cable (as defined in Section2 of the Act) ("Electricity Cable") corridor using adequate and prominent barricades and signposts. You shall strictly monitor and control, by using a Permit-to-Work (“PTW”) system, the Earthworks carried out inside the barricaded Electricity Cable corridor.

2.1.2. You shall ensure that the pegging and marking of Electricity Cable positions / routes are durable and prominent. You shall also ensure that such pegging and marking are not disturbed, removed or tampered with and are reapplied from time to time to ensure that they remain conspicuous for the entire project in which the Earthworks are or are to be carried out (“Project”). You shall not drive steel pins, spikes, long pegs or other similar objects into the ground as these can damage underground Electricity Cables.

2.1.3. You shall re-engage the LCDW to reconfirm the Electricity Cable positions before reapplying missing or faded pegs and surface markers on the ground or inside trenches.

2.1.4. You shall re-engage the LCDW to carry out Electricity Cable detection work and to update Electricity Cable detection drawing and peggings / markings at the Worksite after the carrying out of any Electricity Cable diversion, decommissioning of substation, new commissioning of substation and/or Electricity Cable termination work within the Worksite. You shall brief all Worksite personnel of the new positions of the Electricity Cable positions.

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2.1.5. You shall ensure that the Electricity Cable peggings / markings are each installed at intervals no further than 3 metres apart. You shall indicate the voltage levels and the approximate depth of the Electricity Cable at such peggings / markings.

2.2. **Risk Management**

2.2.1. You shall assess the impact of carrying out the intended Earthworks on the Electricity Cables and Electricity Cable joints and prepare a report detailing such assessment.

2.2.2. If there are changes to the schedule for the carrying out of the Earthworks or changes in Earthworks work methods, you shall study the implications, review the earlier risk assessment that had been carried out and promptly notify SP PowerGrid Limited (an electricity licensee as defined in Section 2 of the Act) ("SPPG") in writing if there are any changes to such earlier assessment.

2.2.3. The report of such assessment shall be made available to SPPG on request. Such report shall also be made known to all personnel of all working levels in the Project team, including sub-contractors and any third party who are involved in any way with any part of the intended Earthworks.

2.3. **Worksite Management**

2.3.1. When working in the vicinity of an Electricity Cable, you shall carry out a site visit jointly with an Earthworks Surveillance & Patrolling section, SPPG (“ESP”) officer before carrying out any Earthworks specified under the submitted NCE.

2.3.2. You shall provide a full-time Registered Earthworks Supervisor (“RES”) to monitor the Worksite operations for the entire duration of any Earthworks. You shall ensure that the RES is familiar with these requirements.

2.3.3. You shall ensure that daily site briefings with all Worksite workers are conducted (in languages that are understood by all workers) to remind them about the location of Electricity Cables and the measures to be taken to prevent damage to the Electricity Cable(s). You shall keep records of such daily briefings (which shall include but are not limited to date and time, venue and person conducting the briefings, contents of briefings and the list of Worksite workers who have attended such briefings). You shall also disallow any Worksite worker who has not attended such briefings from being involved with any part of the intended Earthworks. New staff must be briefed before they start work.

2.3.4. You shall inform ESP officers of the identity of the Worksite management / LCDW / Registered Excavator Operator (“REO”), the proposed methods of carrying out of the

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Earthworks and/or location of the proposed Earthworks. You shall also inform the ESP officers if there are any changes to the above.

2.3.5. You shall ensure that information on the presence of Electricity Cables in the vicinity of the Worksite and all mitigating measures to be taken to prevent damage to such Electricity Cables have been communicated and adhered to by all personnel of all working levels in the Project team, including sub-contractors and any third party who are in any way involved with any part of the intended Earthworks.

2.3.6. SPPG may, from time to time and at its sole discretion, deploy its officers to the worksite to inspect and monitor the status of your works. Notwithstanding the deployment of SPPG's officers at the worksite, you shall continue to be responsible for discharging your obligations under this Letter of Requirements and for the performance of your works. SPPG shall not assume any liability for any non-compliance by you of any such obligation or non-performance of your works.

2.4. **Trial Holes**

2.4.1. You shall dig an adequate number of appropriate trial holes by manual means to determine the exact location of Electricity Cables prior to the carrying out of intended Earthworks. Each trial hole shall be of minimum size of 1.0 metre by 1.0 metre and of minimum depth of 1.0 metre or until the Electricity Cable slabs are exposed.

2.4.2. You shall seek advice from the LCDW on the minimum number of trial holes to be dug so as to ascertain the orientation of each Electricity Cable and its depth.

2.4.3. In the event that you are not able to locate the Electricity Cable indicated in the Electricity Cable plan obtained from SPPG pursuant to Section 80(1)(b) of the Act (which shows the necessary information on the location of Electricity Cables) ("SPPG Cable Plan") and the LCDW is unable to detect the Electricity Cable by way of digging trial holes, you shall engage a LCDW to carry out re-detection and progressive scanning inside the excavated trial holes.

2.4.4. You shall contact ESP and give at least 3 days' advance notice in writing of the date and time of the intended commencement of digging of the trial holes where the trial holes to be dug are within 3 metres of 66kV / 230kV / 400kV Electricity Cables.

2.4.5. You shall not use any hand augering tools to dig trial holes.

2.4.6. You shall only use powered mechanical equipment for the initial breaking of the surface layer of hard-core/premix when working in the vicinity of Electricity Cables.

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You shall not use powered mechanical equipment below the surface layer of hard-core premix and shall only use manual excavation with hand tools.

2.4.7. In the event that you intend to carry out vertical drilling works, you shall dig a trial hole at the actual position of each vertical drilling point prior to commencement of drilling work to ascertain that there are no underground Electricity Cables at or near the drilling point.

2.4.8. After the trial holes have been dug, you shall ensure that photographs of the trial holes are taken showing the dimensions of trial holes, their location and the measured depth of the exposed Electricity Cable slabs in the trial hole. You shall make these photographs available to SPPG upon request.

2.5. **Seek Consultation with SPPG: ESP, Distribution Network (“DN”), Regional Network ("RN") and Extra High Voltage Network ("EHVN") sections**

2.5.1. You shall contact and consult SPPG for approval to carry out any Earthworks when such Earthworks are within 3 metres of any Electricity Cable and / or when there is a need to work beyond the Electricity Cable slab.

2.5.2. In the event that the intended Earthworks are within 3 metres of 66kV / 230kV / 400kV Electricity Cables, you shall also contact and consult the respective RN and / or EHVN section of SPPG for approval to carry out such Earthworks and provide a detailed method of statement and intended measures for the protection of such Electricity Cables.

2.5.3. You shall contact and consult the respective RN and / or EHVN section of SPPG for approval to carry out any Earthworks when such Earthworks involve:

2.5.3.1. Under-crossing or over-crossing of 66kV / 230kV / 400kV Electricity Cables;

2.5.3.2. Deep excavations which may result in ground movement / settlement; and / or

2.5.3.3. Construction of any structure on top of 66kV / 230kV / 400kV Electricity Cables.

2.5.4. You shall also ensure that a SPPG officer is present at the carrying out of any Earthworks which involve under-crossing or over-crossing of any 66kV / 230kV / 400kV Electricity Cables.

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2.5.5. You shall contact and consult ESP for advice before carrying out any Earthworks within 3 metres of any 22kV / 6.6kV electricity cables.

2.5.6. You shall contact and consult the respective DN / RN and / or EHVN sections of SPPG for approval to carry out any Earthworks which may involve shifting, denting or breaking any SP Power Assets' uPVC pipes and/or the shifting of any Electricity Cable and Electricity Cable joint.

2.6. P**rotection of Electricity Cables and Electricity Cable Diversion**

2.6.1. You shall not carry out any excavation beyond the Electricity Cable slab level. You shall only remove any Electricity Cable slabs, expose any Electricity Cables and its auxiliary, in the presence of a SPPG officer.

2.6.2. You shall provide protective steel plates above Electricity Cables where powered mechanical excavator / heavy vehicle / equipment are likely to traverse and / or damage such Electricity Cables. You shall not allow heavy machinery and/or vehicles to be parked (whether temporary or otherwise) on top of Electricity Cables.

2.6.3. You shall ensure that proper and adequate shoring and shuttering are installed to prevent soil movement which may damage the Electricity Cables which are in the vicinity of such intended Earthworks. You shall obtain and provide a method of statement with a Professional Engineer's endorsement of the relevant shoring and shuttering design to SPPG upon request.

2.6.4. In the event that any hot works (i.e. any process that can be a source of ignition when flammable material is present or can be a fire hazard regardless of the presence of flammable material) are to be carried out in the vicinity of exposed Electricity Cables, you shall take all necessary safety precautions to avoid damaging the protective coatings and sheaths of such Electricity Cables.

2.6.5. You shall provide adequate protection to known and unexposed or reinstated Electricity Cables that are within the Worksite when carrying out any Earthworks.

2.6.6. You shall relocate your intended earthworks away from any Electricity Cable or submit an official request to the respective DN / RN / EHVN sections of SPPG to divert out of the Worksite any Electricity Cable that will be affected by the intended Earthworks and bear any and all costs incurred from such diversion.

2.6.7. In the event that the intended Earthworks causes the ground surface level to be reduced, in order to maintain a consistent depth from the ground surface level, you shall submit an official request to the respective DN / RN / EHVN sections of SPPG to relocate any affected Electricity Cable such that its depth from the reduced ground

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surface is returned to its initial depth from the original ground surface level and bear any and all costs incurred arising from or in connection with such relocation.

2.6.8. You shall seek approval from the respective DN / RN / EHVN sections of SPPG before suspending any Electricity Cables. You shall ensure that any exposed Electricity Cable is securely supported and such Electricity Cable suspension support system is effective in protecting the exposed Electricity Cable from damage. In the event that the Electricity Cable suspension support system is longer than 6 metres in length, you shall ensure that such Electricity Cable suspension support system is endorsed by a Professional Engineer. You shall also ensure that exposed Electricity Cables are well protected with gunny sacks and / or half gutter uPVC pipes at all times.

2.6.9. You shall not suspend any Electricity Cable joint.

2.6.10. You shall exercise due care and diligence when removing any rock, boulder, wood, metal rod, sharp object or other obstacles which are in the vicinity of Electricity Cables to avoid damaging any Electricity Cable and/or Electricity Cable Joint.

2.6.11. You shall not construct any structure (temporary, permanent or otherwise) over any Electricity Cable. The Electricity Cables and accessories shall be made accessible to SPPG at all times for maintenance purposes.

2.6.12. You shall not place any material, debris, sharp object, concrete trash and / or heavy object on top of any Electricity Cable and / or Electricity Cable corridor within the Worksite.

2.6.13. You shall provide adequate lighting if the Earthworks are to be carried out at night.

2.6.14. You shall stop work immediately and report to SPPG's Electricity Service Centre upon any damage or suspected damage to any Electricity Cable. You shall ensure that all Worksite personnel are kept away from the location of the damaged Electricity Cable for safety.

2.6.15. You and/or your workers shall not attempt to repair or modify any damaged Electricity Cable.

2.6.16. You shall stop all Earthworks and call SPPG for advice whenever in doubt.

2.6.17. Damaging an Electricity Cable may cause a delay in the completion of the Project as SPPG will need time to investigate and carry out repair work as necessary. Any repair costs may have to be borne by you.

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2.6.18. SPPG shall be entitled to ask you to stop work with immediate effect in the event of any actual or suspected damage to any Electricity Cable, to prevent or avoid any damage or further damage to any Electricity Cable. SPPG shall not be liable to you in any way for any losses, claims or damages arising from or in connection with such stop work requests.

2.6.19. You shall comply with any requirements as reasonably prescribed by SPPG in SPPG's review and endorsement of the relevant method of statement and any other documents submitted by you in relation thereto for the Earthworks.

2.7. **NCE Submission by Sub-Contractor(s) and NCE Extension**

2.7.1. You and/or your representatives shall attend meetings with ESP as and when required.

2.7.2. In the event that you engage a sub-contractor to carry out any Earthworks within the vicinity of any high voltage Electricity Cable, you shall ensure that such sub-contractor submits the appropriate NCE prior to the carrying out of any Earthworks in the vicinity of any high voltage Electricity Cable.

2.7.3. If, at any stage of your Project, there is a likelihood that the Earthworks may continue beyond the anticipated completion date and / or beyond the work boundary as declared in the NCE which you have submitted to SPPG, you shall notify SPPG in writing of the new date of completion and/or the new work boundary (as applicable) by submitting a new NCE.

2.7.4. You shall obtain a new SPPG Cable Plan from SPPG prior to submitting the NCE.

2.7.5. Prior to carrying out any Earthworks, you shall consult SPPG to ascertain if there are changes to the cable plans that you possess. In the event there are changes to the cable plans, you shall purchase fresh cable plans from SPPG.

2.8. **Powered Mechanical Excavation Works**

2.8.1. You shall engage only a REO to operate a powered mechanical excavator.

2.8.2. You shall ensure that powered mechanical excavation is only used, under the close standing supervision of a full time RES, for the surface layer of hard-core/premix when working near or above any Electricity Cable.

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2.8.3. You shall not use a powered mechanical excavator, whether for mechanical excavation or otherwise (irrespective of soil condition), below the surface layer of hard-core/premix near or above any Electricity Cable. You shall only use manual excavation with hand tools below the surface layer of hard-core/premix.

2.9. **Vertical and Horizontal Drilling/Penetration Works**

2.9.1. You shall carefully select positions for the sinking and driving of earth rod, sheet piling, bore piling, diaphragm walling, installing of reinforced concrete/steel piles by percussion or jack-in method, bore piling casing, installation of ground anchors, pressure grouting, installing of tubes, installing of poles, hand augering, pipe jacking, shoring works, soil investigations, bore drilling and horizontal directional drilling in order to avoid damage to any Electricity Cables. You shall do this by, amongst other things:

2.9.1.1. Consulting with a LCDW, referring to the SPPG Cable Plan and the LCDW cable detection drawings and digging appropriate trial holes by manual means to confirm the presence or absence of any Electricity Cable prior to the carrying out of any Earthworks.

2.9.1.2. For pipe jacking and horizontal directional drilling, you shall consider the additional factors such as loading from the construction plants, ground conditions, bore diameter, possible deviation of the drilling. You shall ensure that there is a minimum clearance of 2 metres between the path of drilling / boring device and any Electricity Cables in the vicinity of the Earthworks.

2.9.2. Sinking of Earth Rods. Trial holes shall be required to locate the closest edge of a cable slab. A minimum clearance distance of 2 metres shall be kept between the earth rod and the closest edge of the cable slab, as determined by the LCDW in the presence of an ESP officer.

2.9.3. Sinking and Extraction of Sheet Piling Works. Trial holes shall be required to locate the closest edge of a cable slab. A minimum clearance distance of 2 metres shall be kept between the sheet piles and the closest edge of cable slab. For sheet piles that are required to be installed parallel to the Electricity Cables, the stretch of the closest edge of cable slabs is required to be exposed.

2.10. **Pressure Grouting Works**

2.10.1. You shall ascertain the alignment of Electricity Cable within the grouting influence zone prior to the carrying out of any Earthworks.

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2.10.2. You shall use the necessary ground instrumentations to monitor the effect of the grouting works and ensure that adequate protective measures are provided to protect the Electricity Cables within the grouting influence zone.

2.11. **PTW and Records**

2.11.1. You shall implement a PTW system to monitor and ensure that all Earthworks are properly tracked and controlled if such Earthworks are to be carried out in the vicinity of Electricity Cables. Under the PTW system, such Earthworks shall be approved by the manager of the Project or his authorised deputy. You shall periodically audit the PTW system for its effectiveness.

2.11.2. You shall display prominently and make available the most up to date NCE, SPPG Cable Plans, LCDW cable detection drawings and these requirements at the Worksite where the proposed Earthworks are to be carried out.

2.11.3. You shall keep progressive records (Photographs / Movement Chart) of the Earthworks that have been carried out including, not limited to, work schedules and locations of trial holes.

2.12. **CCTV Monitoring** *(effective from 1st June 2024)*

You shall ensure that surveillance cameras are installed and put in use to monitor (in real-time), record continuous video, and capture still images of any earthworks being carried out within 3 metres of 66kV / 230kV / 400kV Electricity Cables and for any Earthworks within fenced-up worksite with transmission cable. The requirement include that you shall:

2.12.1. Obtain SPPG's prior approval on the number of cameras to be provided for the intended earthworks to ensure that the surveillance by the cameras is sufficient to cover the entire cable corridor.

2.12.2. Use web-based IP surveillance cameras to continuously monitor and perform video recordings of earthwork activities in the vicinity of the 66kV / 230kV / 400kV Electricity Cables. The surveillance cameras system shall allow the capturing of still images from its recordings.

2.12.3. Ensure that the surveillance cameras system functions properly and that the recorded images are of clear screen resolution.

2.12.4. Provide SPPG with full access to the internet website address for the IP surveillance cameras system to view the real-time video recordings of the earthwork activities

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within the cable corridor and videos recorded after any earthworks activities as captured by the surveillance cameras.

2.12.5. All recorded footages shall be stored for a duration of at least 4 weeks ("the Period"), starting from the commencement of earthworks, and shall be retained in storage for a further 2 weeks before any captured images or video recordings for the Period may be overwritten, deleted, removed or destroyed. SPPG shall be provided with full access to the IP surveillance cameras system and to the stored images or video recordings or be provided with copies thereof upon SPPG's request.

2.12.6. In the event of a cable damage, you shall immediately surrender to SPPG with the relevant video recordings and still images leading up to the cable damage for investigation.

3. **Notes**:

3.1. These requirements are applicable to all persons who carry out any Earthworks and strict compliance is required, unless otherwise permitted in writing by SPPG. Please consult the relevant SPPG section, if necessary.

3.2. The requirements stated above are not exhaustive. Additional requirements may be issued from time to time by SPPG. These additional requirements, together with the requirements in this letter, shall form the full list of requirements that must be complied with at all times. You are advised to carry out all necessary assessments and take all necessary precautions to prevent damage to any existing Electricity Cables.

3.3. Pursuant to Section 80(4)(a) of the Act, it shall be the duty of the person who carries out any Earthworks to comply with all reasonable requirements of SPPG for the prevention of damage to a high voltage Electricity Cables. Pursuant to Section 80(7) of the Act, any person who contravenes Sections 80(4)(a) of the Act shall be guilty of an offence and shall be liable on conviction to a fine not exceeding $100,000 or to imprisonment for a term not exceeding 5 years or both. Further, Section 85(1) of the Act provides that any person who, removes, destroys or damages any Electricity Cable which is part of a transmission system that belongs to or that is under the management or control of SPPG, shall be guilty of an offence and shall be liable on conviction to a fine not exceeding $1 million or to imprisonment for a term not exceeding 5 years or to both.

3.4. Damaging an Electricity Cable may also cause fatalities or severe injuries to personnel as well as damage to property.

3.5. Should you require any further clarification, please contact the undersigned ESP officer at [●] and/or the respective sections of SPPG as listed in the table below:

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Subject Matter	SPPG Section	Telephone
Enquiry on 400kV and 230kV Electricity Cables	Extra High Voltage Network (EHVN) Section	6916 5485/6916 5487/ 6916 5488
Enquiry on 66kV Electricity Cables	Regional Network East/West (RNE/RNW) Sections	6916 5256/6916 5557
Enquiry on 22kV and below Electricity Cables	Distribution Network One (DN1) Section	6916 5728
	Distribution Network Two (DN2) Section	6916 5047/6916 6311
	Distribution Network Three (DN3) Section	6916 5398/6916 5400/ 6916 9759
	Distribution Network Four (DN4) Section	6916 5057/6916 5048
	Distribution Network Five (DN5) Section	6916 5015/6916 5703
	Distribution Network Six (DN6) Section	6916 5741/6916 6994
Enquiry on Earthworks Requirements	Earthworks Surveillance & Patrolling Section	6916 5119
Enquiry on as-built drawing, cable plan	Mapping & Earthworks Administration Section	6916 5022
Reporting Electricity Cable Damage	Electricity Service Centre	1800 - 778 8888

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Yours faithfully,

[●]
for HEAD OF SECTION
EARTHWORKS SURVEILLANCE & PATROLLING SECTION
As agent for and on behalf of SP POWERASSETS LTD.

Acknowledgement by Earthworks Contractor:

I hereby acknowledge that I am aware of the requirements stated in this letter dated _____ with NCE no.: _____ and I will comply and ensure compliance with the requirements.

Name : _____ NRIC/PP No. : _____

Company : _____

Signature : _____ Date: _____

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