



# **POWER SUPPLY CONNECTION / CS3 APPLICATION PROCEDURES & GUIDELINES FOR NON-CONTESTABLE CONSUMER INSTALLATION**

**NOTE:**

This application guide is suitable for applying supply connection CS3 for temporary supply and permanent supply (below and above 45KVA) for non-contestable consumer type. Applicant shall read through all sections of this application guide and follow the instructions provided.



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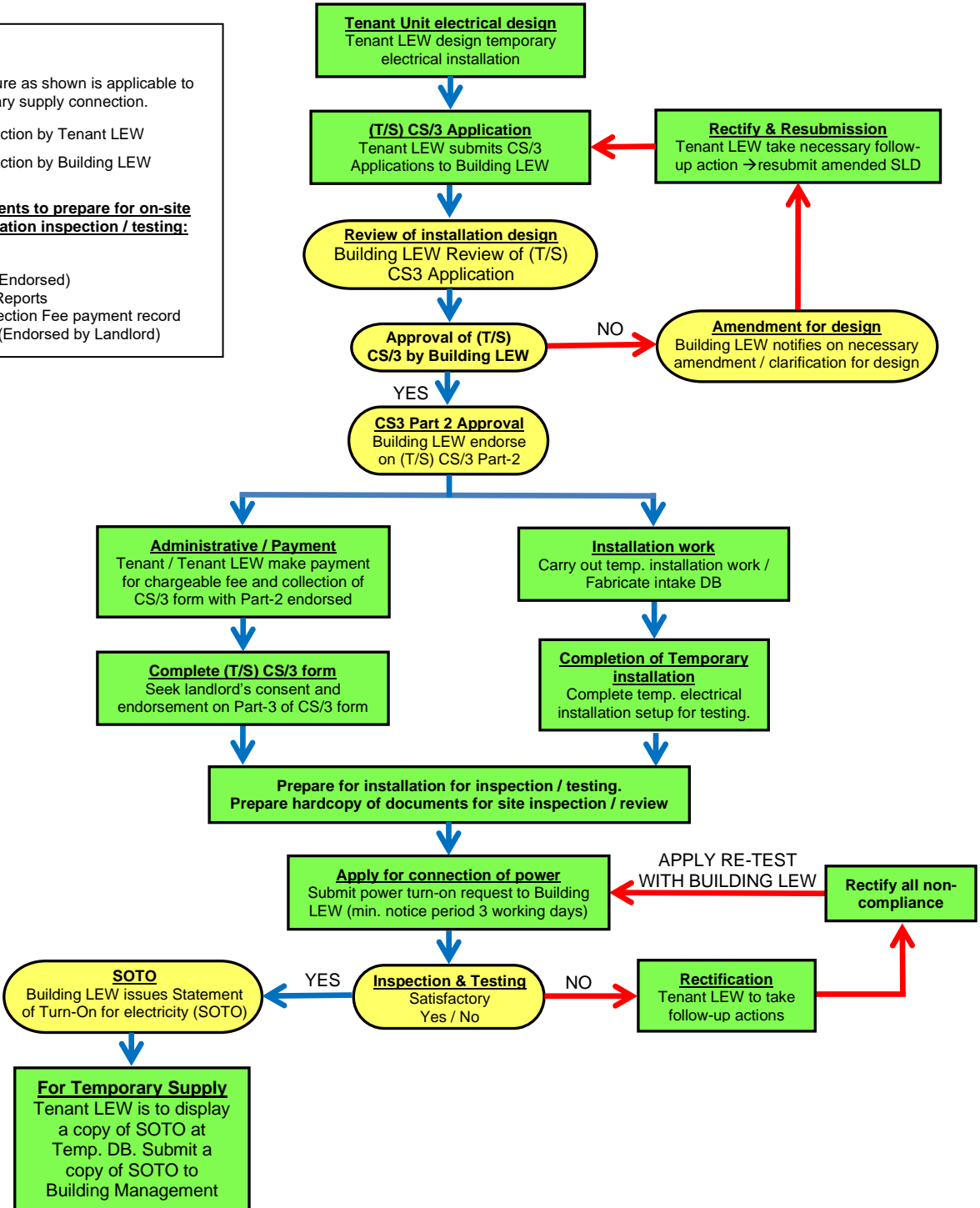
**PROCEDURE (FLOW-CHART) FOR APPLICATION OF ELECTRICITY CONNECTION FOR  
TEMPORARY SUPPLY USAGE FOR CONSTRUCTION / RENOVATION WORK  
FOR NON CONTESTABLE CONSUMER**

**Note:**  
 Procedure as shown is applicable to temporary supply connection.

Action by Tenant LEW  
 Action by Building LEW

**Documents to prepare for on-site energization inspection / testing:**

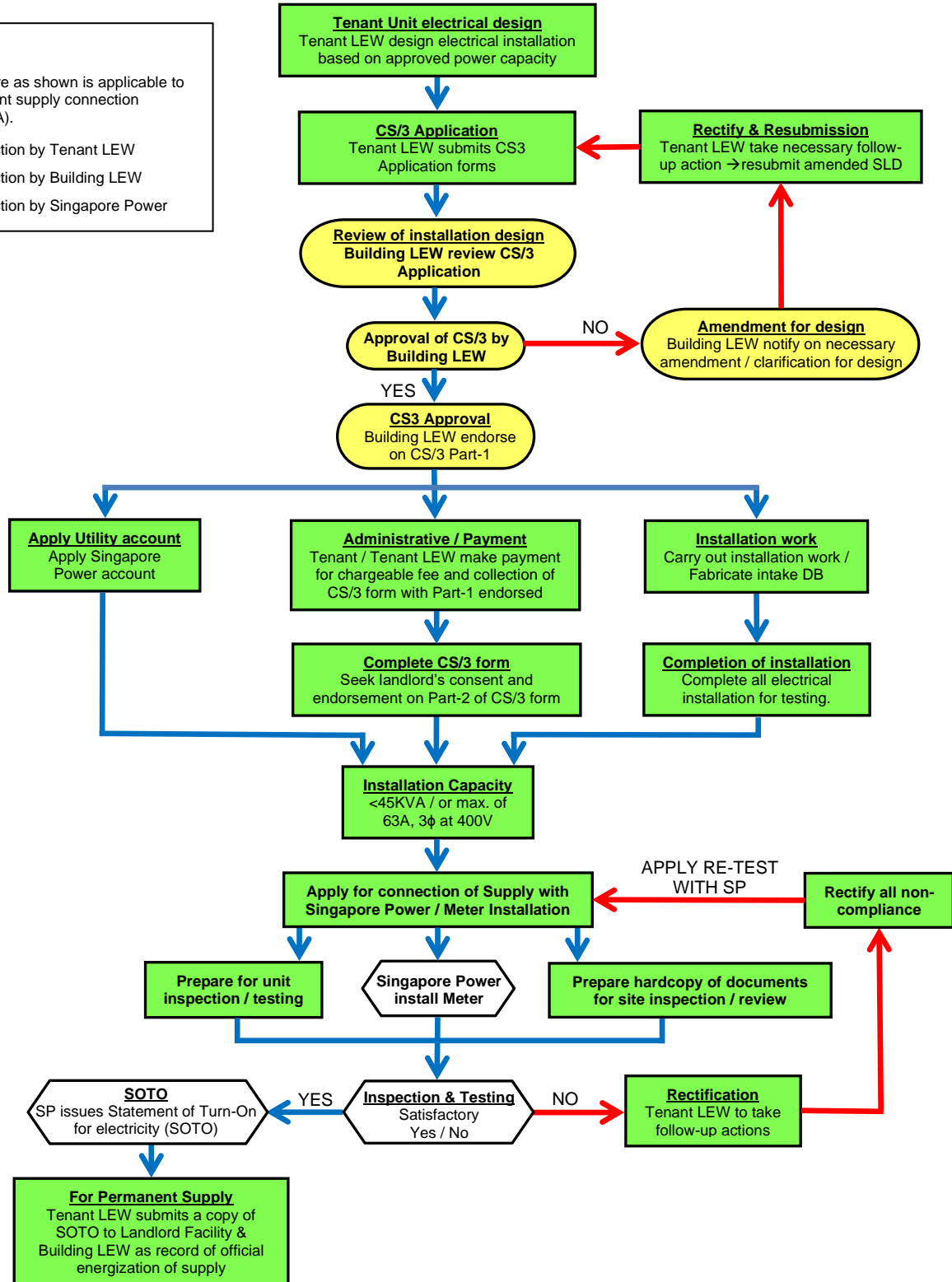
- COC
- SLD (Endorsed)
- Test Reports
- Connection Fee payment record
- CS/3 (Endorsed by Landlord)





**PROCEDURE (FLOW-CHART) FOR APPLICATION OF ELECTRICITY CONNECTION FOR PERMANENT SUPPLY FOR NON-CONTESTABLE CONSUMER (BELOW 45KVA)**

**Note:**  
Procedure as shown is applicable to permanent supply connection (< 45KVA).  
■ Action by Tenant LEW  
● Action by Building LEW  
◻ Action by Singapore Power



**NOTE:** Building LEW may conduct inspection for Non-contestable installation that is below 45KVA when necessary.



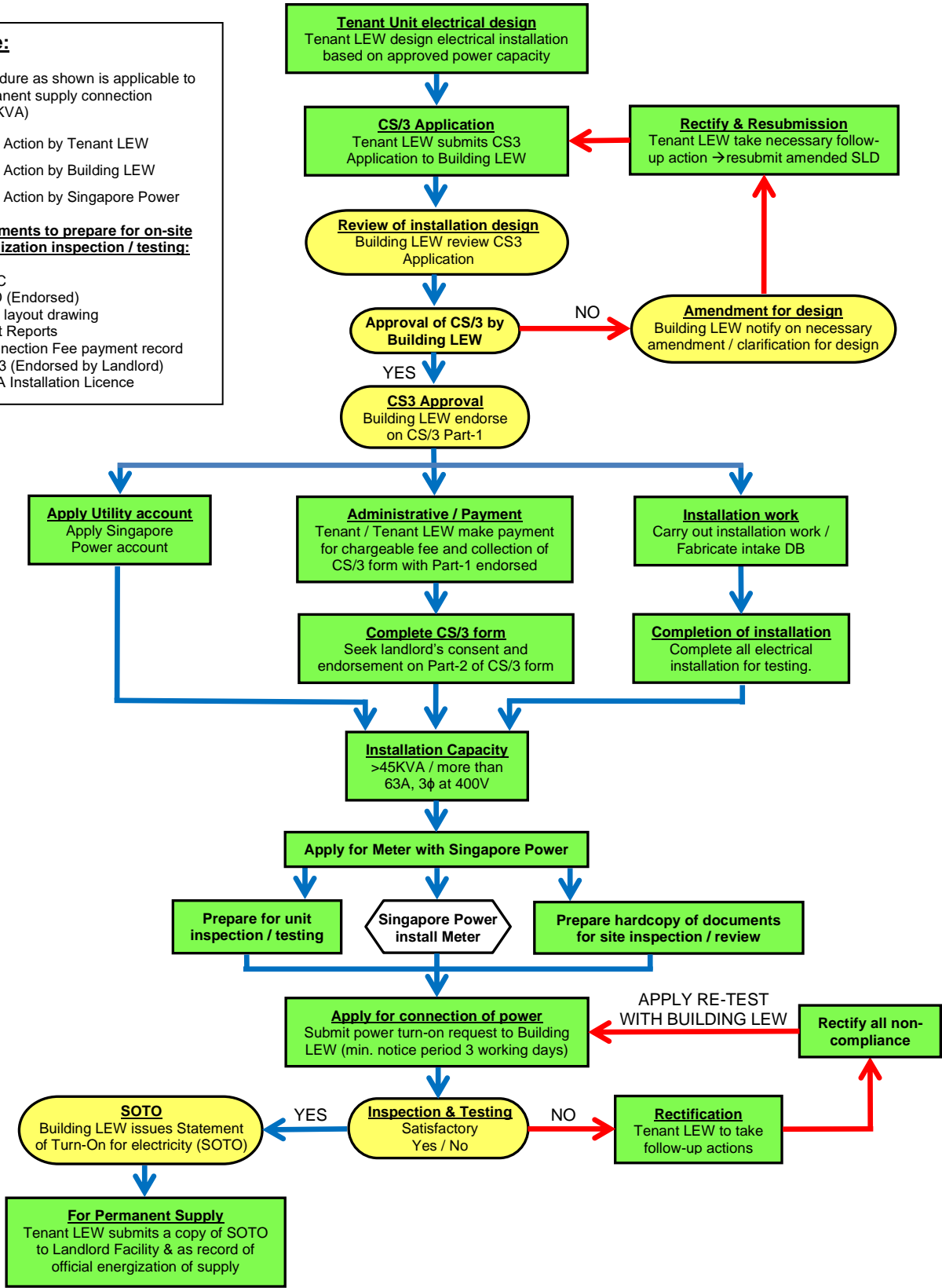
**PROCEDURE (FLOW-CHART) FOR APPLICATION OF ELECTRICITY CONNECTION FOR PERMANENT SUPPLY FOR NON-CONTESTABLE CONSUMER (ABOVE 45KVA)**

**Note:**  
 Procedure as shown is applicable to permanent supply connection (> 45KVA)

Action by Tenant LEW  
 Action by Building LEW  
 Action by Singapore Power

**Documents to prepare for on-site energization inspection / testing:**

- COC
- SLD (Endorsed)
- Unit layout drawing
- Test Reports
- Connection Fee payment record
- CS/3 (Endorsed by Landlord)
- EMA Installation Licence





**Guidelines for Application for Connection of Electricity Supply by Tenants**  
**(For Non-Contestable consumers)**

1. The Tenant / consumer of electricity shall engage LEW (licensed electrical worker) to submit this application. If the installation project is appointed a M&E company, the contractor (M&E company) shall engage LEW to submit this application.
2. The responsibility of the Contractor LEW:
  - a) Review all documents, ensure documents comply with guidelines stated in this handbook before making submission.
  - b) Supervise the electrical work
  - c) Liaise with Building LEW for inspection / turn on of supply (fee chargeable)
  - d) Submit the following documents to Building LEW for review and approval prior to turn on / site inspection and testing:
    - i. Electrical Single-Line Diagram (complete with title block with information of installation)
    - ii. Electrical Layout Diagram (power / lighting / emergency or exit lightings)
    - iii. Certificate of Compliance
    - iv. Electrical Installation Test Reports
    - v. EMA Installation Licence (only for installations with supply capacity of >45kVA)

Refer to page-11 and 12 of this application handbook for the document submission requirements.

3. The approval of application is subjected to the following:
  - a) Supply shall be obtained from Landlord switchboard/ Riser approved by Building LEW.
  - b) Tenant's Load shall be balanced if supply is 3 phase.
  - c) Tapping of supply from Landlord's emergency supply is not allowed, unless approval obtain from Landlord.
  - d) Earth Fault Protection such as RCCB / Earth Fault Relay must be installed at incoming breaker.
  - e) Temporary power supply application requires private Kwh meter to be installed at Temporary DB by contractor for the purpose of recording electricity consumption. Private Kwh meter is not required if landlord deems as not necessary and charges for usage of electricity is based on daily rate.
  - f) Temporary supply for renovation / temporary installation for events site set-up shall comply with SS:650 (formerly CP-88).
  - g) Settings of protective devices are subjected to changes, if needed. This is to ensure that discrimination of protection is achieved between tenant's installation and landlord's electrical distribution system.



**Guidelines for Application for Connection of Electricity Supply by Tenants**  
**(For Non-Contestable consumers)**

- h) The tenant must undertake to reduce the approval load on demand by the landlord if the approval load is not fully utilized.
- i) This approval is given on the basis that the electrical loading is within the limits acceptable for use in Landlord's premises. It is not an endorsement of safety, reliability or suitability of the equipment used. The approval shall not be taken to override any statutory requirements.
- j) Tenant's LEW shall carry out testing and witnessed by Building LEW (for all temporary supply connection and permanent installation that is above 45kVA).

4. Requirement for Single Line Diagram (SLD):

- a) State all current rating / type of circuit breakers, RCCB types (AF/AT, Short-circuit Rating,  $I_{\Delta N}$ )
- b) State all incoming and outgoing circuit cable sizes, type of cables and method of installation (If lay on tray, use only double insulated protected cables)
- c) Title block with full detail (Full installation address, name of tenant unit, Owner of Installation, Design by, Build By, Date, Drawing No.)
- d) Information of Tenant's appointed LEW (Endorsement, Name of LEW, EMA Licence No. Contact number)
- e) State the following design load information:
  - i. Approved Load agreed by Landlord (comply with contracted power density)
  - ii. Total connected load
  - iii. Maximum Demand
- f) Indicate information of Landlord source (Source from which landlord Riser, Switchboard / circuit number)
- g) All outgoing circuits description must be provided with the location of the circuit fittings (example: L1P1 – 3 no. of 13A twin SSO located in Room-1)
- h) SLD shall show details of meter board for installations taking supply from Landlord Meter Board.

Refer to the attached Appendix for sample of SLD requirements. Non-compliance to the guidelines for SLD submission may result in longer process time for CS3 application.

**Appendix-1:** Compliance guidelines for SLD Submission (sample of 63A DB / suitable guide for up to 100A DB)

**Appendix-2:** Compliance guidelines for SLD Submission (sample of 150A DB / suitable guide for DB > 100A)



**Guidelines for Application for Connection of Electricity Supply by Tenants**  
**(For Non-Contestable consumers)**

5. Fees and payment matters
- a) CS3 Applicant will be notified once the application for supply connection has been approved. The CS3 form will be prepared and endorsed by Building LEW. Applicant will be notified on the fee chargeable for CS3 application.
  - b) Applicant shall make payment of CS3 application fees by cheque, make payable to LC Engineering Services Pte Ltd. The cheque shall be submitted to the office of LC Engineering Services Pte Ltd and at the same time collect the CS3 form.
  - c) Fees paid are not refundable. A reappointment fee shall be imposed for any reappointment (applicable to all for temporary supply and permanent supply above 45KVA) for Inspection / testing / turn-On due to non-compliance of the tenant installations or tenant's contractor or LEW failure to turn up at site.
  - d) 3 working days' notice (does not include Sat / Sun / Public holiday) is required for booking of appointment (applicable to all for temporary supply and permanent supply above 45KVA) for site Inspection / Turn-On of supply. Additional surcharge fee is chargeable for request of express Turn-On with notice period of less than 3 days upon approval of CS3.
  - e) Test appointment that is fixed on weekdays after office hours (6:00pm onwards) or dates that fall on public holidays or weekend shall be subjected to additional surcharge fee.
  - f) A re-test or re-inspection fee is chargeable for additional attendance made by Building LEW. Conditions that may be subjected to re-test or re-inspection as follow:
    - i. Absence of Contractor / Tenant LEW
    - ii. Unsatisfactory test results
    - iii. Incomplete installation / Installation not ready for testing
    - iv. Unsafe condition / non-compliance of electrical safety
    - v. Payment for CS3 application fee not made prior to energization / testing appointment
  - g) When surcharge fee is chargeable due to conditions mentioned in item-5(e), 5(f) and 5(g), a standard fee of S\$200.00 (GST chargeable) will be applicable to a single application. If more than one application is affected by item-5(e), (f) and (g), each application will be charged with surcharge fee.
6. All electricity supply usage shall be notified (including short term set up for events / road-show booths or exhibitions) to both the Building Management and appointed Building LEW. Tenant that are doing fit-out or minor renovation work shall apply for temporary usage of electricity with proper consent obtained from both Building Management and the appointed Building LEW. Application procedures for temporary supply usage and connection shall comply with the procedures given in the flowchart (refer to page-3 to 5 for respective types of application).





**Guidelines for Application for Connection of Electricity Supply by Tenants**  
**(For Non-Contestable consumers)**

7. Note that under the Electrical ACT, it is an offence to carry out electrical rewiring work without the approval and supervision of Licensed Electrical Worker. As such, the Building Management reserves the right to disconnect the electricity supply in the event of non-compliance or unauthorized connection and usage of power supply, including temporary supply for renovation, events / road-show booths or exhibitions.
8. Contractors who are engaged by tenants to carry out reinstatement work for moving out and handing-over of units shall reinstate all the unit's electrical installations accordingly to landlord's as-built drawing (electrical) / clauses stated in the tenant's agreement. The final installation that is ready after reinstatement work is completed shall be inspected and tested by the appointed Building LEW. The contractor shall submit CS3 to Building LEW for request of inspection and testing of the completed reinstatement installations.
9. Tenants who are on short term lease (6months or less) of tenanted unit space shall also submit CS3 application to obtain the approval for the connection to the landlord distribution and usage of power supply. If installation is above 45KVA (more than 63A, three phase), tenant shall obtain EMA Licence for operate of electricity.
10. Methods for booking of inspection / testing and energization appointment, contact us at:
  - a) Call our office (6567-4032) during office hours  
(Weekdays, 8.30am ~ 1.00pm / 2.30pm ~ 5.00pm)
  - b) Email to: [CS3@Lces.com.sg](mailto:CS3@Lces.com.sg)

Applicants shall obtain the approval of CS3 and make payment for the CS3 fee before booking of appointment date for the inspection / testing and energization appointment.

Energization appointment booking is for Temporary supply connection & Permanent supply connection (> 45kVA only). Installation below 45KVA shall be inspected, tested and energized by Singapore Power Testing Department.



**Guidelines for Application for Connection of Electricity Supply by Tenants**  
**(For Non-Contestable consumers)**

11. The following documents shall be prepared for inspection and energization of installation and handover a set the Testing LEW without fail (for installation above 45KVA):
- a) Single Line Diagram (as-built) – endorsed
  - b) Certificate of compliance (COC) – endorsed and dated
  - c) Electrical layout drawings (power / lighting / emergency lighting) – endorsed
  - d) Test reports (insulation resistance test reports / protection relay test reports)
  - e) CS3 (completed with endorsement by Landlord)
  - f) Payment record of CS3 fees (comprises of testing fee) – for verification by Testing LEW
  - g) EMA Licence copy (for permanent supply above 45kVA)
  - h) Letter of Authorization for appointing stand-in LEW (if Design / Contractor LEW is not attending)

Note that installation that is below 45KVA will be tested by SP Testing Officer. Documents submission for energization and testing shall comply with SP requirement for installation that is below 45KVA.

12. Post-energization:
- a) Submit copy of Statement of turn-on document:  
  
Tenant installation that is below 45KVA will be tested and energized by SP Testing Team. The Tenant's LEW shall submit a copy of the Statement-of-turn-on issued by SP to building LEW and the Management of Landlord for record keeping purposes.  
  
For tenant installation that is above 45KVA, the testing and energization will be conducted by the building LEW and the Statement of turn on will be issued as well. The Tenant's LEW shall submit a copy of the Statement-of-turn-on issued by building LEW to the Management of Landlord for record keeping purposes.
  - b) Display of temporary supply Statement of turn-on document:  
  
Fit-out / renovation contractors shall display a copy of the temporary supply Statement-of-turn-on (SOTO for temporary supply) at the temporary supply intake DB for the duration of the work.
  - c) Display of EMA Licence (for installation above 45KVA) and SLD  
  
The EMA Licence (only for installation above 45KVA) and SLD shall be displayed at the main supply intake DB of the tenanted premise. The Tenant LEW shall submit the latest updated as-built SLD to building LEW / Management of landlord if there is any change of installation / design.
13. The Building Management and LEW will not be liable to any party for any losses, cost, expenses and damages arising therefrom.



**FORM A – CS3 APPLICATION INFORMATION** (To be completed by Tenant's LEW / Elect. Contractor)

**Part-4: ARRANGEMENT FOR INSPECTION / TURN ON OF INCOMING SUPPLY:**

(✓ Tick to select the type of supply connection)

- Permanent supply connection (Note: Below 45KVA shall only be tested by Singapore Power Testing Dept)
- Temporary supply connection (For construction / renovation work)
- Others: Upgrading of power supply / Reinstatement

The Approved Load is \_\_\_\_\_ **Ampere, 1-Phase / 3-Phase**  
 (cancel where not applicable)

I would like to make an appointment for the Inspection / Turn On of electricity installation:

<b>Full Address of Installation:</b>	
<b>Date of inspection / energization<sup>(1)</sup>:</b>	____ / ____ / ____ (DD / MMM / YYYY – e.g: 23 / Nov / 2017) (You may leave the date as blank and call our office to book a date once your installation is ready for inspection / testing)
<b>Preferred Time slot<sup>(2)</sup>:</b> (Tick the appropriate ✓)	<input type="checkbox"/> 9:00am ~ 12:00pm / <input type="checkbox"/> 1:00pm ~ 3:30pm / <input type="checkbox"/> 3:30pm ~ 6:00pm (Actual appointment time will be notified, subjected to availability of Building LEW.)

**Note:**

- (1) Preferred date of inspection / energization selected by applicant will be only be fixed (subjected to the availability of testing LEW) if the application CS3 fee is paid.  
 Preferred date / time slot may be occupied by other applicants as the booking of appointments will be given priority to applicants who make payment, booking of testing schedule is based on the first-come-first served basis.
- (2) Applicants shall carefully select the preferred time slot. Ensure that the revenue meter for supply connection billing is installed before the testing / energization time slot.

**Part-5: DOCUMENT SUBMISSION CHECKLIST:**

The following documents are attached together with this application:

Documents	No. of copies	Documents	No. of copies
Electrical Single-Line Diagram **+		Overcurrent & Earth Fault Relay Operation Test Report +	
Electrical Layout Diagram # + (power / lighting / e-light / DB)		Electrical Installation Test Report + (insulation resistance test)	
Certificate of Compliance **+		Other Equipment Test Reports (if any)	
EMA License (only for applied capacity more than 45kVA or above 63A, three phase)			

**Note:**

- \* Documents required to be submitted for review / approval of temporary CS3 application
- # Documents required to be submitted for review / approval of permanent CS3 application
- \* Documents (updated, if any) required to be submitted for review and record keeping during energization

**FORM B – CS3 Form: Request for Electricity Supply by Tenants**

**CS3 FORM FOR  
 TEMPORARY  
 SUPPLY USE ONLY**

**PART 1 – TENANT (Details to be completed by Tenant’s Licensed Electrical Worker)**

<b>Send Application to:</b>	Building LEW - 1 Bukit Batok, #04-01, S(659592) 65674032 (Office)   65697507 (Fax)   CS3@Lces.com.sg (email)				
<b>Full Address of Installation</b>	Block:	Unit No: #	Building Name:		
	Street:			Postal Code:	
<b>Name of Company</b>					
<b>Total Approved Load (A)#</b>		Amps at: 230V / 400V	<b>Total Floor Area (m<sup>2</sup>)</b>		<b>Power Density (W/m<sup>2</sup>)</b>

(✓ Tick to select the type of application)

- New Tenant\*  
  Upgrading of Supply\*  
  Rewiring Work  
  Temporary supply\*  
  Addition of Circuits  
  Reinstatement

**Note:**

- # Applicant’s installation design load shall comply with Landlord’s agreement for the approved load.  
The total approved load shall not exceed the total power calculated from the approved power density for the total tenanted floor area).
- + Private utility meter installed shall be complied to Landlord’s requirement.
- \* Temporary supply for renovation, fit-out work / temporary installations for events site set-up shall comply with SS:650 (Formerly CP-88).
- \* Applicant of temporary power supply shall provide a temporary main DB with private utility meter installed for power consumption record purpose.  
Private Kwh meter is not required if landlord deems as not necessary and charges for usage of electricity is based on daily rate.

**PART 2 – BUILDING LICENSED ELECTRICAL WORKER**

1. I have checked the loading of the electrical installation of the above-mentioned building / complex and hereby confirm that the above-mentioned load requirement can be catered for from the rising / horizontal mains system / main switchboard of the building / complex and the total approved load to the entire building / complex will not be exceeded.
2. I have no objection for the above-mentioned load to be connected to the rising / horizontal mains system / main switchboard of the building / complex.
3. I will check to ensure that the above-mentioned installation is compatible with the electrical installation of the building / complex.

\_\_\_\_\_  
 Signature of Building’s LEW

Date: \_\_\_\_\_

**PART 3 – CONSENT FROM LANDLORD**

To: Tenant of above-mentioned address:

- I hereby give consent for the above-mentioned tenant to tap electricity supply of the capacity indicated above from the rising / horizontal mains system / main switchboard of the building /complex.
- Please ask your tenant’s LEW to liaise with our building’s LEW for the inspection of your electrical installations.

\_\_\_\_\_  
 Name / Signature of Authorised Personnel

Date: \_\_\_\_\_



## APPENDIXES

### SAMPLE SLD OF 63A AND 150A TYPICAL DESIGN (GUIDELINE FOR COMPLIANCE)

**NOTE:**

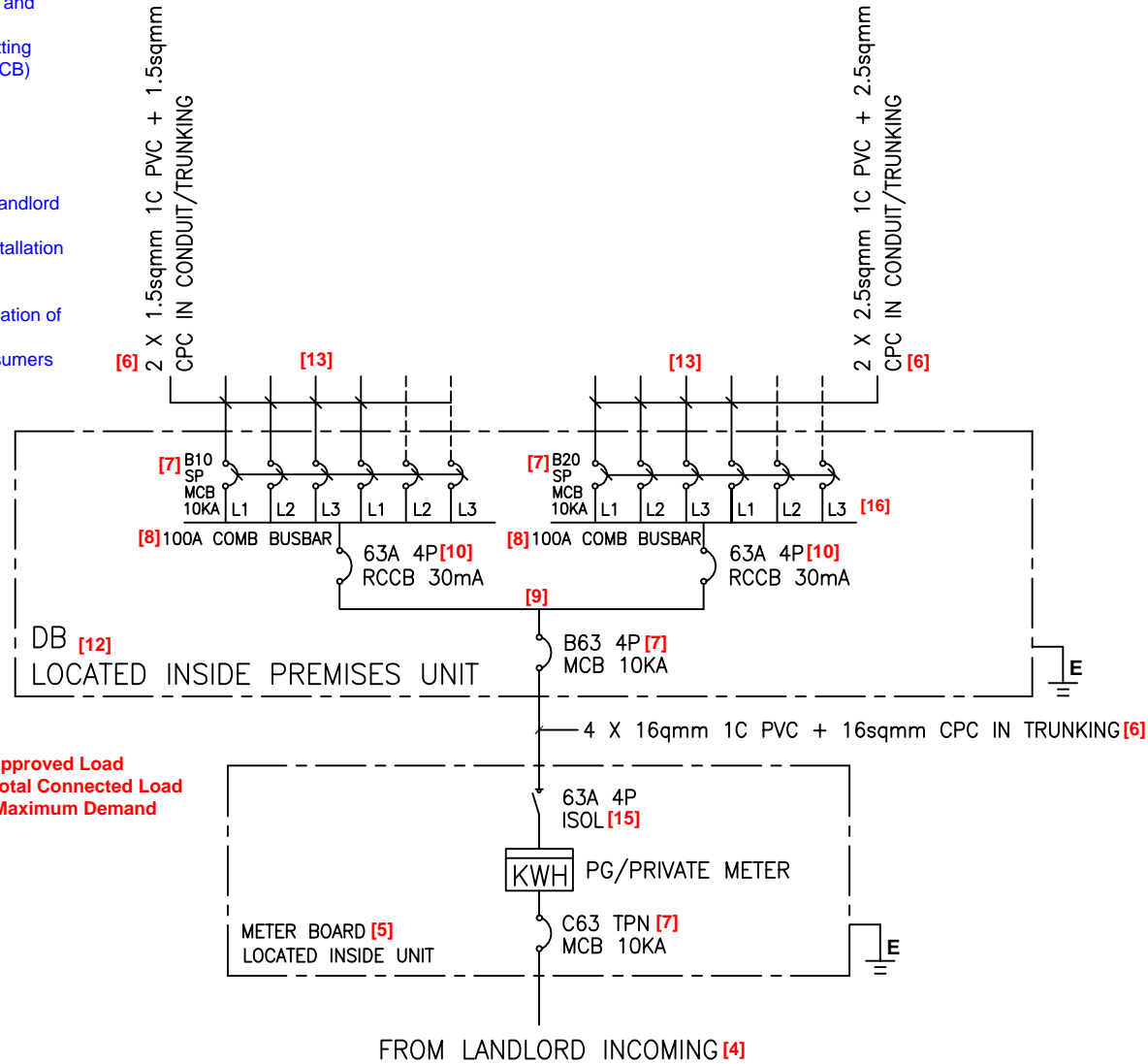
These sample drawings provide as a compliance reference guide for applicant to prepare the installation SLD for submission. SLD with missing / lack of information (strictly to comply with the guidelines stated in these samples) will be subjected to rejection which may result in longer processing time for application.  
Do not attached these sample SLD with your submission.

**COMPLIANCE GUIDELINES FOR SLD SUBMISSION**

CS3 applicant shall submit installation SLD complying with the following guidelines for approval.

- [1] Full address of installation and full registered business name (same as meter account document)
- [2] Name of LEW / Contact information / LEW EMA Lic No.
- [3] Endorsement by LEW
- [4] Information of Incoming supply source (Panel / circuit no.)
- [5] Location of Meter Board (Example: Tenant Meter Riser-1A)
- [6] Description of cable size, no. of conductors, cable type and method of installation
- [7] Full details of circuit breakers used (AF/AT and D.A setting for MCCB / short-circuit rating / no. of poles, Type of MCB)
- [8] Current rating of comb type bus-bar for MCB (if used) / current rating of bare copper bus-bar (if used)
- [9] Current rating of B.I connectors (if used)
- [10] Full details of residual current devices (current rating / leakage current rating)
- [11] (i) State the Approved load for installation (based on landlord agreed capacity)  
(ii) State the designed Total connected Load of the installation  
(iii) State the Maximum Demand of the installation
- [12] Name of DB / location of DB
- [13] Accurate description of outgoing circuit installation / location of outgoing circuit installation
- [14] EMA Installation Licence No. (for non-contestable consumers with installation capacity above 45KVA)
- [15] Description of load break isolator at Meter Board (no. of poles, current rating)
- [16] Label of circuit name for outgoing circuits and the sequence of circuits on SLD shall tally with the circuits of DB.

# APPENDIX-1



[3] LEW Endorsement

OWNER/APPLICANT [1]	PROJECT <b>SLD COMPLIANCE GUIDE FOR ELECTRICAL INSTALLATION (100A AND BELOW)</b>	ELECTRICAL CONTRACTOR	ELECTRICAL INSTALLATION	DRAWN	CHECKED	DATE	SCALE
			LICENCE NO OF L.E.W: [2]	DRAWING NO		LICENCE NO [14]	

**COMPLIANCE GUIDELINES FOR SLD SUBMISSION**

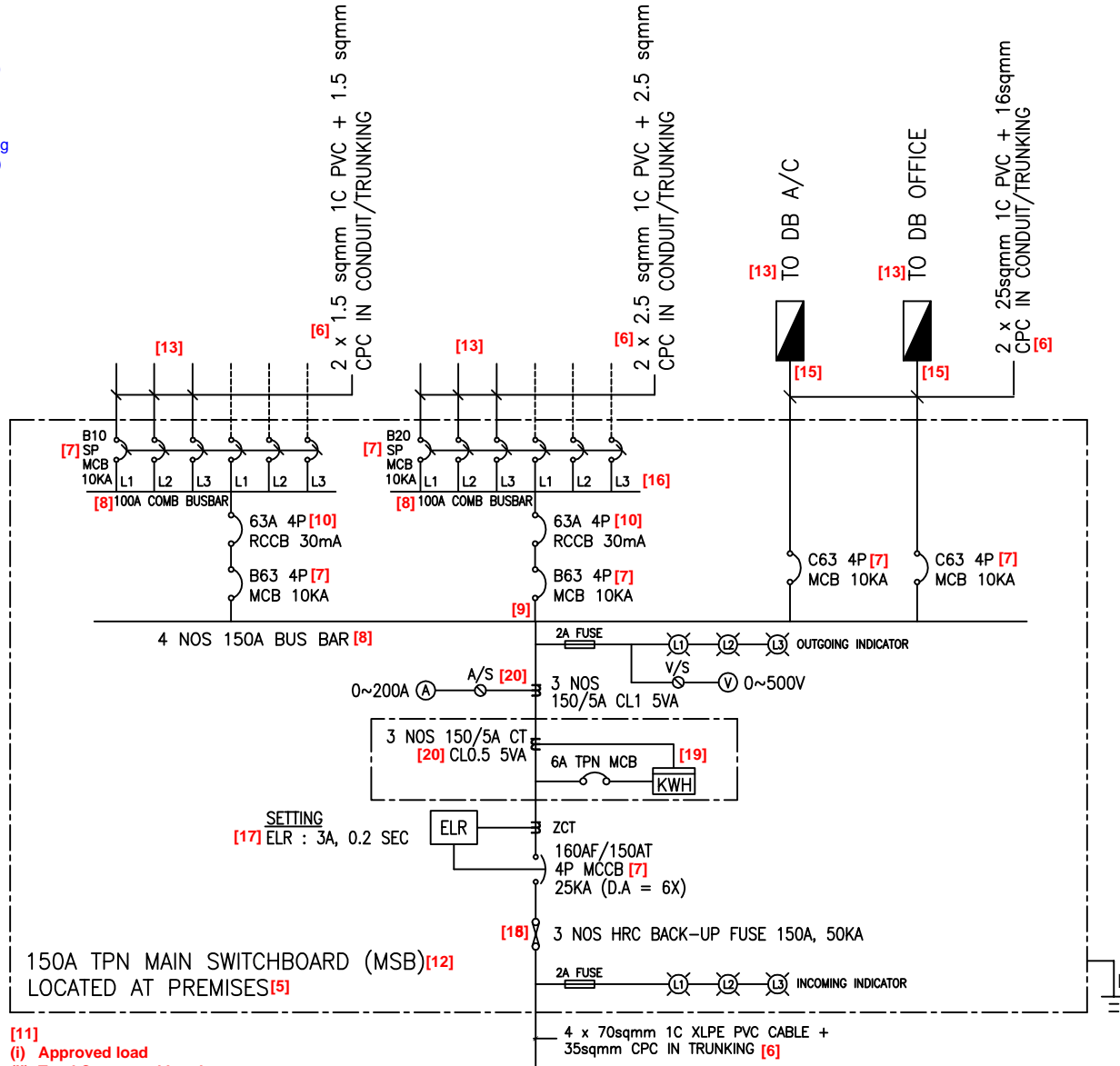
CS3 applicant shall submit installation SLD complying with the following guidelines for approval.

- [1] Full address of installation and full registered business name (same as meter account document)
- [2] Name of LEW / Contact information / LEW EMA Lic No.
- [3] Endorsement by LEW
- [4] Information of incoming supply source (Panel / circuit no.)
- [5] Location of MSB / switchboard
- [6] Description of cable size, no. of conductors, cable type and method of installation
- [7] Full details of circuit breakers used (AF/AT and D.A setting for MCCB / short circuit rating / no. of poles, type of MCB)
- [8] Current rating of comb type-bar for MCB (if used) / current rating of bare copper bus-bar (if used)
- [9] Current rating of B.I connectors (if used)
- [10] Full details of residual current devices (current rating / leakage current rating)
- [11] (i) State the Approved load for installation (based on landlord agreed capacity)  
(ii) State the total connected load of the installation  
(iii) State the maximum demand of the installation
- [12] Name of switchboard (tally with the display on site)
- [13] Accurate description of outgoing circuit installation / location of outgoing circuit installation
- [14] EMA installation Licence No. (for non-contestable consumers with installation capacity above 45KVA)
- [15] Submit all other SLD of downstream DB / final circuit installations
- [16] Label of circuit name for outgoing circuits and the sequence of circuits on SLD shall tally with the circuits of DB / MSB
- [17] OC/EF or ELR protection settings
- [18] Rated current and short circuit rating of HRC Fuses
- [19] Details of meter compartment, sealable type with MCB used for voltage supply to CT operated KWH meter (comply with meter agent requirement)
- [20] Full details of meter / protection CT (no. of CT, ratio, accuracy class / protection class, rated burden)

**OTHERS:**

- a) Essential accessories such as phase indicator lights to be provided
- b) Voltmeter / ammeter or Digital Meter to be provided
- c) All protection settings / D.A of circuit breakers shall be discriminated with upstream protection characteristics

# APPENDIX-2



- [11] (i) **Approved load**
- (ii) **Total Connected Load**
- (iii) **Maximum Demand**

FROM LANDLORD'S SUPPLY [4]

[3] LEW Endorsement

OWNER/APPLICANT: [1]	PROJECT: <b>SLD COMPLIANCE GUIDE FOR ELECTRICAL INSTALLATION (MORE THAN 100A)</b>	ELECTRICAL CONTRACTOR:	ELECTRICAL INSTALLATION	DRAWN:	CHECKED:	DATE:	SCALE:
			LICENCE NO OF L.E.W: [2]	DRAWING NO:			LICENSE NO: [14]