Unit 4 A/B, Building 1, 206 Swanson Rd, Henderson Auckland 0610
(04) 282 0925 | Wellington Office
(09) 833 5749 | Auckland Office
PO Box 21872, Henderson Auckland 0650
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Substation Earthing Design Request Form

To: LPINZ LTD, New Zealand

Attention:

Design Details

Date: _____ Country: _____

Client: _____ Contact Name: _____

Project: _____ Location: _____

Agent / Distributor: _____

Substation-specific parameters

1. Substation size: _____ x _____ x _____
2. Maximum fault current: _____
3. Fault duration: _____
4. Any preference or restriction regarding conductor size and burial depth: _____
5. Depth and resistivity of the surface gravel layer: _____
6. Details regarding the perimeter fence:

   Material:_____ Size:_____ Post Depth:_____ Spacing:_____

Soil resistivity data

1. Soil model to be provided by client; OR

2. Can be modelled using Customised Software. The following data is required to undertake design;

   i) Measurement method (Wenner, Unipolar, Schlumberger, Dipole-Dipole etc.)
   _____

   ii) Any independent information regarding soil layers (uniform, horizontal, vertical etc.)
   _____

   iii) Probe spacing (does not need to be uniform, but must be large enough to obtain deep layer information) _____

   iv) Apparent resistance at each spacing _____

   v) Current probe depth _____

   vi) Potential probe depth _____

Test equipment _____ Frequency of measurement _____
(Precautions must be taken to ensure the data is not adversely affected by power-frequency noise and other factors).

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Targets

1. What is the target resistance for earthing system? _____
2. Permissible touch voltage - any preference for IEEE or IEC standards? _____
3. Permissible step voltage - any preference for IEEE or IEC standards? _____
4. Is there a desired maximum ground potential rise? _____

Miscellaneous

1. Will the earthing system be used for lightning protection as well as power frequency faults?
   _____
2. Please identify and describe any buried and overhead metallic structures on the site.
   _____
3. Any special requirements, limitations, restrictions etc.
   _____

Example of a earthing system design and bill of material are available upon request.

Standard earthing system design (power frequencies) for substation varies from US$500-US$1,000.