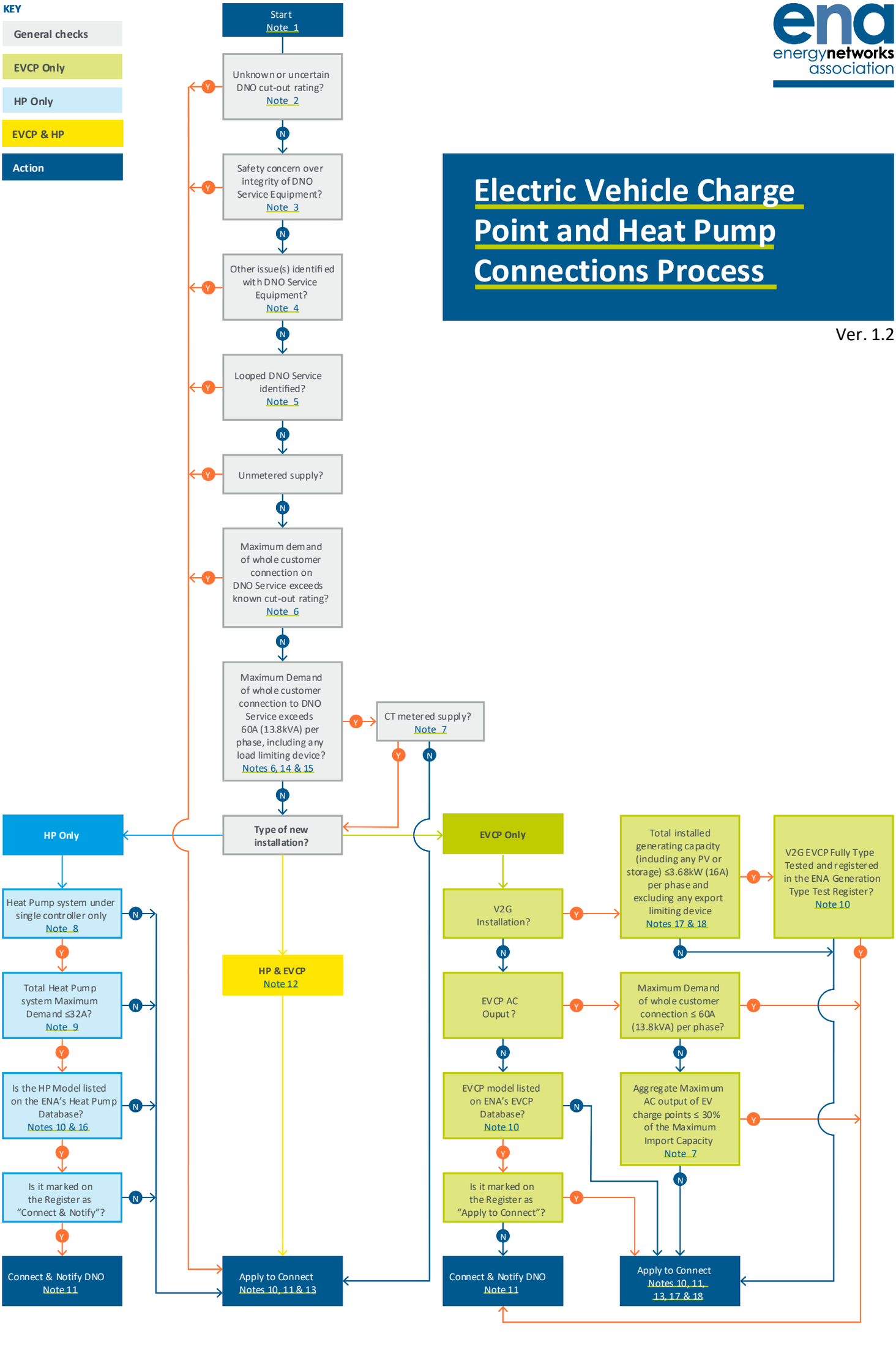
KEY
General checks
EVCP Only
HP Only
EVCP & HP
Action
Start
Note 1
Unknown or uncertain DNO cut-out rating?
Note 2
Safety concern over integrity of DNO Service Equipment?
Note 3
Other issue(s) identified with DNO Service Equipment?
Note 4
Looped DNO Service identified?
Note 5
Unmetered supply?
Maximum demand of whole customer connection on DNO Service exceeds known cut-out rating?
Note 6
Maximum Demand of whole customer connection to DNO Service exceeds 60A (13.8kVA) per phase, including any load limiting device?
Notes 6, 14 & 15
CT metered supply?
Note 7
Type of new installation?
HP Only
Heat Pump system under single controller only
Note 8
Total Heat Pump system Maximum Demand ≤32A?
Note 9
Is the HP Model listed on the ENA's Heat Pump Database?
Notes 10 & 16
Is it marked on the Register as "Connect & Notify"?
Connect & Notify DNO
Note 11
HP & EVCP
Note 12
Apply to Connect
Notes 10, 11 & 13
EVCP Only
V2G Installation?
Total installed generating capacity (including any PV or storage) ≤3.68kW (16A) per phase and excluding any export limiting device
Notes 17 & 18
V2G EVCP Fully Type Tested and registered in the ENA Generation Type Test Register?
Note 10
EVCP AC Ouput?
Maximum Demand of whole customer connection ≤ 60A (13.8kVA) per phase?
EVCP model listed on ENA's EVCP Database?
Note 10
Aggregate Maximum AC output of EV charge points ≤ 30% of the Maximum Import Capacity
Note 7
Is it marked on the Register as "Apply to Connect"?
Connect & Notify DNO
Note 11
Apply to Connect
Notes 10, 11, 13, 17 & 18
Electric Vehicle Charge Point and Heat Pump Connections Process
Ver. 1.2

Notes

Note 1

This process should be followed for installation of a Heat Pump (HP), Electric Vehicle Charge Point (EVCP) or a Vehicle-to-Grid Electric Vehicle Charge Point (V2G EVCP) in an existing premises connected to a DNO network. This process should also be followed where a new connection to a DNO network is required, and in this case a new electricity connection application form should also be submitted.

Note 2

If the cut-out rating is unknown or uncertain, it may be established by initially asking the DNO. If the DNO is unable to confiRm that the rating is adequate without a site visit the 'Apply to Connect' process should be followed. The installation application form can be downloaded from the ENA website. Please note that the cut-out must not be opened. Guidance on cut-out ratings is also available on the ENA website.

The rating of the DNO service termination equipment must be established as being adequate before any new equipment is connected. BS 7671, the IET Wiring Regulations, in section 132-16 "Additions or alterations to an installation" states that "No addition or alteration, temporary or permanent, shall be made to an existing installation, unless it has been ascertained that the rating and condition of any existing equipment, including that of the distributor, will be adequate for the altered circumstances."

Note 3

Safety concern over integrity of DNO Service Equipment

Safety concerns over integrity of DNO Service Equipment should be reported to the DNO in accordance with the MOCOPA Guidance for Service Termination Reporting available on the MOCOPA website:
https://mocopa.org.uk/documents

The guide gives specific examples of issues that can give rise to danger, classified as "Category A Situations", and how these should be reported to the DNO. All emergency issues (Category A Situations) must be reported to the DNO using telephone number 105 (GB only).

Note 4

Other issue(s) identified with DNO Service Equipment

Other issues with DNO equipment that do not necessarily give rise to danger are described in the MOCOPA Guidance for Service Termination Reporting:
https://mocopa.org.uk/documents

These issues are covered in the Category B and Category C Situations sections of the guidance document where specific examples are given of what is reportable to the DNO. All Category B and Category C Situations (non-emergency issues) should be reported to the DNO using their general enquiries number found on the customer's bill or online.

Note 5

Some DNO cut-outs have more than one DNO service cable terminated in them. This indicates the presence of a Looped Service whereby one or more premises are connected via the cut-out. This may impact the adequacy of the DNO service equipment. Looped Services can be found in any premises but are often found in housing estates built in the 1970s & 1980s, in rural areas and in terraced housing.

Note 6

The Maximum Demand is the highest level of demand that could occur at the DNO cut-out (i.e. the demand of the premises as a whole) including the demand of all new HP and EVCP devices. The maximum cut-out rating may be visible on the cut-out. Ratings below 60A are possible (e.g. 30A, 40A and 45A), especially in rural areas. Note that the cut-out rating will be reduced from its stated value if the ambient temperature at the cut-out location is high e.g. due to inadequate ventilation, adjacent heat sources etc.

IET Guidance Note 1, Appendix H gives qualifed electricians guidance on the assessment of Maximum Demand for the whole customer connection.

Note 7

Current Transformer (CT) Metering is typically used for any meter rated at over 100A. The meter rating should be found on the meter nameplate. CT metered installations are typically subject to a Maximum Import Capacity (also known as Agreed Supply Capacity).

Note 8

Where more than one Heat Pump with an aggregate rating above 3.68kW (16A) is to be connected at a single premises, the 'Apply to Connect' process should be followed. This means a single Heat Pump system under a single controller (but potentially with multiple devices) being installed in one property in isolation, as opposed to a cluster of separate Heat Pumps systems in the same or adjacent properties.

Note 9

Including any additional components, i.e. boost, immersion or back-up heaters. A boost heater is a Direct Electric Resistance (DER) heater located in the primary heating circuit to Supplement heat output when the HP cannot provide the necessary heat primary heating. A water heater/immersion heater is a DER heater located in the sanitary hot water cylinder and used to top up heat or pasteurise for legionella control. A back-up heater is a DER heater that is capable of replacing all or some of the heat output from the HP in the event of the HP not being operational. This would be positioned in the primary heating circuit.

Note 10

Please see the ENA Heat Pump Database, Type Test Verification Report Register (V2G EVCPs) & EVCP Database (non V2G, DC-coupled only) on the ENA website here:
www.energynetworks.org/industry-hub/databases.
V2G EVCPs must be installed, commissioned and fully type tested in accordance with EREC G98 or G99 (whichever is applicable). When the invterter is in the Electric Vehicle, the Inverter in the vehicle and the V2G EVCP need to be fully type tested. It is the installer's responsibility to provide all the correct information required to populate the Heat Pump Database relating to the heat pump they are installing.

If the EVCP or HP is not registered on the relevant ENA database, you must gather all of the required information and submit to ENA for inclusion in the database.

NB: the databases are not an endorsement or recommendation of a particular EVCP/HP model but is a means of providing relevant Data for DNOs to simplify the application and connection process.

Note 11

Please note that to ensure you comply with the General Data Protection Regulation (GDPR) requirements, applications and notifications should only be sent to the relevant DNO that corresponds to the MPAN.

Note 12

When an installation comprises both a HP and an EVCP, the DNO will need to consider the power quality implications, and hence the "Apply to Connect" process should be followed.

Note 13

Depending on the size and/or number of devices being connected, the DNO may ask for additional information to be supplied.

Where the Maximum Demand of the whole customer connection is less than 100A (23kVA), the DNO will respond within ten working days where all required information has been provided.

Note 14

An import or load limiting device is a piece of hardware and/or software that limits the demand (i.e. the amount of current drawn) by a premises. In the case of an EVCP or HP, this can be thought of as an EVCP or HP curtailment scheme. The device must monitor the full demand of the premises and, if applicable, this device must be factored into Maximum Demand calculations when populating the EVCP or HP application form.

It is the responsibility of the installer to ensure that that the Maximum Demand(s) stated are correct, factoring in the effects of any load limiting devices or EVCP/HP curtailment schemes. The load limiting device must also "fail safe", i.e. when it is not operating or has failed, any limitations of the DNO service termination equipment must not be exceeded.

Note 15

When the existing Maximum Demand of a premises is above 60A, i.e. prior to any new EVCP or HP being installed, DNOs will permit a "Connect & Notify" installation for a new EVCP or HP under the following conditions:

- There are no issues with the existing connection (i.e. no safety concern, looped service, unknown cut-out capacity, unmetered supply, insuf ficiently sized cut-out, etc – see Notes 1-6)
- The installation of the new EVCP or HP is installed with a load limitation device such that, whenever that EVCP or HP is operating (i .e. drawing current), the Maximum Demand of the premises is limited to 60A or less.

Please note that this only refers to import, i.e. EVCP/HP acting as a demand only, and it is not applicable to V2G EVCP/grid export limitation.

Note 16

If you are not able to obtain all the information required for the "HPs Only" part of Section F of the EVCP & HP Connections form, ENA are able to perform an assessment of the HP model on behalf of the manufacturer which will generate worst case scenario data in order to progress your application.

Note 17

Please note, if the total installed generating capacity (including any PV, storage or V2G storage) exceeds 3.68kW (16A) per phase, excluding any export limiting device, you must "apply to connect" AND also comply with EREC G99. Relevant guides and forms can be found by searching for "G99" In the Resource Library of the ENA website here:
www.energynetworks.org/industry-hub/resource-library/

Note 18

For V2G EVCPs with AC connection to the EV, each/every EV using the EVCP needs to be fully compliant with EREC G98 or EREC G99 (whichever is applicable).