Table 220-30
Optional Calculation for Dwelling Unit
Load in kVA

Largest of the following four selections.
(1) 100 percent of the nameplate rating(s) of the air conditioning and cooling, including heat pump compressors.
(2) 65 percent of the nameplate rating(s) of the central electric space heating including integral supplemental heating in heat pumps.
(3) 65 percent of the nameplate rating(s) of electric space heating if less than four separately controlled units.
(4) 40 percent of the nameplate rating(s) of electric space heating of four or more separately controlled units.
Plus: 100 percent of the first 10 kVA of all other load. 40 percent of the remainder of all other load.

220-31. Optional Calculation for Additional Loads in Existing Dwelling Unit. For an existing dwelling unit presently being served by an existing 120/240 volt or 208Y/120, 3-wire service, it shall be permissible to compute load calculations as follows:

Load (in kVA)	Percent of Load
First 8 kVA of load at	100%
Remainder of load at	40%

Load calculation shall include lighting at 3 volt-amperes per square foot (0.093 sq m); 1500 volt-amperes for each 20-ampere appliance circuit; range or wall-mounted oven and counter-mounted cooking unit, and other appliances that are permanently connected or fastened in place, at nameplate rating.

If air-conditioning equipment or electric space heating equipment is to be installed the following formula shall be applied to determine if the existing service is of sufficient size.

Air-conditioning equipment*	100%
Central electric space heating*	100%
Less than four separately controlled space heating units*	100%
First 8 kVA of all other load	100%
Remainder of all other load	40%

Other loads shall include:

1500 volt-amperes for each 20-ampere appliance circuit.

Lighting and portable appliances at 3 volt-amperes per square foot (0.093 sq m)

Household range or wall-mounted oven and counter-mounted cooking unit.

All other appliances fastened in place, including four or more separately controlled space heating units, at nameplate rating.

* Use larger connected load of air conditioning and space heating, but not both.

220-32. Optional Calculation — Multifamily Dwelling.

(a) Feeder or Service Load. It shall be permissible to compute the feeder or service load of a multifamily dwelling in accordance with Table 220-32 instead of Part B of this article where all the following conditions are met:

(1) No dwelling unit is supplied by more than one feeder.

(2) Each dwelling unit is equipped with electric cooking equipment.

Exception: When the computed load for multifamily dwellings without electric cooking in Part B of this article exceeds that computed under Part C for the identical load plus electric cooking (based on 8 kW per unit), the lesser of the two loads shall be permitted to be used.

(3) Each dwelling unit is equipped with either electric space heating or air conditioning or both.

Feeders and service-entrance conductors whose demand load is determined by this optional calculation shall be permitted to have the neutral load determined by Section 220-22.

(b) House Loads. House loads shall be computed in accordance with Part B of this article and shall be in addition to the dwelling unit loads computed in accordance with Table 220-32.

(c) Connected Loads. The connected load to which the demand factors of Table 220-32 apply shall include the following:

(1) 1500 volt-amperes for each 2-wire, 20-ampere small appliance branch circuit and each laundry branch circuit specified in Section 220-16.

(2) 3 volt-amperes per square foot (0.093 sq m) for general lighting and general-use receptacles.

(3) The nameplate rating of all appliances that are fastened in place, permanently connected or located to be on a specific circuit, ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers, water heaters, and space heaters.

If water heater elements are so interlocked that all elements cannot be used at the same time, the maximum possible load shall be considered the nameplate load.

(4) The nameplate ampere or kVA rating of all motors and of all low-power-factor loads.

(5) The larger of the air-conditioning load or the space heating load.

Table 220-32
Optional Calculation — Demand Factors for Three or More Multifamily Dwelling Units

Number of Dwelling Units	Demand Factor Percent
3–5	45
6–7	44
8–10	43
11	42
12–13	41
14–15	40
16–17	39
18–20	38
21	37
22–23	36
24–25	35
26–27	34
28–30	33
31	32
32–33	31
34–36	30
37–38	29
39–42	28
43–45	27
46–50	26
51–55	25
56–61	24
62 & over	23

Load Description	Watts	Percent Factor