

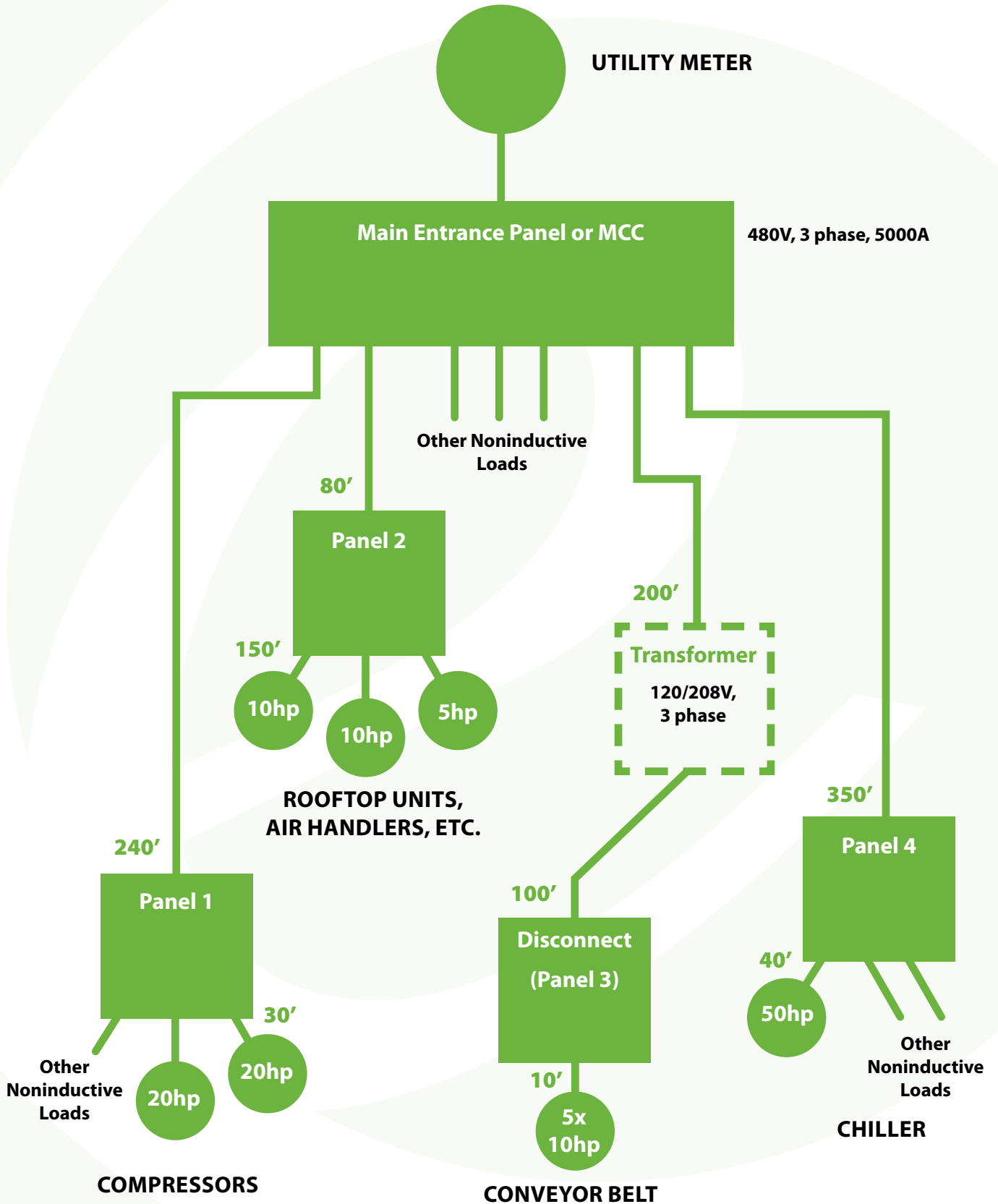
POWER AUDIT PROCEDURE:

1. Identify the type of operation of the facility. Example: restaurants, bottling plant, wastewater treatment plant, office complexes, condos, shopping mall, etc.
2. Collect past 12 month's bills (all pages) and fill out Billing Analysis Sheet. Indicate clearly on the Sheet whether the Demand is in KW or KVA. Send complete bill with analysis.
3. Produce line diagram showing the entire electrical distribution network in the facility. See sample line diagram. On the line diagram, show the relative locations, the distances between, and the voltage/Amperage ratings of:
 - a. The utility meter(s)
 - b. All the electrical panels with inductive loads
 - c. All inductive loads, with their horsepower ratings if possible. Indicate the functions of inductive loads. Example: compressor, chiller, rooftop unit, etc.
 - d. Variable frequency drives and other forms of motor controllers
 - e. Existing power factor correction capacitors, if any
4. At the electrical panels with inductive loads, use a power analyzer (Fluke 43B) to take measurements of AMPS, VOLTS, KW, PF, KVA, KVAR, Vthd (voltage harmonics), Ithd (current harmonics). Fill out the Data Collection Sheet and also indicate the activity levels (daily operating hours) of the inductive loads at the panel.
5. Submit all information to John Eicher for review at jeicher@activtek.net.

(Next page, Line Diagrams)



LINE DIAGRAM SAMPLE:



DATA COLLECTION SHEET:

	MAIN PANEL	NAME OF PANEL 1	NAME OF PANEL 2	NAME OF PANEL 3	NAME OF PANEL 4
		DISTANCE TO MAIN	DISTANCE TO MAIN	DISTANCE TO MAIN	DISTANCE TO MAIN
PHASE A					
AMPS					
VOLTS					
KW					
KVA					
KVAR					
PF					
Vthd					
Ithd					
PHASE B					
AMPS					
VOLTS					
KW					
KVA					
KVAR					
PF					
Vthd					
Ithd					
PHASE C					
AMPS					
VOLTS					
KW					
KVA					
KVAR					
PF					
Vthd					
Ithd					
Percent of Time Panel Remains in this KVAR:					
Other Notes					
Other Comments					

NOTES:

1. The primary goal of a Power Audit is to identify which panels with inductive loads EcoTrust Energy can treat, and decide what model and how many EcoTrust Energy units to install at the panels.
2. The goal is to install the unit as far downstream as possible, and as close to inductive loads as possible.
3. For inductive loads that turn on and off periodically over the course of a day, take note of the percentage time the panel is at the highest KVAR and lowest KVAR.
4. Indicate clearly if the electric bill includes a line item KVA Demand.
5. The units should be installed upstream of, and as far away as possible from, a Variable Frequency Drive (VFD). Keep a look out for VFD and indicate on Line Diagram.
6. The units should be installed at an electrical panel. In some cases it may be installed at a fuse disconnect. Take measurement at the disconnect.
7. We recommend the Fluke 43 B Power Quality Analyzer. The Fluke 43B Power Quality Analyzer combines the most useful capabilities of power quality analyzer, scope and multimeter in a single, easy-to-use instrument. For information on purchasing a Fluke 43B analyzer, please visit the following websites:

- [**www.transcat.com**](http://www.transcat.com)

- [**www.tequipment.net**](http://www.tequipment.net)

- [**www.bellnw.com**](http://www.bellnw.com)

There are also several locations that rent meters on a monthly basis. For more information, please visit [**www.atecorp.com**](http://www.atecorp.com).

All of the above websites are just a few companies that sell or rent power analyzers.