



CUSTOMER POLICY 215

Power Quality

1. OBJECTIVE

To minimize the adverse impact to Dawson Public Power District's (The District) electrical system and to avoid objectionable voltage and other electrical disturbances or problems affecting other customers.

2. DEFINITION

Power quality is a set of electrical boundaries that allows a piece of equipment to function in its intended manner without significant loss of performance or life expectancy.

3. POLICY

Reduced Voltage Starting for Motors

- Full voltage, across-the-line, or direct-on-line starting of motors in excess of seventy-five horsepower (75 HP) shall not be permitted.
- Motor starting by use of a Solid State Reduced Voltage (SSRV) or a Variable Frequency Drive (VFD) controller shall be required on individual motor applications in excess of 75 HP, or a combination of motors starting simultaneously or sequentially.
- The use of a star-delta, wye-delta, part-winding-start or auto-transformer shall not be permitted on any motor that makes up more than 50% of a service's load.
- All new installations, existing installations in excess of 75 HP and existing installations being updated to exceed 75 HP shall comply with the provisions of this policy. The replacement of existing motor control equipment will be in compliance with this policy.
- The District may require reduced voltage starting of motors of 75 HP or less where limited line capacity or abnormal motor starting characteristics necessitate the use of reduced voltage controllers.
- The proper installation and operation of required motor controller equipment shall be the responsibility of the customer.

Power Factor Correction

- Capacitors will be required on all new irrigation installations of ten (10) horsepower or larger. Service to new installations will not be energized for use until properly sized capacitors are installed.
- Power factor correction capacitors must be installed in conjunction with Solid State Reduced Voltage (SSRV) starters where they are required. Power factor correction capacitors should be engaged once the motor is running at full speed.

Approved By Board: January 5, 2022

Effective: February 1, 2022

Reviewed:

Harmonics and Flicker

- Where the Customer's use of electric service is intermittent or causes unusual fluctuations, including but not limited to harmonics and flicker, or other detrimental effects on the service supplied to other Customers, the District reserves the right to require the Customer to furnish, install, and maintain, at the Customer's expense, suitable corrective equipment which will limit such fluctuations or disturbances in a reasonable manner. These fluctuations shall not exceed the recommended levels in IEEE Standard 519-2014.

Loss of Phase

- The District is not responsible for property damage due to Loss-Of-Phase. Loss-Of-Phase protection is encouraged for 3-phase loads. Fusing and overload protection may not adequately protect a 3-phase motor from potential damage from Loss-Of-Phase operation.

Other

- Transient disturbances, magnetic field interference, stray current/voltage, radio frequency interference and other electrical disturbances caused by any customer shall be the responsibility of the customer to take corrective action to comply with all applicable standards or pay the costs incurred by the District to take appropriate corrective action as a result of the electrical disturbance or problem.
- Customers shall be liable for any damage they have caused to district or other customer's property with customer owned equipment that is improperly installed, is malfunctioning or fails to meet the power quality standards in this document or other district standards.
- Customers shall be liable for any injury caused to others by improperly installed equipment, malfunctioning equipment or by failing to meet the power quality standards in this document.
- An exception to this policy may be granted provided an engineering analysis has determined there will be no adverse effects to other customers or The District's electrical system. Exceptions will be considered on a case-by-case basis with the final determination made by The District. Engineering costs incurred to determine a potential exception will be the responsibility of the customer making the request.
- Installations found to be not in compliance with this policy can be denied service until corrected.

4. **RESPONSIBILITY**

- The Engineering Manager will be responsible for the administration of this policy and shall seek the advice and counsel of the General Manager and Board of Directors as necessary.
- It will be the responsibility of the Engineering Manager and his/her staff to implement this policy in coordination with other District departments.