

VOLUME DATA QUALIFIERS

The following are data qualifiers for reported diversion volume information. They identify the status of the reported volume quantity. Different sets of qualifiers are used for volumes measured by (1) power consumption records, (2) permanent totalizing flow measuring devices and time clocks, or (3) open channel devices (weirs, flumes, rated sections, etc) and non-totalizing devices. Use these qualifiers in conjunction with reported diversion volume quantities in Appendix A.

This is a condensed version of the data qualifiers. See the *Summary of Data Collected, Volume Qualifiers* section of this report for greater detail and examples.

Power Consumption Coefficient - # of kwh hrs it takes to deliver one ccf

PCC Measurements

The following qualifiers apply to diversion volumes estimated with power records and may give data users an indication of the general degree of accuracy of calculated volumes as follows:

<u>Qualifier</u>	<u>Description</u>
Z	Zero pumpage based on zero energy consumption.
1	Simple systems with only one operating condition and minimal water level fluctuations where power records should work well. This includes systems where the flow rate and power consumption do not fluctuate significantly.
2	Systems with multiple operating conditions, all of which were measured and PCC varied ten percent or less, or varied more than ten percent but tracking is not required due to consistent changes (pivots with corner systems and/or end guns); estimate accuracy should be close to #1.
3	Systems with multiple operating conditions, all measured, PCC varied more than ten percent, tracking is required and owner reported percent of time at each condition; volume estimate accuracy may be similar to or slightly less than qualifiers 1 & 2 (above).
4	Systems with multiple operating conditions, all measured, PCC varied more than ten percent, tracking is required but was not reported by the owner or considered inaccurate and unreliable. Use the low PCC to calculate volume. Volume estimate may therefore be higher than actual diversions.
5	Systems with multiple operating conditions that were not all measured but can be measured so that a 2, 3, or 4 qualifier could be assigned in the future; or a system that needs re-measured (possibly due to system changes or incorrect initial measurements). Estimate accuracy less than qualifiers 1, 2 & 3.
6	Known problem with reported kwh data (e.g. CT's were out on power meter for part of year). Estimate is likely low because not all kwh consumed were reported.

$$\frac{\text{Total kwh}}{\text{PCC}} = \text{AF Delivered}$$

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- 7 Measured PCC during flowmeter check. Calculated PCC volume may not be as accurate, especially if system operation changes significantly.
- 8 PCC measured on a complex system where flowmeters or time clocks should probably be used. The PCC measurement used for calculating volume should be at high flow (low PCC) condition. Calculated volume estimates will usually be high since these systems are usually measured at capacity or additional loads were on the power meter.
- 9 PCC not measured, but may have been estimated based on system characteristics, location, results from other near by measurements, etc.
- N No PCC measurements made.
- Q The above qualifiers are not applicable, see comments or memo field for additional explanation.

Meters and Time Clocks

The following qualifiers apply to diversion volumes measured with permanently installed totalizing measuring devices or with time recording devices.

<u>Qualifier</u>	<u>Description</u>
PM	Partial year Measurement: Flowmeter not installed or not working properly for complete season, actual diversions greater than reported amount.
FE	Full year Estimate: An estimate for the full year based on partial data when flowmeter data is not available for the full season.
MR	Monthly Recordings: Owner reported flowmeter measurements, monthly readings recorded.
NM	No Monthly recordings: Owner reported flowmeter measurements, monthly readings NOT recorded.
EM	Erroneous measurement: Owner reported flowmeter measurements are obviously incorrect, usually because flowmeter is not accurate or operating properly. Actual amount could be higher or lower.
ND	No Device: Flowmeters or time clocks have not been installed or the user's annual report did not include any meter readings. Diversions have likely occurred and the reported volume of zero is erroneous.
Z	Zero pumpage: Non-use of a diversion per flowmeter and/or confirmation from the operator.
OW	Other Well: One flowmeter is used to measure more than one well, the volume entered for this well is zero, and the volume measured by the flowmeter is in another record. See database field VIWAW for reference to record with measurement data.