ICC Docket 05-0675

McLeodUSA Exhibit 102

AT&T Illinois Responses to Staff Requests:

KS 1.03
KS 1.04
KS 1.05
KS 1.06

Illinois Commerce Commission
ICC Docket No. 05-0675
Staff Data Request KS 1.03

Request:

Did any firms, other than Marconi, bid on power metering? If so, please provide a list of the other bidding companies.

Response:

No.

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Request:

Were there any other options, besides return side shunts, SBC explored prior to the installation of the existing power metering? If so, what were the other options explored?

Response:

SBC did not identify any viable options prior to the installation of the existing power metering system.

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Request:

Why was it determined that battery return-side shunts would be an appropriate means of measuring DC power?

a. Was the decision based on past practice that all equipment would utilize Isolated DC Return?

b. Within what time frame did it become acceptable to use Common DC Return as noted in the Telcordia study?

c. Is the Common DC Return arrangement used only in CLEC power arrangements or has SBC adopted this methodology for its equipment as well? If so, approximately when was this change in grounding methodology adopted?

Response:

Return shunts, rather than battery shunts, were deemed appropriate because this method minimizes the quantity of shunts required, results in less congestion of overhead space, provides more personnel safety and reduces costs by using one set of shunt bars and shunt leads for several (up to 10) return cables. See testimony of Marvin Nevels at pages 14-18.

(a) Assuming that "isolated" DC return refers to no electrical bond between the return lead and the equipment frame ground lead, past practice was that toll equipment was not always isolated, whereas switch equipment was always isolated. The decision to meter on the return shunt was based, at least in part, on the understanding that the future practice for toll equipment would utilize an isolated DC return.

(b) Assuming that "common" DC return refers to the electrical bond between the return lead and the equipment frame ground lead, the utilization of a common DC return has been acceptable in the past, and continues to be acceptable at the present time for proper equipment performance.

Recent Telcordia documents acknowledge the existence of both systems, termed "DC-C" for the common system, and "DC-I" for the isolated system.

(c) The common DC return is currently used, and has been used, in both CLEC and SBC toll bay installations.

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Request:

As referenced in SBC witness Brissenden's testimony at line 122, please provide the computations used for converting One DC Amp to annual KWH.

Response: Power (used over a period of time) = Volts X Amps (delivered over that period of time).

The AT&T Illinois central office environment uses 52.1 DC volts.

Therefore, Power (over one hour) = 52.1 volts X 1 amp (over one hour) = 52.1 Watts, meaning a load with 52.1 volts across it with 1 amp of current through it uses 52.1 watts of power per hour.

On an annual basis, there are 8,760 hours (24 hours/day X 365 days).

Therefore, 52.1 watts X 8,760 hours = 456,396 watt-hours of power used annually by load with 52.1 volts across it with 1 amp of current through it.

456,396 watt-hours = 456.396 kilowatt-hours.

Therefore, a load with 52.1 volts across it with 1 amp current through it will use 456.396 kilowatt-hours of power annually.