



Distribution Asset Management

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Technology Development and Power Quality Engineering

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TO: All Involved Parties

RE: Brief Report on Dammeron Valley Well Site July-August 2004

Herein is a brief report of the quality of power at the Dammeron Valley well site for the period 6 July – 31 August 2004, and at nearby Feller Stone Company for the period 28 June – 31 August 2004. It combines data from an SL8 recorder at the billing meter and another SL8 recorder at Feller Stone.

This report is also the last interim report complying with the Utah PSC order dated 22 October 2003, Docket # 03-035-04.

We hope this letter and report are useful to you. If you have any further questions about this analysis please feel free to contact Dennis Hansen using the information in the letterhead. Greg Bean would also be happy to help.

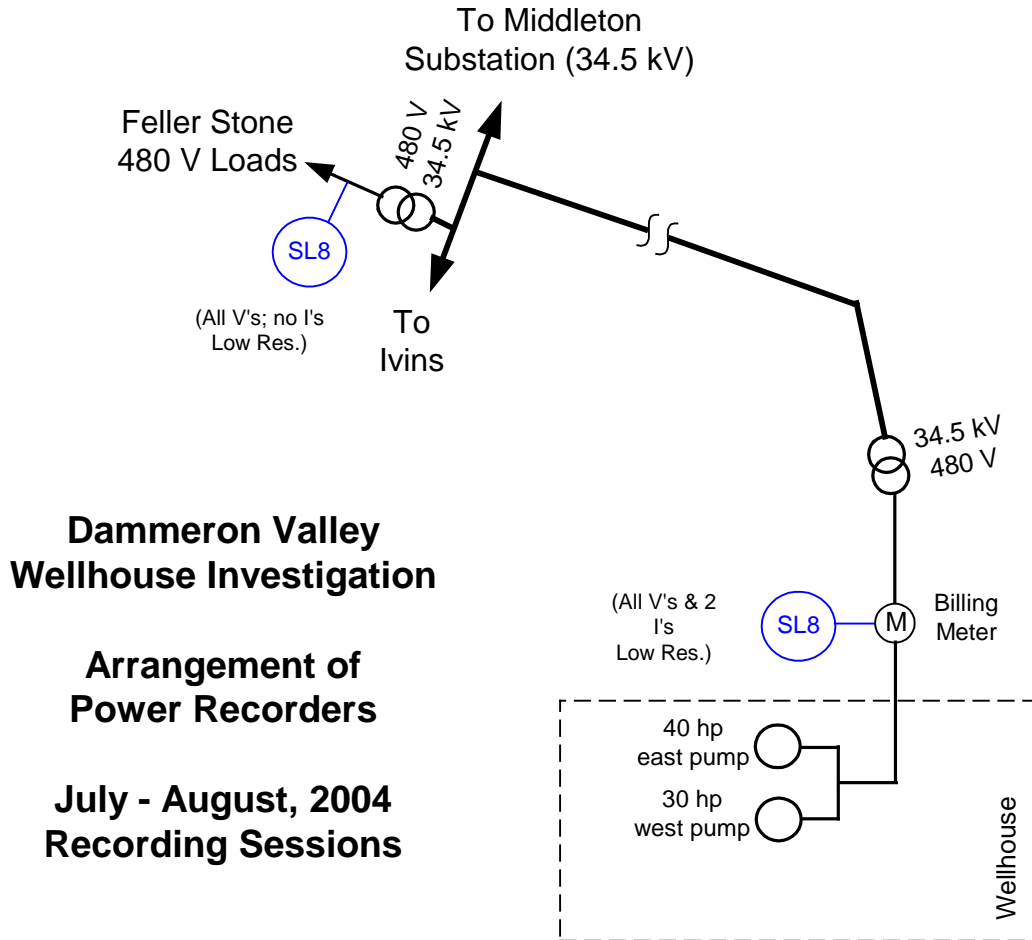
Sincerely,

Greg Bean, P.E.
Dennis Hansen, P.E.

Dammeron Valley Well Site BRIEF REPORT WITH CONCLUSIONS July-August, 2004, PQ Monitoring Session

Power System

Measurements were taken at the Dammeron Valley Water Company (DVWC) well site and the Feller Stone Company, north of Saint George, Utah, during the period 4-18 May 2004. (See diagram, below.)



This well site receives its power from Middleton substation through a tap to a 34.5 kV line. The well site is at the end of this tap. The three 50 kVA service transformers at the DVWC well site are pole mounted and connected in grounded wye-wye with 277/480V secondaries. This service then goes through a pedestal-mounted billing meter and into the well house. In the well house the power is distributed to two submersible pump motors of 30 hp (west) and 40 hp (east). The 40 hp pump is the primary pump, and

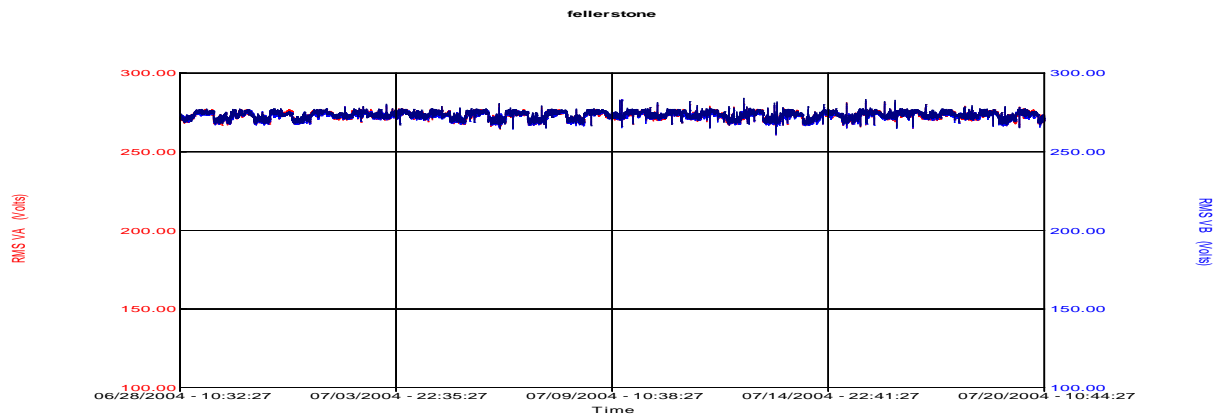
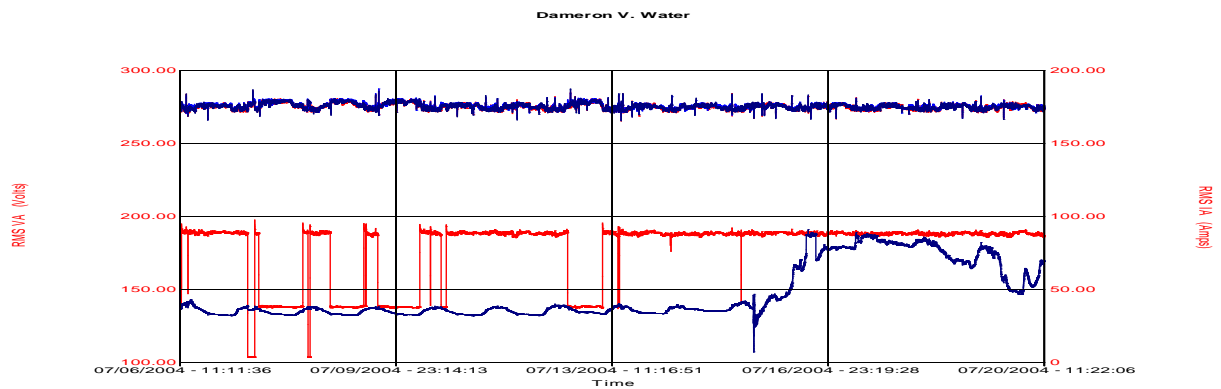
we were told that both pumps are rarely operated at the same time. The Feller Stone company is located near the tap point of the Middleton 24 feeder as indicated in the diagram.

Measurements

For the July-August period two recording meters were in service. The first was an SL8 recorder installed at the billing meter (designated DVWC), monitoring all 3 voltages in grounded wye, as well as A & C phase currents. An SL8 monitoring voltages only, was also placed on the secondary of the main wye-wye transformer at Feller Stone (designated Feller). Each monitor's capability/setting is summarized in the table below.

| Designator | Model | Interval | Response | Min/Max | Waveforms | Transients |
|------------|-------|----------|----------|-------------|-----------|------------|
| DVWC | SL8 | 30 sec | 1 cycle | Not enabled | NA | NA |
| Feller | SL8 | 30 sec | 1 cycle | Not enabled | NA | NA |

The data from both DVWC and Feller, respectively, are plotted below for most of July. These plots reveal nothing amiss in the voltage service to Dammeron Valley Water Company. Plots of other days



during July and August are similar. We also know of no malfunctions or complaints from Dammeron Valley during this period, even though they began operation of another well pump nearby.

Conclusions

The grounding and wiring problems discovered in the Dammeron Valley well house during the December 2003 site visit and documented in the February 2004 report, seem to be resolved. Also, the voltage quality at the metering service to Dammeron Valley's well house seems to be normal as revealed by the latest recording meter measurements. Furthermore, the recording meter at Feller Stone Company also shows normal fluctuation, likely due to variation in local load. In short, there is no evidence of a voltage quality problem in the area.