

MEMO

To: Jim Durben- Director of Facilities Meritcare Health Systems

From: George Heck- Technician

Revised Date: June 20, 2007

Re: Up-date/ review of surge suppression (TVSS) lighting application with associated results at Meritcare South Point.

Jim:

Since installing TVSS on the Johnson Controls VAV's (Variable Air Volume Controls) the need to call Steve Bulat of Johnson Controls to re-enter the information that we would lose has significantly been reduced.

TVSS lighting test: We replaced all the lamps on 6/28/05. We had many burnt out and illumination of other bulbs had greatly diminished. As of 5/17/06 we have no bulbs out and illumination is like new. Only changes have been to the old power saver brand ballasts. The yearly cost to relamp including materials and labor is \$3,346.00 per year. In conclusion if this continues we will have a ROI in about 6months and it looks like about a 92% savings per year. Also, because of the 30 year unconditional free replacement warranty from the manufacturer it appears we could save about \$92,000 over that time and that is from just this one lighting panel.

Up date as of January 15, 2007:

No bulbs replaced and illumination remains bright with no degradation, we are over a year and a half on this testing. And it just shows how much transient voltage reduces the life of equipment and its efficiency (and this is only lighting).

Up date as of June 20, 2007

No bulbs replaced and illumination remains bright, it will be 2Years as of June 28, 2007. This now show's over \$6,000.00 savings with only 2 to 3 Ballasts being replaced that were old power saver brand that we no longer use.

It should be noted that a major lighting manufacturer has gone on record saying that "TVSS clearly demonstrates protecting sensitive lighting and ballast's from transient surges will significantly lower building maintenance costs and extend equipment life to all loads". As you can see by our testing we have had very good results.

George Heck