

Analysis of the Impact of Solar Thermal Water Heaters on the Electrical Distribution Load

Terry Bruno Jesudhason Maria Therasammal

Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree

Master of Science
in
Electrical Engineering

Saifur Rahman
Manisa Pipattanasomporn
Yue J. Wang

September 23, 2011
Arlington, Virginia

Keywords: Solar thermal water heater, Flat plate collector, Glass tube collector, electric water heater, electrical distribution load

Draft 09/01/2009

(Questions? Concerns? Contact Gail McMillan, Director of the Digital Library and Archives at Virginia Tech's University Libraries: gailmac@vt.edu)

(Please ensure that Javascript is enabled on your browser before using this tool.)

Virginia Tech ETD Fair Use Analysis Results

This is not a replacement for professional legal advice but an effort to assist you in making a sound decision.

Name: Terry Bruno Jesudhasan Maria Therasammal

Description of item under review for fair use: "Analysis of the Impact of Solar Thermal Water Heaters on the Electrical Distribution Load" - Figure 3.1, Figure 3.4, Figure 4.1, Figure 4.2, Figure 4.3, Figure 4.7, Figure 4.8

Report generated on: 10-06-2011 at : 13:35:27

Based on the information you provided:

Factor 1

Your consideration of the purpose and character of your use of the copyright work weighs: *in favor of fair use*

Factor 2

Your consideration of the nature of the copyrighted work you used weighs: *in favor of fair use*

Factor 3

Your consideration of the amount and substantiality of your use of the copyrighted work weighs: *in favor of fair use*

Factor 4

Your consideration of the effect or potential effect on the market after your use of the copyrighted work weighs: *in*

favor of fair use

Based on the information you provided, your use of the copyrighted work weighs: *in favor of fair use*



Draft 08/31/2009

(Questions? Comments? Contact Gail McMillan, Director of the Digital Library and Archives, at gailmac@vt.edu)

Virginia Tech ETD Fair Use Analysis Details

Below are the questions you answered and the responses that favor fair use. More than two factors must weigh against the copyright holder for you to receive a fair use determination. If more than half of your answers to each factor matched the ones given below, your use of a copyrighted work favored fair use.

Factor 1. Consider the purpose and character of the use you made of someone else's copyrighted materials in your ETD.

1. Was the purpose of your use of the copyrighted work for a business purpose or commercial activity? **No**
2. Was the reason for using the copyrighted work to entertain? **No**
3. Was criticism, commentary, news reporting, or parody a reason for using the copyrighted work in your ETD? **Yes**
4. Have you given credit to the author or creator of the copyrighted work in your ETD? **Yes**
5. Did you redo or alter the copyrighted work to serve a new purpose when you used it in your ETD? **Yes**

Factor 2. Consider the nature of the copyrighted work you used in your ETD.

1. Is it a creative work, such as a painting, poem, or work of fiction? **No**
2. Did it come from a published work? **Yes**
3. Is it a factual work, such as a quote from a scientific journal, graph or table derived from statistical

data? *Yes*

Factor 3. Consider the extent and significance of the copyrighted work you used.

1. Did you use a substantial portion of the copyrighted work? *No*
2. Was the part of the copyrighted work you included in your ETD a negligible part of the copyrighted work? *Yes*
3. Was the portion of the work you included in your ETD central to or the heart of the copyrighted work? *No*

Factor 4. Consider the effect your use of the copyrighted material will have on the sale of the copyrighted work.

1. Did you lawfully acquire a copy of copyrighted material you used in your ETD? *Yes*
2. Will access to the copyrighted work in your ETD have a notable effect on the market or potential market for the original work?: *No*
3. Is there a licensing mechanism in place for using the copyrighted work? *No*
4. Could access to the copyrighted material in your ETD replace the sale or use of the original copyrighted work? *No*
5. Would it be affordable (i.e., cost-effective) for you to get permission for using the copyrighted work?: *No*

