TFlash 5.0 software

Deliverable Type: Software  Delivery Date: 12/31/2007
Product ID#: 1013739
Intended End Users: Design Engineer (Transmission Line, Distribution Line, Substations)

Description/Impact:
The TFlash version 5.0 software is a lightning performance prediction software tool. It enables users to build models of transmission lines and then analyze their susceptibility to lightning. The software provides many tools to help users design improvements to power lines to reduce lightning outages. It also includes a tower builder for custom tower designs and a PLS-CADD import tool. A Users Group is available as are training and customizations.

The benefits and value provided by the TFlash software are as follows:
- Analyzes lightning interaction with power lines to predict performance
- Assists user in designing improvements to a line
- Allows users to input their own custom tower designs
- Allows users to import line models from PLS-CADD

Implementation Resources Required

<table>
<thead>
<tr>
<th>Resources and Other Costs:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Time (hours)</td>
<td>1 hour</td>
</tr>
<tr>
<td>Consultant</td>
<td>$0</td>
</tr>
<tr>
<td>Hardware</td>
<td>$0</td>
</tr>
<tr>
<td>Software</td>
<td>$45K or pre-paid with membership</td>
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<tr>
<td>Licensing Fee</td>
<td>$0, included in software cost</td>
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<tr>
<td>Training</td>
<td>$0</td>
</tr>
<tr>
<td>Maintenance and Support</td>
<td>$0, custom to level of support required</td>
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<tr>
<td>Travel</td>
<td>$0</td>
</tr>
</tbody>
</table>

Delivered Through: Workshop or Training Course
Service Provider: Tim Shaw, EPRI. 704-595-2240. tshaw@epri.com

Application Instructions:
TFlash – should be used by a Transmission design engineer, who would like to evaluate the lightning performance on an existing transmission line, or design a new line with lightning considerations.

TFlash is provided as a download from EPRI.com. The download process is accessible for users who have an EPRIweb ID and password, and are funders of the TFlash development. User’s need only search on EPRIweb for TFlash 5.0, and then click the “download” button.

Downloading enables users to install the software on workstation(s). Once downloaded, files are unzipped and extracted, and the “Read Me First” instructions are followed. A user’s manual is downloaded along with the software, and assists users with installing and running EPRI’s TFlash software product. Where appropriate, instructions are provided for using the program. In addition, a complete tutorial showing how to set up and run the program, as well as sample cases are included. More detailed information is also available in the on-line help system.
TFlash runs on an IBM compatible PC under the Windows 2000 or XP operating systems. It is designed to evaluate how a transmission line will perform when challenged by lightning. TFlash uses a library approach to inputting line information such as tower type, conductor positions, insulator, and lightning statistics. With minimal training, a user can begin analyzing line performance and explore corrective actions.

TFlash is a tool that allows engineers to analyze the impact of lightning activity on transmission lines, identify specific problem areas, and compare mitigation techniques including improved shielding, insulation, and the application of transmission line surge arresters. Engineers can analyze the degree of lightning protection needed on an existing line, define changes to the line to improve performance, or design a new line with economical lightning protection.

It is important to note, that TFlash is a software tool that requires a user to have some expertise on how to design transmission lines. User’s utilize the software with in-house staff, or may contract with EPRI for assistance. Training on TFlash is provided by EPRI via workshops. In addition, a user’s group, bulletin board, and email support are available to members. For more information on these member’s support activities, please contact the “Service Provider” listed above.

Contacts:
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Deliverable Orders: 1-800-313-3774 (Option #2) or 1-650-855-2121, orders@epri.com