



## ENERGY

# LOAD RESEARCH SYSTEM AND VISUALIZE-IT™ SOFTWARE

A comprehensive software solution for load research and program evaluation

## Powerful Tools for Load Researchers

DNV GL's Load Research System (LRS) is a comprehensive SAS-based software system for load research sample design and analysis. The system implements all of the methods currently taught in the AEIC Advanced Methods of Load Research Course. The system has been collaboratively developed and tested by a team of experienced load researchers from leading utilities and DNV GL experts.

DNV GL's Visualize-IT™ software is a powerful companion to the LRS. When used together, the LRS is the statistical analysis engine, and Visualize-IT™ is the graphical interface and profile viewer. Use the LRS to develop sample designs and estimate load profiles for your classes and domains of interest. Use Visualize-IT™ to visually validate the load data of each of your sample sites, to examine the load profiles developed by the LRS, and to interactively prepare graphical and tabular presentations of your results.

### The Load Research System

The LRS will help you choose appropriate sample sizes for rate classes and market segments, develop efficiently stratified sample designs, draw your samples, validate your sample data, and estimate 8760-hour load profiles for your rate classes and segments. You can use the system to prepare all of the load information required for cost-of-service analysis, rate design, open-access market settlement, load forecasting, distribution planning, conservation planning, system engineering, market research and ad hoc queries.

### CAPABILITIES

The LRS uses sound, defensible, and state-of-the-art statistical methodology to perform all the tasks of the load research lifecycle:

- Preliminary study planning
- Sample design and selection
- Post-stratification and re-weighting
- Load profile analyses (flexible to handle various interval lengths)
- Special analyses (developed to cover a wide range of cost-of-service and other reporting needs)

Visualize-IT™ easily imports the profile data and output from the LRS to:

- Review each site prior to analysis
- Review system, class, and sector total load profiles
- Calculate and view a variety of average and peak load profiles
- Copy and paste graphics and tabular data into reports and presentations

The LRS is designed to meet most of your needs out of the box. Since it is programmed in SAS it can also be customized to your specific requirements.

The LRS can be used in conjunction with a variety of meter data warehouses such as Compass, Sensus and Lodestar. Alternatively, it can be used directly with MV-90 and your current billing system.

## The Visualize-IT™ Profile Viewer

The DNV GL Visualize-IT™ is designed to graphically explore, summarize and analyze time series interval data. The software has been developed specifically for electric and gas load data, but it is equally useful as a general purpose data visualization tool for other time series measurements such as weather, industrial process control, and water quality.

Use Visualize-IT™'s powerful and flexible graphical interface to view your data in different ways and to quickly assess the quality and characteristics of your profiles. Visualize-IT™ analytical capabilities include combining profiles, adjusting profiles to billing totals, and calculating peak demands and dates. Graphics and data tables can be simply copied and pasted into reports and presentations, so you can effectively communicate results to your clients.

Visualize-IT™ can be used as a standalone tool; it also works well with LRS. LRS creates text files that can be easily imported into the Visualize-IT™ software.

## User Group Community

The active User's Group provides an engaging and informal networking forum. During monthly conference calls users recap the latest development activity, discuss software usage, analytical issues and approaches, and present future development ideas.

DNV GL holds an annual conference to conduct training, provide a recap of the year's development activity, and discuss future updates to the software.

The User Group also has a wiki site to post questions and learn more about the software.

## System Requirements

The LRS System is a SAS and Windows application. To use the system, you must have SAS (Version 9 with the SAS/ACCESS Interface to PC Files option) and Microsoft Excel. You can be running either the PC or server versions of SAS.

