



## Why Merrill Energy?

### PROJECT MANAGEMENT: ON TIME, WITHIN BUDGET

Dr. Merrill developed the TOPS (transmission oriented production simulation) program at Power Technologies, Inc. Department Manager John D. Mountford said, “This was a most difficult and challenging project, presenting significant technical and management problems. It was done under budget. Some of the technical problems were viewed by other experts as extremely unlikely to be solvable.”

Dr. Merrill has learned the discipline of planning and managing projects. For instance, a complex study for ISO New England included four sub-contractors. The work was done on time. A little money was left, allowing the client to do some extra work.

*“[Merrill’s] projects are always profitable. He manages resources and tasks excellently.”*

*Allen J. Wood  
Principal Engineer, PTI*

### DEFINITIVE AND CREATIVE SOLUTIONS

An IPP interconnection was held up by a regional planning and licensing procedure. Dr. Merrill described it in an FERC affidavit as “arbitrary . . . makes unreasonably burdensome assumptions . . . [and] is largely irrelevant and ineffectual in determining the transmission costs.” The FERC granted the relief sought. The FERC agreed that the “procedures are based on unrealistic assumptions, produce unreliable cost estimates, and are not otherwise justified.”

Dr. Merrill discovered while still a student that he is good at finding practical solutions to tough problems.

His summer-job supervisor at Cal Tech’s Jet Propulsion Laboratory wrote, “The group benefited greatly by having the talents of Hyde Merrill available to us. He has an excellent technical background in that he is capable of understanding the problem assigned to him and then proceeds to solve the problem with initiative. His first assignment was solved with some basic original thinking.”

*“Thank you for the in-depth report to ISO-NE Inc. regarding ‘Understanding New England Generating Unity Availability.’ The report submitted was extremely professionally done.*

*“Hyde, I look forward to working with you again.”*

*Stephen G. Whitley  
Senior Vice President & Chief Operating Officer  
ISO New England Inc.*



## PRACTICAL INNOVATION

Dr. Merrill's work has been characterized by original but practical thinking, including generalizing the Fibonacci numbers . . . integer programming for maintenance scheduling\* . . . quadratic programming to solve an under-determined problem (published paper based on his solution to an MIT oral exam) . . . non-quadratic state estimation\* . . . model error correction using pseudo-measurements . . . multiple-objective risk and decision analysis\* . . . corporate models using spreadsheets\* . . . pattern recognition . . . transmission ice prevention . . . short-run and long-run marginal cost of transmission . . . simplified transmission tariff methods . . . combined generation+transmission models\* . . . power system sabotage vulnerability, etc.

\* embodied in commercial software

Problems not in the textbooks tend to find him – as do problems whose classic solutions are not good enough.

For instance, the Malaysian grid needed a practical approach to pricing transmission access and ancillary services that users – and regulators – would understand and find fair. His solution included an elegant but easy-to-use way to calculate long-run marginal costs of transmission.

## A MASTER TEACHER AND WRITER

A graduate student at Rensselaer Polytechnic Institute analyzed Dr. Merrill's teaching methods. In "An Observation of the Methods of a Master Teacher in an Engineering Seminar," she wrote:

He "is viewed by his company and his students as a master teacher. . . . My comparison of Dr. Merrill's teaching method with the suggested methods of Lowman, Eble, and Tharp and Gallimore show that Dr. Merrill has developed techniques that are supported by theory from many fields of research. His success as a teacher can be attributed to his knowledge of the subject matter, his presentation skills, and his ability to establish a rapport with his students."

He writes well because he works hard at it.

*"I suspect that your work may prove to be more timely than most people think . . . I was of course particularly pleased to see that you had in effect attempted to apply very general [economic] principles . . . you have done so imaginatively and persuasively."*

Alfred E. Kahn  
Professor of Political Economy  
Cornell University  
Former Chairman  
New York Public Service Commission

*"Congratulations! We already have the final evaluation of last week's seminar and 100% of the respondents thought that your presentation was effective or highly effective. I was second." [A dean and a professor from a prominent US university were rated third and fourth.]*

Enrique Crousillat  
Project Manager  
The World Bank

*"I really admire the way you write . . . you have the uncommon ability of being able to put down in writing very complex ideas in an easy and understandable way."*

Ramón Nadira  
Vice President  
Stone & Webster Engineering Consultants