

Distributed Generation & On-Site Power

March 1-2, 1999 San Diego Hilton, CA
March 8-9, 1999 Walt Disney World, FL

**Day One – Monday March 1, 1999 – San Diego Hilton, CA
or Monday March 8, 1999 Walt Disney World, FL**

7:15 Registration & Continental Breakfast

8:00 CHAIRPERSON'S WELCOME AND OPENING REMARKS

- Microgeneration: We've seen it before, what's different this time around?
- What are the key influences driving distributed generation and on-site power?
 - deregulation
 - volatility
 - reliability
 - technology
- What are the benefits to both end-users and utilities?

Kenneth S. Dee, President & CEO, **GLOBAL ENERGY SOLUTIONS**

8:20 DISTRIBUTED GENERATION STRATEGIES IN THE RESTRUCTURED ELECTRIC MARKETS

- Marketing that meets customers needs
- Overcoming the regulatory and market showstoppers to Distributed Generation
- Case Studies: Analysis of preliminary work with the California cities of Irvine and Chula Vista
- Factoring Distributed Generation into Land use planning
- How to streamline permit requirements
- How to assist local agencies in energy policy development

Eric Wong, Product Consultant, Gas Engine Division, **CATERPILLAR INC.** (former Chairman, California Association for Distributed Energy Resources)

9:00 ONSITE POWER: DISCOVERING NEW OPPORTUNITIES & AVOIDING THE PITFALLS

If unleashed the pent up market for on-site power will create:

- Major business opportunities for equipment and energy service providers
- Significant Environmental benefits
- Economic savings and enhanced power reliability for energy users

Learn where the opportunities lie and how to avoid the pitfalls in each area listed above.

Keith Davidson, Senior Vice President, **ONSITE SYCOM ENERGY CORPORATION (CA)**
Bruce Hedman, Vice President, Consulting, **ONSITE SYCOM ENERGY CORPORATION (FL)**

9:45 A STRATEGY FOR RELIABLE AND ECONOMIC DISTRIBUTED GENERATION TECHNOLOGIES FOR THE FUTURE

This session presents the DOE's efforts on distributed generation including issues of strategy, technology development, road mapping, distributed generation challenges/needs, and possible environmental and policy implications. Learn and benefit from understanding:

- Vision of the future for clean, efficient and economical power
- The current status of technology for DG at the US DOE and future challenges and plans of the department
- Insights into technology demonstrations and new R&D opportunities
- Activism opportunities for input recommendations, needs, and future directions
- How to become actively involved in developing DG policy and using feedback to identify gaps
- DOE's perception of potential environment policy implications
- Technology verification and environmental benefits documentation

Patricia Hoffman, Program Manager, Office of Industrial Technologies, **US DEPARTMENT OF ENERGY**

10:20 Exhibit Viewing & Networking Refreshment Break

10:35 ECONOMICS OF DISTRIBUTED GENERATION FOR DIFFERENT TYPES OF CUSTOMERS: REAL ECONOMIES OR FLEETING PROMISES

Distributed (on-site) power will be competing with unregulated, rather than unregulated power markets. To the extent true competition rationalizes markets for power, the economies of all types of substitutes for system power, including distributed generation may change. It is absolutely important for both vendors of distributed generation and the potential customers to understand the economics of new technology breakthroughs and their place in the restructured marketplace.

- Understanding the basic economic drivers of DG
- Analyzing the break-even prices to take advantage of DG
- When gains are real and permanent
- Learning how to forecast benefits from DG
- Relating benefits of on-site generation to the deregulated marketplace
- Relationships to transmission and distribution cost: Assessing T&D rates
- Backup services from the network
- Stranded and social cost avoidance
- For Vendors: Understanding the types of customers that can be good targets
- For Customers: Understanding whether DG is for you

Anuj Arya, Principal, **A.T. KEARNEY**

11:05 MINIMIZING ELECTRIC MARKET RISK: ENSURING YOUR DISTRIBUTED GENERATION IS PROFITABLE

Distributed generation offers tremendous opportunities. With deregulation, however, electric prices will fluctuate and in most cases drop. How far and how fast they fall will affect the profitability of your distributed generation. Assessing the risks, and understanding how to mitigate them to ensure you get the lowest electricity costs

- Understand expected technological advances in generation
- Learn about potential market events that will affect electricity prices

- Identifying and assessing the risks associated with distributed generation that most affect your business
- Identify partners to help mitigate risk
- Master techniques to mitigate the risk to profitability of your distributed generation

Douglas Short, President, **DOUGLAS SHORT CONSULTING INC.**

11:45 USING DISTRIBUTED GENERATION AS AN INTEGRAL PART OF INTERRUPTIBLE PROGRAMS

Tested and reliable technology exists today that allows utilities to significantly boost their power availability during times of peak energy use – like those hot summer months in 1998. And utilities don't need to build new substations, transmission lines or power plant to make it work. By upgrading and expanding current interruptible programs with the addition of distributed generation, utilities can add 100-400+ MW to their power supplies in each major metropolitan area in just a few months. This solution allows utilities to “borrow” power directly from those emergency generators that sit quietly and inconspicuously behind hospitals, office buildings, and hundreds of other businesses – all without any disruption to the customers business. These often-idle emergency generators offer an immediate gold mine of additional power that utilities can access with the flip of a switch.

Scott Castelaz, Vice President of Marketing and Strategic Planning, **ENCORP, INC.**

12:20 Luncheon for Speakers & Delegates

1:20 POWER CONTROL & TRANSFER SOLUTIONS FOR DISTRIBUTED GENERATION APPLICATIONS

The economic benefits of DG offers an opportunity to recover stranded costs from installed standby and emergency power equipment as well as a means to subsidize the enhanced capability of these systems to meet demands of modern electrical loads. This discussion centers on the available switching and control strategies providing insights to the selection process for the best strategy for a given application. Discussions include load transition strategies while revealing the essential background decision-making criteria for the best economic decision.

- What are the available strategies?
- How does the choice of strategy impact cost?
- How to evaluate the cost vs. benefit
- Is continuous parallel operation the most cost effective
- What are the risks of operating emergency power systems for load management?
- How can industry standards provide assurance for the correct choice?
- How does this impact on-site staffing?
- How much flexibility is enough?
- When intertie is the appropriate choice, how much protective relaying is required?

Armand J. Visioli, President, **ASCO SWITCH WORLDWIDE**

1:55 OPERATIONAL PLANNING FOR Y2K ISSUES IN GENERATION & TRANSMISSION

We've all read the papers, listened to the Y2K experts, thought about potential catastrophes and become true believers: The Y2K situation is real. The question remains will the lights go out? What are the problems facing our industry and what are the long-term implications? Most importantly – what do we do about it technically and organizationally?

- What you can – and must – do to solve the Y2K problem

- The results of a recent surveys of utility power plants and industrial end users
- The effects and problems of Y2K detection & testing: A precursor to the future?
- Issues of circuit breaker re-closures, voltage regulators, smart control vales and much more, and the implications on public safety
- Tips for solving the technical issues of Y2K problem
- Planning for surviving Y2K for your organization as a whole

Ken Justice, Senior Vice President, Global Power Generation Group, **CIGNA**

2:30 Exhibit Viewing & Networking Refreshment Break

2:45 END-USER OPTIONS & CRITERIA FOR FINANCING YOUR EPG PROJECT

A financial look at the options available to EPG customers and governmental entities. This analysis of the advantages and disadvantages of the various lease options allows you to determine which options are right for your particular situation. This talk includes a look at comparing lease pricing and review of credit information requirements.

- What are your financing options?
- Determining your financing strategy
- Finance vs. Tax ease options: advantages and disadvantages of lease options
- On-balance sheet vs. off-balance sheet leases
- Understanding municipal leases and their advantages
- Factors that influence lease payments
- Lease cost comparisons
- What credit information is required for financing?

Jim Yule, International Accounts Manager, Global Accounts Division, **CATERPILLAR FINANCIAL SERVICES**

3:15 END-USER LESSONS LEARNED ABOUT ON-SITE GENERATION

Temple University cuts its electric price in half BEFORE the retail re-regulation craze and continues to save more than \$3,000,000 a year with it's own 16 MW standby electric power plant. Listen as Temple's energy manager shares down-to-earth insights that benefit a broad audience of hopeful players in this rapidly emerging game.

- Salesman – Find out what an institutional customers “hot buttons” are
- Buyers – Learn how to avoid some common generation project pitfalls from somebody who's already fallen in and crawled back out
- Electricity Brokers – Discover how far some customers will go to get the best price
- Engineers – Hear what the guy who gets stuck paying the bills thinks a good spec is
- Lawyers – How about a dose of reality guys?
- Upper management – 10 questions you should ask your facilities people before getting your company into the power generation business
- Electric Distribution Companies – Are you part of the problem or part of the solution? Your customer's on-site generation project is going to make the answer abundantly clear. Gets ready by listening to one customer describe how he got put through an EDC's wringer.

Kurt Bresser, Facilities Manager, **TEMPLE UNIVERSITY**

3:50 CREATING VALUE: ON-SITE POWER DEVELOPMENT TRENDS AND OPPORTUNITIES

This discussion focuses on understanding the emerging energy market trends rising from deregulation. Participants obtain insights to apply to their own energy strategy, as well as a good understanding on creating “win-win” on site power developments.

- How to take advantage of pricing trends in the electricity market
- How to best determine the value you can create through on site power generation
- Case study: Combined heat and power – creating value through innovative technology use
- Case study: Asset maximization – bottom-line savings through better “energy yield”
- Putting it all together: How to create the best deal

Chip O’Donnel, Manager, Project Development, **TRIGEN-CINERGY SOLUTIONS**

4:25 POWER SYSTEM INTEGRATION STRATEGIES FOR DISTRIBUTED GENERATION

Distributed generation is emerging as an attractive energy alternative in de-regulating markets. Successful integration of DG into an existing distribution grid is the key to rapid market penetration of this technology.

- System configuration issues for distributed generation integration
- Protection and control strategies
- How to address variability of demand
- How to address power quality issues
- T&D benefits derived from distributed generation
- Impact of distributed generation on system reliability

Rana Mukerji, General Manager, **GE POWER SYSTEMS ENERGY CONSULTING**
Nicholas Miller, Manager, Product Applications Consulting, **GE POWER SYSTEMS ENERGY CONSULTING**

5:00 Conclusion of Day One

**Day Two – Tuesday March 2, 1999 – San Diego Hilton, CA
or Tuesday March 9, 1999 Walt Disney World, FL**

7:30 Continental Breakfast

8:00 CHAIRPERSON’S WELCOME AND REVIEW OF DAY ONE

Kenneth S. Dee, President & CEO, **GLOBAL ENERGY SOLUTIONS**

8:20 OPPORTUNITIES FOR MANUFACTURERS AND UTILITIES IN DISTRIBUTED GENERATION

The emergence of new technologies and business practice embodied in distributed electric generation has created opportunities for manufacturers, utilities and their energy providers. This presentation addresses their concerns and issues, while examining existing and emerging products for DG including specific performance characteristics and case study applications. DG can be the solution to the problems of facing today’s electric industry including:

- Rapid growth in manufacturing facilities often creates problems and stresses for power generation sources and power delivery networks

- Combinations of distant generation, limited electric distribution facilities and uneven demand for electric power creates a less than optimum situation for both customers and their utility suppliers
- Manufacturing productivity and product quality in modern manufacturing facilities is susceptible to interruptions in service and fluctuations in power quality
- The ability to attract and maintain a world-class manufacturing base requires access to reliable and cost-competitive delivered energy

Paul Bautista, Program Team Leader, Power Generation, **GAS RESEARCH INSTITUTE (FL)**
 William E. Liss, Team Leader, Energy Conversion, **GAS RESEARCH INSTITUTE (CA)**

9:00 MARKET MAKERS & “SUPER ESCO’S”: INTEGRATING DISTRIBUTED GENERATION SOLUTIONS FOR SUCCESS

The explosive Access to distributed generation technologies has opened the door for the emergence of a new type of Energy Company. These revolutionary energy companies are able to provide a seamless solution from the commodity to DG products and services. While carving a market niche these “super ESCO’s” will provide a wide variety of options and products that meet market demands

- Listening to demand, today’s market is about integration
- Managing the ideal DG portfolio
- Ensuring a proper power fit, customization based on individual power environments
- The retail mentality from sales to service
- Give them what they want – “back pocket” access to new products
- Dynamic partnership networks that work
- Three words to stay ahead: innovation, innovation, and more innovation

Tony Moore, President & CEO, **NEW ENERGY VENTURES TECHNOLOGIES, LLC**

9:40 MARKET OUTLOOK & IMPACT FOR INDUSTRIAL GAS TURBINES IN DISTRIBUTED, ON-SITE GENERATION

- New market forces: How the re-regulation of US markets is creating a resurgence for distributed generation
- Understanding the economics involved when considering gas turbines
 - costs vs. benefits
 - when it makes sense and when it doesn’t
- Grasping the environmental impacts, issues and benefits of cogeneration and combined heat and power (CHP)
- Insights into the advanced turbine systems program

Valerie Mason,, Marketing Manager, Distributed Generation, **SOLAR TURBINES INC.**

10:20 Exhibit Viewing & Networking Refreshment Break

10:35 MAKING DISTRIBUTED GENERATION A REALITY: THE TURBOGENERATOR

- Understanding the global framework on the technical and commercial benefits of distributed power
- Understanding the “big picture” on DG and the alliance between Unicom and AlliedSignal
- Market drivers and commercial applications
- What are the challenges in implementing a distributed generation strategy?
- How the TurboGenerator™ works
- Understanding when and where this maybe the right choice for your company

- Determining the economics of implementation and return on investment
- What are some of the additional benefits of the TurboGenerator™?
- Where we stand now and visions of the future for distributed generation

Charles Weinstein, Senior Vice President, **ALLIEDSIGNAL POWER SYSTEMS INC.**

11:10 APPLICATIONS FOR DISTRIBUTED GENERATION FOR ELECTRIC COOPERATIVES

- Background on electric cooperatives
- Applications for distributed generation
 - rural area trade-off of generation for distribution costs
 - proactively shaping the load profile
 - BTU neutral approach to consumers
- Overall status of DG at cooperatives based on a sample survey
- Location and amounts
- Types of dispersed generation
- Research and pilot projects underway by NRECA Cooperative Research
- Future Growth and expected technologies
- Foreseeable problems

David J. Hedburg, Senior Vice President for Strategic Services, **NATIONAL RURAL ELECTRIC COOPERATIVE FINANCE CORPORATION**

John Holt, Manager, Fuels and Transportation, **NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION (CA)**

12:00 Luncheon for Speakers & Delegates

SPECIAL MARKET FOCUS ON CALIFORNIA OR FLORIDA

1:00 p.m. – 5:00 p.m.

The remaining portion of the program is dedicated to the special concerns associated with distributed generation pertinent to the respective states of California and Florida.

CALIFORNIA SESSION

REGULATORY INSIGHTS, UPDATES & THE ADVANCEMENT OF DG: CADER & THE ENERGY COMMISSION

DG is more than having the right technologies. Understanding the need to pave the path for a uniform, timely and effective implementation of Distributed Energy Resources (DER) is paramount. The activism required for creating awareness, removing barriers and providing solutions to ensure that DER is integrated in the competitive marketplace.

- Fitting DG into existing regulatory framework and existing grid system
- The Benefits of public/private partnerships
- Public/private funding of facilities technologies
- What are the barriers and how do you remove them?
- Where can I go for information?

- Who are the leaders?
- What technologies are available now? And in the future?
- How can you contribute?

Jairam Gopal Chair, CADER, **CALIFORNIA ENERGY COMMISSION**
David Rohy, Commissioner, **CALIFORNIA ENERGY COMMISSION**

THE MANUFACTURER'S ROLE IN EXPANDING THE COMPETITIVE ELECTRICITY MARKET & DISTRIBUTED GENERATION

Manufacturers were at the forefront of electric deregulation (AB 1890) in California and continue to play a key role as the deregulation process continues to unfold. Distributed Generation is viewed by many CMA members as one of the next horizons in the deregulation process

- How competitive markets are benefiting manufacturers
- Why DG is the logical extension of AB 1890
- Defining the manufacturer's role in making DG a reality
- Obstacles confronting truly competitive markets and DG
- How CMA will work to expand the free market opportunities for DG

Jack Stuart, President, **CALIFORNIA MANUFACTURERS ASSOCIATION**

TOP TEN REASONS WHY YOU NEED DG IN THE RESTRUCTURED ELECTRICITY MARKET

Restructuring won't be complete until customers have true choices to buy, sell, or become independent (self-generate) DG is the technology that will give customers these choices.

- Overview of the current market for DG in California
- Top ten reasons why further deployment is inevitable and necessary
- Why all customers should understand DG alternatives
- How to know when DG is right for you

Dorothy Rothrock, Principal Consultant, **POWER PROCUREMENT GROUP**

QUALITY & RELIABILITY ISSUES IN AN OPEN ELECTRIC MARKET

Can DG compete and, if so, in which markets? Is transmission access and/or transmission connection an essential ingredient to compete in the open electricity market?

- How the open market works
- Energy vs. capacity markets
- Reliability tools available to the ISO and their impact on DG
- Technical features required to participate in the market – metering, controls, communications requirements, and scheduling
- DG's role in providing quality and reliability
- DG as a competitor to transmission and distribution facilities

Kellen Fluckiger, Director, Operations & Engineering, **CALIFORNIA INDEPENDENT SYSTEM OPERATOR**

AIR QUALITY, PERMITTING & SITING ISSUES

Understanding regulatory requirements and potential public concerns can minimize permitting delays and obstacles. If DG is to significantly penetrate the California market, it's important to understand and address these concerns.

- Understanding the regulatory and policy landscape
- Identifying environmental issues and addressing barriers
- Grasping the permitting process: applications, forms, fees, information needed, time tables etc.
- Potential emissions impacts of DG technologies: Comparison of emissions from existing central station power plants
- What control technologies are required?
- Will emission offset credits be required?
- A synopsis of the contract in progress to assess emissions impacts of DG in California
- The potential use of the contract results in developing DG policies

Shirley F. Rivera, Principal, **RESOURCE CATALYSTS**

Daniel A. Spear, Senior Air Pollution Control Engineer, **SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

Bob Fletcher, Chief, Emissions Assessment Branch, **AIR RESOURCES BOARD, CALIFORNIA EPA**

FLORIDA SESSION

PUBLIC AFFAIRS UPDATE IN FLORIDA

- A public affairs briefing on the electric utilities industry in Florida
- Where the electric utility is today... Where it's going tomorrow
- A regulatory overview of what's going on
- What happens if the Feds pre-empt states?
- An update on Florida's legislative status
- Florida legislative review of the new governor and new administration
- Year 2000 term limits and their effect on the electric utility industry

Jack Cory, **PUBLIC AFFAIRS CONSULTANTS, INC.**

CUSTOMERS & UTILITIES: PARTNERING FOR THE FUTURE

- Understanding the local utility interface
- NERC standards for ancillary services
- What are the utility rate issues?
- Knowing the risks: Operational, and financial
- What are the critical considerations for success?
- Creating partnership arrangements that provide win-win situations for all parties
- Evaluation of the benefits vs. risks
- Understanding the utility programs
- Developing and implementation strategy
- Examples of interconnects with TECO

Greg Ramon, Manager, Energy Delivery, **TAMPA ELECTRIC/TECO ENERGY**

John Kelly, Consulting Engineer, Energy and Marketing Planning, **TAMPA ELECTRIC/TECO ENERGY**

WE POWER THE MAGIC: A LOOK AT DISNEY'S UNIQUE ENERGY SOLUTIONS

Walt Disney World has experienced every challenge possible in power delivery and reliability while maintaining the highest level of quality and safety.

- A look at the Reedy Creek Energy Services and Disney attraction relationship
- Some of the things we do and how we do them
- Unique challenges in power delivery at Disney
- What's the right solution – standby utility diesels, gas turbines, or individual life safety units at each location?

Jerry Murphy, Chief Electrical Engineer, **REEDY CREEK ENERGY SERVICES AT WALT DISNEY WORLD**

Additional Florida speakers to be announced.