

Integrating Renewables

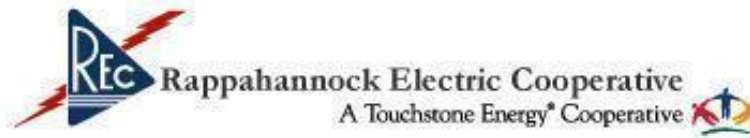


CompuSharp Inc.
6 December 2010

CompuSharp

- A high-tech power system solutions company in Silicon Valley
- Specialized in Energy Management, Energy Conservation, Energy Research
- Regulatory Aspects
- Power Systems Analysis:
 - Load Flow, Load profile study
 - Short circuit / Stability studies

Some of our Clients

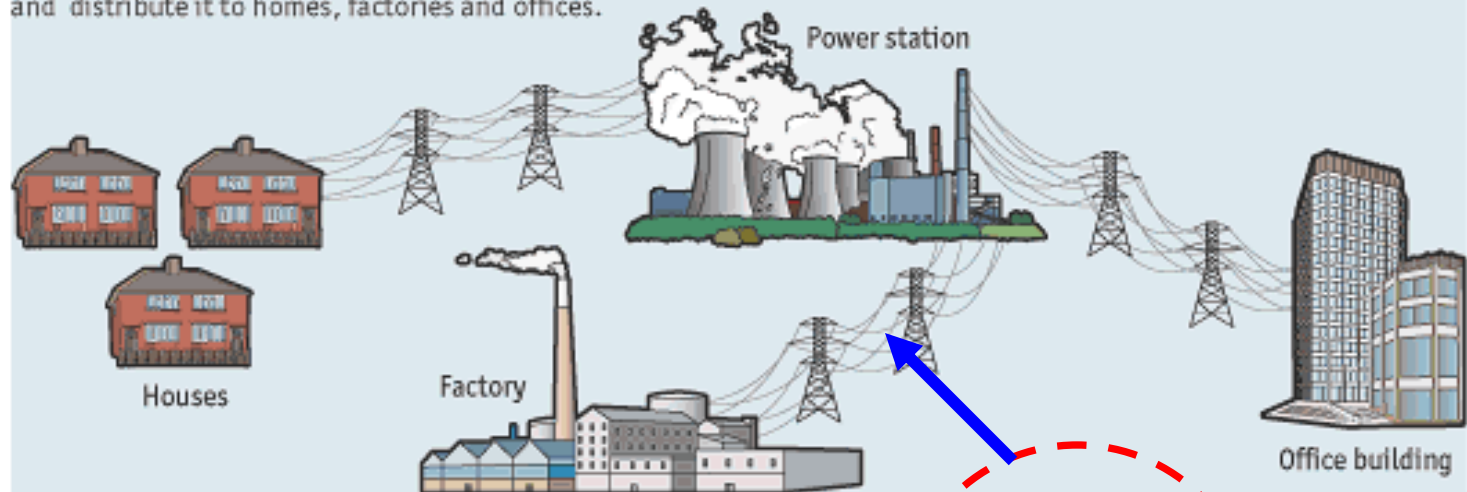


New Power Grid

Integrate new generation to the existing system

Conventional electrical grid

Centralised power stations generate electricity and distribute it to homes, factories and offices.



The Challenges

- Infrastructure for absorption (transmission lines, switch yards, etc.) by Power Transmission Organization (PTO)
- Congestion Issues
- Changes in control and metering devices (e.g. multi-direction load flow management)
- Uncertainties, e.g. weather changes, ramp rates of wind gen.
- Operational issues: Frequency stability, Dynamic VAR

Operational challenges

- NERC compliance
- Net metering (billing & accounting)
- Telecommunication and local control
- Isolation during emergencies
- Absorbing real-time electricity pricing information

Our Services

- Technical Feasibility Study
- System Impact Study
- Operational Interconnection Studies
- Congestion Analysis
- System Reliability and NERC Compliance



Economic Analysis

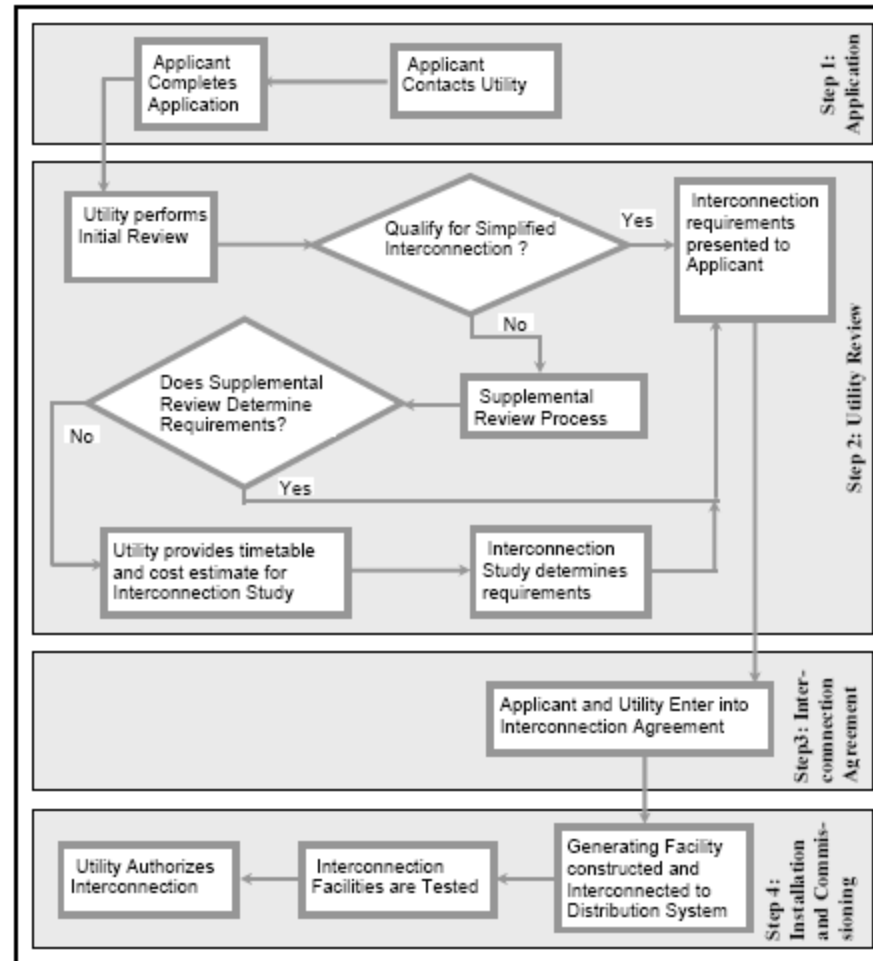
for New Power Generation

- Production costs estimation for various load and generation levels during different time periods (e.g. winter, summer, weekdays, weekends, etc.)
- Locational Marginal Pricing (LMP)

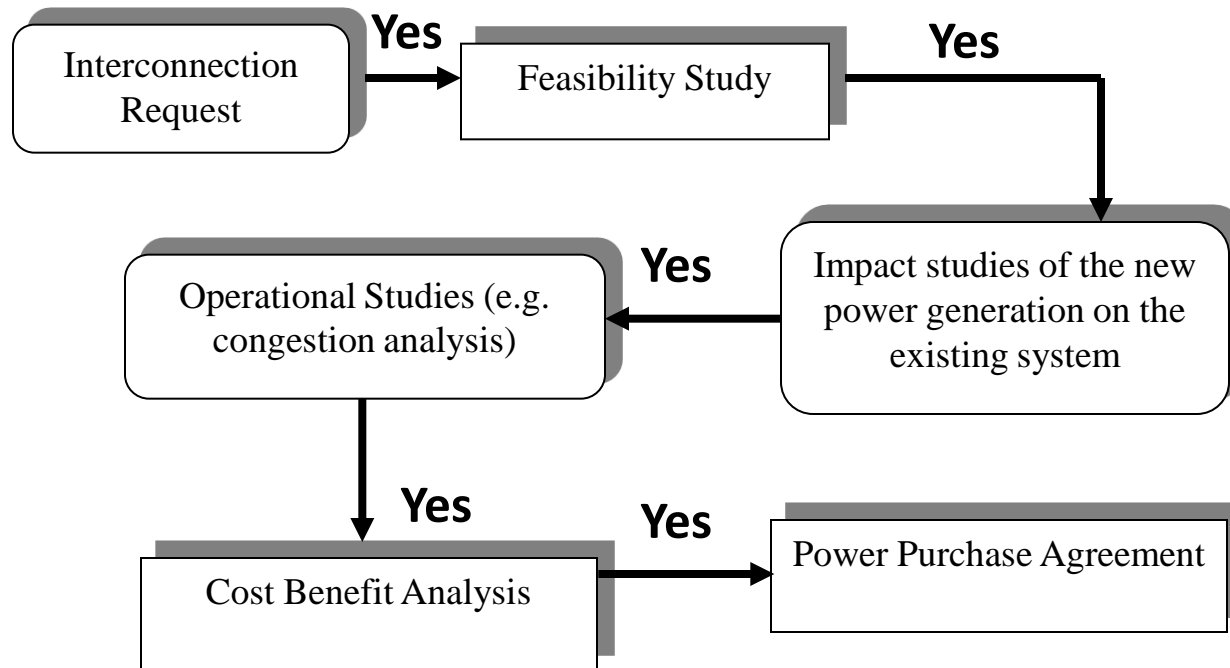
The objective is to maximize the return rate of your investment!



Steps of integrating new power to existing system



Interconnection Process Flowchart



All of these steps involve deep knowledge of Power Systems analysis and Regulations

Our Methods

- Load flow and short circuit studies
- Congestion management
- Steady and dynamic stability analysis
- Reliability performance assessment
- Cost benefits analysis



Our Commitment

*Assist the Independent Power Producers (IPP)
at each step for effective interconnection to
the existing system*

