11-IEP-1G
DOCKET
11-IEP-1E
DATE May 17 2011
RECD. May 18 2011

2011 IEPR Workshop – Transmission Needed to Meet State Renewable Policy Mandates & Goals

Robert Woods
Director – Electric System Planning
SCE

SOUTHERN CALIFORNIA EDISON®
An *EDISON INTERNATIONAL*® Company

Interconnection of Renewables to the Transmission System: Challenges

- **Transmission/Distribution System Operability**
  - Safety and Reliability
    - Impact of generation on ability to transfer load between distribution circuits/substations
    - Real power control to curtail excessive generation
    - Unintentional "Islanding"
    - Lack of "low voltage ride through" where temporary faults can shut down large amounts of generation
    - Line management and service
  - Voltage
    - Steady state voltage regulation
    - Transient over-voltages caused by connecting generation to systems with little or no load
  - Short circuit duty (impact on circuit breaker duty ratings)
  - Power Quality, Intermittency, Stability
  - Protection Requirements
- **Transmission/Distribution Costs: Rate Impacts**
  - Developer interconnection costs, utility network/distribution upgrade costs
- **Interconnection Process: Project Volume & Timeline**
  - As of mid-April 2011, SCE has approximately 865 renewable generation interconnection requests in process queue
- **Project Development: Land Use**
  - Land acquired for transmission projects should be held in rate base commensurate with the length of time for project development

Interconnection of Renewables to the Transmission System: Progress & Recommended Actions

- **Interconnection Process Reforms:**
  - Large Generator Interconnection Process (LGIP) reform converted inefficient serial study process to more efficient cluster study process (2007-2008)
  - Small Generator Interconnection Process (SGIP) reform combined small/large generator processes into more efficient, comprehensive interconnection study process (2010)
    - Created Independent Study Process
    - Expanded Fast Track Availability
- **Major SCE Transmission Projects: Ongoing Progress**
- **Streamlining of Permitting Process:**
  - The greatest time savings resulting from process reforms will be for projects where the permitting process has not begun
  - SCE supports reforms that reduce overall permitting times and effort, such as:
    - Increasing collaborative efforts between the state/federal agencies and the applicant, before and after application filing, to avoid duplication of surveys/analyses, but which maintains agency independence
    - Conformance of legal agency-imposed mitigation measures to match the measures required by resource agencies
    - Information requirements and detail levels in CEQA and NEPA documents should meet, but not significantly exceed, legal requirements