Defining Benefits: The Key to Getting it Right

Presentation to Harvard Electricity Policy Group

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September 22, 2011

Topics

- Statement of the Problem
- Transmission Planning under Order 1000
- Cost Allocation -- What Constitutes a "Benefit" for Which Costs Should be Allocated?
- Can Benefits be Measured?
- Is There a "Free-Rider" Problem?
- The Road Ahead – Does Order 1000 Help?

FERC Order 1000

- Deficient in several respects
- All the difficult questions are left to compliance filings
- Do MISO MVP methodology or SPP "highway/byway" approach provide clues?
- Key questions –
  - Does Order 1000 require changes to traditional planning methods?
  - How do we ensure that cost allocation provides efficient and equitable results?
  - Moving from theory to practice

New Requirements

- Regions must self-identify, establish transmission planning processes, and develop regional transmission plans
- Inter-regional planning coordination is required
- Public policy requirements must be considered
- Regions must have ex-ante cost allocation methods to apply to projects included in regional plans for purposes of cost allocation
- Neighboring regions must have cost allocation methods for projects crossing boundaries

Transmission Planning

- Processes in place for RTOs – Order 890 processes in place outside RTOs
- Traditionally, utilities have always had to take into account public policy requirements in their generation – and thus – transmission planning
- Problem exists where load-serving entities have to meet public policy requirements but don't have an integrated planning process (particularly, retail access states within RTOs)

Transmission Planning *(cont)*

- These areas face a dilemma – should RTOs do integrated resource planning on behalf of their load-serving entities – deciding how best to meet reliability, economic, and public policy needs in the region?
- Or should load-serving entities with the responsibility to meet public policy requirements, under supervision of their state regulators, decide how best to meet those requirements
- Clearly – my answer is the latter

Transmission Planning *(cont)*

- This means that bottom-up planning is a necessity – both in RTOs and non-RTOs
- RTOs and other regional planning entities should certainly ensure that reliability requirements are satisfied within their areas
- However – economic opportunities and transmission needed or desired to help meet public policy requirements should be inputs to the regional planning process from either load-serving entities or generators

Transmission Planning *(cont)*

- Bottom-up planning also will help identify the entities that will benefit from investments, thus making the cost allocation process clearer
- Regional planning entities will still have the opportunity to examine alternatives, look at cost-saving opportunities for consolidation of multiple needs, and ensure that reliability requirements are satisfied
- Projects do not need to be placed in separate buckets of reliability, economic or public policy – but cost allocation may be different depending on the type of benefit
- Order 1000 does not require wholesale changes in existing transmission planning processes

Cost Allocation

- Costs must be allocated "roughly commensurate with benefits"
- Means that benefits must be (1) defined and (2) forecasted (quantified) in a reasonable manner
- Defining benefits properly is the key to ensuring both market efficiency and customer equity
- The Commission has declined thus far to state what benefits may or may not be considered, leaving it to regions to determine and incorporate in compliance filings

Cost Allocation *(cont.)*

- Some broad principles are important:
  - Where transmission is needed to meet reliability requirements in an area that would otherwise fail such requirements – all entities within that planning area should contribute their fair share
  - Transmission that provides either economic benefits or helps to meet public policy requirements of certain entities should be paid for by those entities, in proportion to their benefits relative to overall benefits

Cost Allocation *(cont.)*

- There really is no difference between an economic benefit to customers and a public policy requirement from a cost allocation standpoint – presumably the public policy requirement was established because a legislature believes there is an economic (or externality) benefit to customers from that requirement
- Not meeting a public policy requirement usually results in an economic penalty – which can be directly considered in the planning process

Cost Allocation *(cont.)*

- It is not the job of the regional planning entity, RTOs, or even the FERC to decide what externalities should be considered "benefits" in the planning process. This is a legislative function.
- Thus, regions can not and should not include environmental externalities as "benefits" for purposes of cost allocation, unless those externality considerations result from existing public policy requirements

Cost Allocation *(cont.)*

- By the same token, considering social benefits of investments is a slippery slope and beyond the authority of regional planning entities. Considering social benefits without also considering social costs is especially problematic.
- Finally, while it is probably true that new transmission provides reliability benefits to someone, somewhere, and sometime in the future, the real consideration should be whether that incremental reliability benefit was wanted or needed by the customer.

Cost Allocation *(cont.)*

- With respect to reliability benefits, reliability standards and criteria already take into account the economic impact to customers of alternative levels of reliability
- If more reliability is beneficial to the customer, it should be incorporated into the reliability standard, and not be assumed to be a benefit to the customer for purposes of allocating additional costs
- Thus, customers should not have to pay for reliability benefits they don't need

Cost Allocation *(cont.)*

- There is a temporal dimension within which benefits ought to be considered as well
- Because Order 1000 requires an ex-ante method of cost allocation, allocation must be based on forecasts of benefits
- Utilities have considerable experience in forecasting, and design planning horizons based on what they believe can be forecasted with reasonable accuracy
- Cost allocation under Order 2000 should be no different – only benefits forecasted to occur within the planning horizon typically used should be considered – anything else would be pure speculation

Cost Allocation *(cont)*

- Only transmission projects within the same time period and within the same area can or should be considered together
- Most planned transmission lines do not get built – relying on a portfolio of projects to balance benefits across a region is extremely risky
- Not clear whether Federal Power Act just and reasonable requirement can be applied to a cluster of proposed projects

Measuring Benefits

- Utilities (and RTOs) are well-versed in conducting studies that examine the costs and benefits of proposed transmission projects – in fact, these are usually required to get regulatory approval and cost recovery for projects
- Utilities (and RTOs) also regularly conduct transmission planning studies with respect to both the existing system and new projects to ensure reliability and examine economic impacts under various scenarios
- These same studies can be used to determine who benefits from new projects and what the nature of those benefits are (i.e., reliability vs. economics or public policy)

Measuring Benefits *(cont)*

- Thus, cost allocation should be commensurate with reliability and economic benefits
- Consideration of reliability benefits should be limited to those needed for the planning area to maintain compliance with reliability standards
- Consideration of public policy benefits should be based on existing federal or state statutory or regulatory requirements, and should exclude external or societal benefits not already reflected in regulation
- Consideration of economic, reliability or public policy benefits should be limited to the region's typical planning horizon

Is There a Free Rider Problem?

- Transmission usually must be built in large increments, so the "free rider" theory is that potential beneficiaries will wait for someone else to build so that they don't have to pay but can still use the added capacity
- So does this mean that the regional entity should decide that there are other beneficiaries that ought to pay for transmission even if they are unwilling to pay?
- There are better solutions

Is There a Free Rider Problem?

- Entity that invests in transmission should get all rights (financial or physical) to the transmission capacity created
- Thus, if others want to use the capacity, they would have to pay the original investor
- Federal Power Act provides an avenue to change rates if usage of the system changes substantially over time
- Could have a mechanism built into the tariff to allow for regular reviews of changes in transmission usage
- Merchant transmission with "open seasons" makes a lot of sense

The Road Ahead

- FERC Order 1000's lack of clarity provides the opportunity to get it right, or the opportunity to get it terribly wrong
- Need to keep the objectives of transmission planning and cost allocation in the forefront – ensure reliability and efficient markets for generation while providing electricity to end-use customers at the lowest reasonable cost

The Road Ahead *(cont)*

- Getting it wrong could mean:
  - Local renewable generation is disadvantaged relative to remote resources because someone else is paying for transmission for the remote resources
  - Customers pay for transmission for which benefits are speculative at best
  - Locational marginal pricing does not provide the right price signals for buyers and sellers because congestion costs are subsidized
  - Stranded transmission investment could result as there is no incentive to ensure that transmission investment is truly needed

The Road Ahead *(cont)*

- Getting it right primarily means –
  - Ensuring that planning is bottom-up based on the expressed needs of load-serving entities
  - Defining and measuring benefits correctly so that all users of the transmission system face the right price signals, generation is located in the right places, and all transmission users are treated equitably

The Road Ahead *(cont)*

- There are over 60 rehearing petitions at the FERC
- The Courts may decide whether FERC acted within its authority
- Congress will have oversight hearings
- Nevertheless, regional planning and inter-regional coordination done correctly is a good thing
- Compliance filings will tell the tale