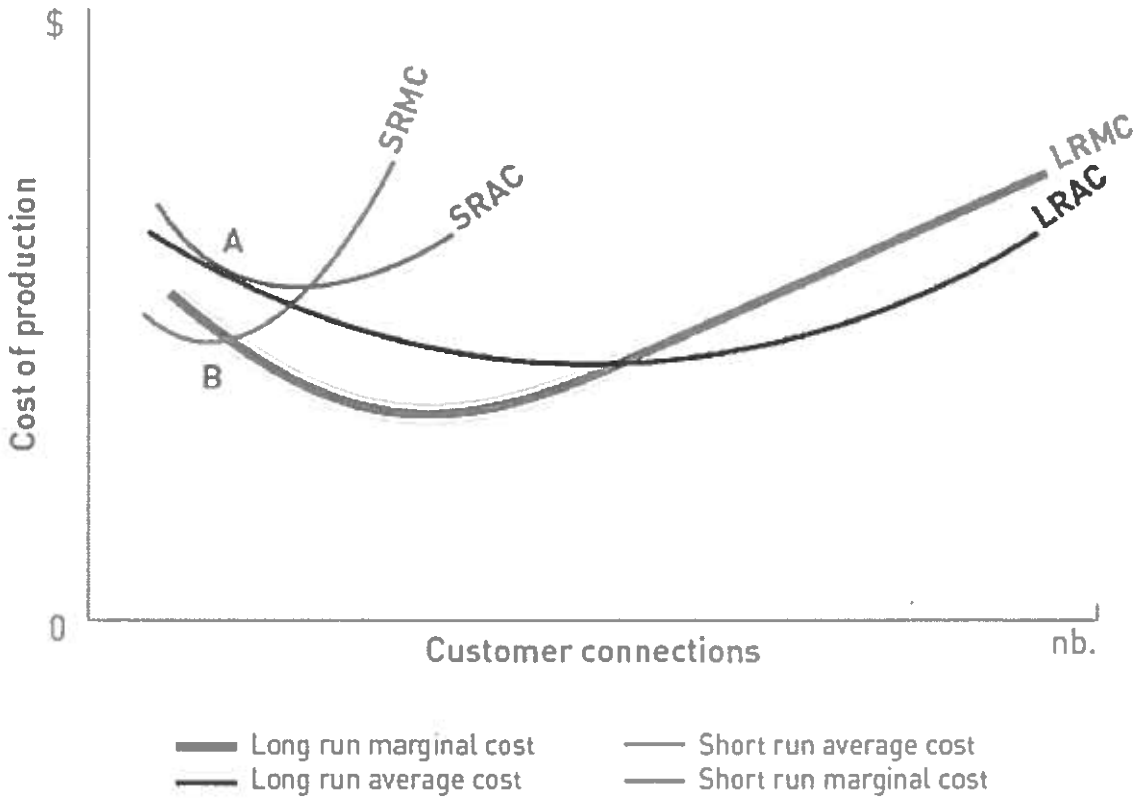
D-2017-009 R-3867-2013 Phase 3

Comments of H. Edwin Overcast

Understanding the Economics of Line Extension

- Incorrect to use of Long Run Marginal Cost (LRMC)
  - no efficiency implications
  - theoretically an incorrect value to use in line extension policies.
- Short Run Marginal Cost (SRMC) is the proper measure of costs
  - for producing economic efficiency
  - maximizing social welfare.
- Conclusion supported by Charles Phillips, Alfred Kahn and others.
  - Authors cited as well by the other experts in this docket.

Relationship Between Short-Run and Long-Run Marginal Cost



Relationship Between Short-Run and Long-Run Marginal Cost

- Conclusions
  1. SRMC=LRMC at the optimum level of production before expanding capacity
  2. So long as there are economies of scale, LRMC is less than SRMC for expansion of the system
  3. Where SRMC is < LRMC production capacity utilization is not optimal for the existing fixed assets and all customers, and indeed society, benefits from system expansions based on SRMC

Properly Defining Marginal O&M Cost for Connections

- Parties disagree over what constitutes MC of a connection
- The advocacy of essentially any cost included in revenue requirements as a marginal connection cost is inconsistent
  - with the concept of marginal costs
  - and is incorrect both in theory and practice
- Marginal cost is correctly defined as the additional costs of inputs to produce the output – in this case customer connection

Logic of Policy Considerations

- Average costs decline for all customers when new connections produce revenue greater than or equal to the SRMC.
- Policies that use discounted present value of estimated long-run costs that exceed SRMC
  - increase costs for all customers in the short-run
  - are economically inefficient
- A theoretical test for O&M expenses of new connections requires that estimated LRMC
  - must be less than or equal to SRMC or the estimates are theoretically incorrect in the presence of scale economies

Using SRMC Is Not Only the Practical Solution It Is the Correct One

- Efficient line extensions require that O&M for customer connections use SRMC in all cases
- For capital the SRMC is used in any event because the levelized carrying charge rate for meter, regulator, service line and main is based on the current (short-run) cost of those facilities amortized over the expected life
- Theory proves that if LRMC is > SRMC those costs are overstated since there are scale and scope economies that requires LRMC<SRMC

Principles of Policy

- Cost causer pays
- Three categories of O&M expenses

  1. Unique expenses associated with connecting a new customer in the first year.
  2. Ongoing customer expenses that are incurred as a result of the new customer.
  3. Ongoing operation and maintenance expenses associated with
     - system additions to serve new customers, or
     - added load that require new capital investment.

Principles of Policy

- No socialization of costs attributable to unique expenses associated with new customers
- No double counting of expenses or revenues
- Contributions in aid of construction cannot be counted as paying expenses
- Fixed costs cannot be included in marginal cost
  - unless new capacity is required to provide the O&M service.

Unique Customer Expenses

- These costs should be recovered when incurred and from those customers on whose behalf the costs are incurred
- Costs should be by rate class and by type of connection- new connection
- No one time cost should be included in the expenses for line extension
  - should be paid at the time they are incurred by the customer causing the costs

Customer Related O&M Expenses

- These costs should be matched to portion of customer charge net of the carrying cost on customer related capital.
- If actual costs exceed those recovered in the customer charge (a policy decision) then
  - the unrecovered costs are not marginal to the utility, and
  - would not be included in the line extension SRMC.

On-going O&M Expenses Associated with New Customer Connection Capital

- Included as a percentage of plant in the levelized carrying charge calculation for each component
- Separate costs by rate class and by connection type
- Connection categories: Meter and regulator, service line, local main extension, system main extension

Items Not Inputs to Customer Connections

1. Cost of bad debt
2. Collection and recovery costs
3. Customer retention costs
4. Consumption Rebate Program Expenses
5. Costs of gas supply management

- These elements are not marginal costs

Items with Zero Marginal Cost at the Time of Connection

- Meter reading and billing
- Call center services
- Preventive maintenance
- Corrective maintenance
- Meter testing
- Sales force

Errors of Analysis

- Mr. Marcus inappropriately characterizes the $300 contribution in aid of construction (CIAC) collected from customers using less than 10,950 m^3 as expenses associated with customer connection as "costs are presently part of the $300 fee".
  - CIAC does not cover expenses and would be double counted under Mr. Marcus' theory.

Errors of Analysis

- Mr. Chernick incorrectly suggests average cost be used for some customer related expenses regardless of marginal cost.
  - Costs such as call center costs are largely fixed costs until the call center capacity is fully used up. That requires large increments of customers.

Errors of Analysis

- Mr. Chernick analysis of gas supply management costs being related to customer additions based on additional throughput.
  - The analysis is not valid as discussed in response to Regie DR-8 question 1.2.
  - These costs are fixed and do not change with volume or with customers.

Errors of Analysis

- Both Mr. Marcus and Mr. Chernick are incorrect in their analysis of one time costs.
  - Not efficient
    - to consider multiple occupancy as a marginal cost of a new connection,
    - to require the current customer to be responsible for those future costs that the customer does not cause.
  - This principle of socialization of costs produces inefficient outcomes.

Recommendations

- Use the levelized carrying costs for capacity recognizing the long-run commitment of the revenue requirement
- Use SRMC for all relevant O&M costs by changing the prior order that does not bind the Regie