

Rate Base Exercise

Global Power Company (GPC) has filed a rate case with its regulatory commission seeking a large rate increase. Table A reflects GPC's claimed rate base for the twelve months ended December 31, 1998. Table A has actual year-end balances in the first column, Company proposed adjustments in the second column and the Company's Proposed Test Year Rate Base in the third column. Column 4 will reflect your adjustments to GPC's Base Period Rate Base.

Production Plant Exercise

Problem 1. GPC has two new generating plants. Both plants have an expected service life of 40 years.

Northern Unit 1 was completed and went into service on June 1, 1997. Northern Unit 1 is a gas-fired turbine, expected to serve peak loads only. Northern Unit 1 is expected to run at full output approximately 40% percent of the time and will be used only to serve GPC's retail customers. Northern Unit 1 cost \$45,000,000. The company has included this investment in its base period rate base data.

Question: Should this unit be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?

Problem 2. The second unit, Northern Unit 2, is a coal-fired unit, expected to run at all times when it is available, approximately 85% of the time. Northern Unit 2 is scheduled to be completed on October 1, 1998. Northern Unit 2 is expected to cost \$125,000,000. As of December 31, 1997, \$85,000,000, including interest charges on construction loans, had been expended on this project. The company expects to sell approximately 25% of the unit output at wholesale to Downstream Electric Company, a utility located in another service area. The company has included the full cost of this unit as an adjustment to its base period data.

Question: Should this unit be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?

Problem 3. On March 1, 1997, the company's oldest generator, Ancient Unit 1, had a turbine shaft failure and was taken out of service. Ancient Unit 1 was fully depreciated, except for an expected salvage value of \$2,500,000. Following the shaft failure, the company hired an expert engineering firm to assess the cost of repair the plant. The company was told that the cost of repair would be \$5,000,000. As a result the company has decided to abandon use of Ancient Unit 1.

When the shaft failed, it destroyed the turbine, resulting in a decrease in the actual salvage value of the plant. The company now expects the salvage value to be only \$500,000.

Question: Should this unit be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?

Transmission Plant Exercise

Problem 4. In order to be able to make the wholesale sales to Downstream Electric Co. (See information on Northern Unit 2 above). The company has constructed a 500 kV transmission line interconnecting Downstream Electric Co. with GPC. GPC owns 50% of this line. The total cost of the line is \$25,000,000. The line was placed in service on January 1, 1997, but no energy has been sold or bought across this line, because Northern Unit 2 has not yet been placed in service. The companies have agreed to provide one another emergency energy over the line, in the case of an generation outage on either company's system. The line has an expected life of 60 years. The cost of this line is included in the company's base period data.

Question: Should this line be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?

Problem 5. The Company is building a new transmission to interconnect Northern Unit 1. The cost of this line is \$10,000,000. The line is expected to be placed in service on June 1, 1998. The Company has adjusted the base period to include this line.

Question: Should this line be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?

Distribution Plant Exercise

On September 1, 1997, Intercontinental Microcomputer Systems (IMS) announced that it would be building a new manufacturing plant in GPC's service territory. IMS will require a new substation at a cost of \$5,000,000. IMS is not expected to open the plant until July 1, 1998. GPC has already constructed the substation and has included the substation in its base period rate base.

Question: Should this substation be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?

General & Intangible Rate Base

GPC has installed new computer billing system. This will provide more accurate billing for its customers. GPC will use about 35% of the capacity of this new system. In addition to improving the billing process, GPC will be renting the system to Downstream Electric Co. for its billing needs. Downstream will use about 10% of the capacity of the new system. Because the computer system has additional capacity of about 55%, GPC has decided to start a non-utility data processing service which it will offer to the general

business community. The cost of this system is \$15,000,000. The Company has included this cost as an adjustment to its base period rate base.

Question: Should this system be included in rates?
Would any adjustment to rate base be required?
If so, what would that adjustment be?