# STATE OF ILLINOIS

## ILLINOIS COMMERCE COMMISSION

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| NORTH SHORE GAS COMPANY | : | |
| | : | No. 12-____ |
| Proposed General Increase | : | |
| In Rates For Gas Service | : | |

Direct Testimony of

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On Behalf of
North Shore Gas Company

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# I. INTRODUCTION AND BACKGROUND

## A. Identification of Witness

**Q. Please state your name and business address.**

A. My name is Joylyn C. Hoffman Malueg. My business address is Integrys Energy Group, Inc. ("Integrys"), 700 North Adams Street, P.O. Box 19001, Green Bay, WI 54307-9001.

**Q. By whom are you employed and in what capacity?**

A. I am a Rate Case Consultant in the Regulatory Affairs Department of Integrys Business Support, LLC ("IBS"). IBS is a wholly-owned subsidiary of Integrys. North Shore Gas Company ("North Shore") is a wholly-owned, indirect subsidiary of Integrys.

## B. Purpose of Testimony

**Q. What is the purpose of your direct testimony in this proceeding?**

A. My direct testimony and its attachments describe and present North Shore's embedded cost of service study (the "ECOSS") for the 2013 future test year.

North Shore witness Valerie Grace's direct testimony and some of her exhibits (North Shore Exhibits ("NS Ex.") 12.0, 12.1, et seq.) will use the results of the ECOSS to discuss the proposed changes in the North Shore rate schedules through which it seeks to recover its base rate revenue requirement.

## C. Summary of Conclusions

**Q. Please summarize the fundamental conclusions to be drawn from the results of the ECOSS, as presented in your direct testimony.**

A. The results of the ECOSS show the distribution of revenue responsibility by customer class necessary to achieve equalized rates of return on investment by customer class at North Shore's proposed revenue requirement.

**Q. Please summarize the results of the ECOSS.**

A. As stated by North Shore witness Sharon Moy in her direct testimony (NS Ex. 6.0), North Shore, overall, is showing a revenue deficiency (cost recovery shortfall) of $9,751,000, or 12.81% of tariff revenues. The results of the ECOSS with respect to revenue deficiency at present rates by customer class based on the requested revenue requirement for North Shore are summarized below.

| | Revenue Deficiency / (Surplus) | |
|---|---|---|
| North Shore Service Classification | $ | % |
| S.C. 1 – Small Residential – Non-Heating | (129,368) | (25.09%) |
| S.C. 1 – Small Residential – Heating | 7,156,359 | 12.60% |
| S.C. 1 – Small Residential – Total | 7,026,991 | 12.26% |
| S.C. 2 – General Service – Small | 554,565 | 15.51% |
| S.C. 2 – General Service – Medium | 274,045 | 7.73% |
| S.C. 2 – General Service – Large | 867,241 | 10.60% |
| S.C. 2 – General Service – Total | 1,695,850 | 11.08% |
| S.C. 3 – Large Volume Demand | 1,028,888 | 29.40% |

**Q. How should the Illinois Commerce Commission (the "Commission" or "ICC") reflect the results of your ECOSS in rate design?**

A. In her direct testimony, Ms. Grace presents North Shore's requested rate design, based in part upon the results of my ECOSS.

## D. <u>Itemized Attachments to Direct Testimony</u>

**Q. Are you sponsoring any attachments to your direct testimony?**

A. Yes. I am sponsoring the following exhibits, which were prepared by me and/or under my direction and supervision:

- NS Ex. 13.1 — Embedded Class Cost of Service Study Summary
- NS Ex. 13.2 — Functional Revenue Requirement–at Present Rates, Functional Rate Base–at Present Rates, and Unit Costs–at Present Rates with Summary and Detail by Customer Class
- NS Ex. 13.3 — Detailed Cost of Service Study Allocation Results
- NS Ex. 13.4 — Functionalized and Classified Rate Base and Expenses
- NS Ex. 13.5 — Allocation Factors and Related Information
- NS Ex. 13.6 — Embedded Class Cost of Service Study Summary with Proposed Rate Design Changes
- NS Ex. 13.7 — Functional Revenue Requirements–Under Proposed Rate Design, Functional Rate Base–Under Proposed Rate Design, and Unit Costs–Under Proposed Rate Design along with Summary and Detail by Customer Class
- NS Ex. 13.8 — Detailed Cost of Service Study Allocation Results for items that change under Proposed Rate Design

**Q. Please briefly describe the exhibits attached to your direct testimony.**

A. NS Ex. 13.1 presents the revenue requirement, rate base and rate of return summary results of North Shore's ECOSS at present rates.

NS Ex. 13.2 presents both summary information, as well as detailed information, on functionalized and classified revenue requirements, rate base and unit costs by customer class at present rates.

NS Ex. 13.3 presents the cost allocation details of the summary classified revenue requirements and rate base shown in NS Ex. 13.1. The cost allocation detail shown in NS Ex. 13.3 is provided at the Federal Energy Regulatory Commission ("FERC") primary account (the Uniform System of Accounts) level. (References to Accounts in my direct

testimony are FERC accounts as adopted and modified by the Commission for Gas Utilities Operating in Illinois.)

NS Ex. 13.4 presents the functionalization and classification of the revenue requirements and rate base information that was utilized for allocation purposes within NS Ex. 13.3. The functionalization and classification detail shown in NS Ex. 13.4 is provided at the FERC primary account level.

NS Ex. 13.5 presents the external allocation factors used within the ECOSS, along with related information that is required to be filed with an ECOSS in accordance with the Commission's rules (Section 285.5110 of Title 83 of the Illinois Administrative ("Ill. Admin.") Code).

NS Ex. 13.6 presents the revenue requirement, rate base and rate of return summary results of North Shore's ECOSS under the Proposed Rate Design changes. Workpaper WPE-6.14, which is part of North Shore's materials being made available under 83 Ill. Admin. Code Section 285.150(b), shows a reconciliation of the information in NS Ex. 13.6 with Ms. Moy's information presented in Schedule C-1.

NS Ex. 13.7 presents both summary information, as well as detailed information, on functionalized and classified revenue requirements, rate base, and unit costs by customer class incorporating the proposed rate design.

NS Ex. 13.8 presents the cost allocation details of the summary classified revenue requirements and rate base shown in NS Ex. 13.6 for only the items that deviate from what is shown in NS Ex. 13.1 under Present Rates.

## E. <u>Background and Experience</u>

**Q. Please summarize your qualifications.**

A. I am a 1999 graduate of the University of Wisconsin – Green Bay where I received a Bachelor of Science Degree in Mathematics with a Statistical emphasis. I received my Master of Business Administration degree from Cardinal Stritch University, Milwaukee, Wisconsin, in February 2006. I am also a Certified Management Accountant through the Institute of Management Accountants, having received that professional designation in November of 2009.

**Q. Please summarize your experience.**

A. From 1999 to 2001, I worked for two separate companies performing retirement benefits analysis and valuation. In March 2001, I was hired by Wisconsin Public Service Corporation ("WPSC") as a Revenue Requirements Forecaster in the Rates and Economic Evaluation Department. While working as a Revenue Requirements Forecaster, I was primarily responsible for revenue requirements and cost of service analyses pertaining to WPSC's wholesale jurisdiction. In October 2003, my job title changed to Rate Analyst within the Regulatory Affairs Department. My primary job responsibilities during that time related to revenue requirements analyses for WPSC's Michigan retail jurisdiction, as well as performing revenue requirement analyses and cost of service studies for WPSC's sister company, Upper Peninsula Power Company ("UPPCO"). In December 2006, I became a Rate Case Consultant within the Regulatory Affairs Department.

**Q. What are your duties in your current position?**

A. Currently, my primary job duties consist of performing cost of service study analyses for all regulated Integrys subsidiaries. I am also responsible for conducting the revenue requirement analyses for WPSC's Michigan retail electric and gas jurisdictions.

**Q. Have you testified previously before the Commission?**

A. Yes, I have. I have filed testimony before this Commission in Docket Nos. 09-0166/09-0167 (cons.) ("2009 Rate Case") and Docket Nos. 11-0280/11-0281 (cons.) ("2011 Rate Case").

**Q. Have you previously testified before any other regulatory agencies?**

A. Yes, I have. I have filed testimony before the Michigan Public Service Commission ("MPSC") in Case Nos. U-14410, U-14745, U-15352, U-15549, U-15988, U-15990, U-16166 and U-16417. I have filed testimony before the Public Service Commission of Wisconsin ("PSCW") in Docket Nos. 6690-UR-119, 6690-UR-120, and 6690-UR-121, and also before the Minnesota Public Utilities Commission ("MPUC") in Docket Nos. G007,011/GR-08-835 and G007,011/GR-10-977. In addition, I have participated in the preparation of various accounting and filing exhibits for WPSC, UPPCO, Michigan Gas Utilities Corporation, and Minnesota Energy Resources Corporation for presentation to the PSCW, MPSC, MPUC and the FERC.

## II. NORTH SHORE'S EMBEDDED COST OF SERVICE STUDY AND ALLOCATION OF REVENUE REQUIREMENT

### A. Purpose of an Embedded Cost of Service Study ("ECOSS")

**Q. What is the purpose of an ECOSS?**

A. The purpose of an ECOSS is to identify the revenues, costs and profitability for each class of service, as required by 83 Ill. Admin. Code Section 285.5110. The results of the ECOSS provide the data necessary to design cost-based rates using an embedded cost methodology.

## B. Principles of ECOSS Preparation

**Q. How should an ECOSS be performed?**

A. Cost causation is the fundamental principle applicable to all cost studies for purposes of allocating costs to customer classes. The most important theoretical principle underlying an ECOSS is that cost incurrence should follow historical embedded cost causation. The costs that customers become responsible to pay should be those costs that the particular customers caused the utility to incur because of the characteristics of the customers' usage of utility service. By performing an ECOSS in this manner, it can then be used in determining how costs should be recovered from customer classes through rate design.

## C. Procedures Used in Developing the ECOSS

**Q. Please explain the procedures used to develop the ECOSS shown in NS Exs. 13.1 through 13.8.**

A. In general, preparing an ECOSS involves three major steps: (1) cost functionalization; (2) cost classification; and (3) cost allocation of all the costs of the utility's system to the customer classes.

The first step, cost functionalization, identifies and separates plant and expenses into specific categories based on their purpose and various characteristics of utility operation. Typically, these plant and expenses are functionalized by the Uniform System of Accounts. These accounts group plant and expenses into their various functions, which for North Shore include Production & Gathering, Gas in Storage, Storage, Transmission, Distribution, and Customer.

Step two, cost classification, further separates the functionalized plant and expenses into the categories based upon how they are incurred. These classifications

consist of: (1) commodity related; (2) demand, or capacity related; and (3) customer related.

Customer related costs are incurred to extend service to and attach a customer to the distribution system, meter any gas usage and maintain the customer's account. Customer related costs are found to vary with the number and density of customers, regardless of the customers' gas consumption (except for, to some extent, bad debt costs in Account 904, which are discussed further below). Examples of costs classified to the customer classification include distribution services, meters, regulators and customer billing and accounting expenses.

Demand related costs are incurred to service the peak demand of the system. Examples of costs classified to the demand classification include transmission and distribution mains, and localized distribution facilities designed to meet customer maximum peak day demand.

Commodity related costs are those costs that vary with the throughput sold to, or transported for, customers. However, when, as is the case with North Shore, a gas utility's cost of gas is not recovered through its base rates, very little, if any, of its remaining delivery service cost structure is commodity related.

The final step of preparing an ECOSS is allocation of each functionalized and classified cost element to the customer classes. Costs that are classified to the customer cost element are typically allocated to the rate classes using an allocation factor based upon customer counts and, in some instances, customer counts that are weighted to reflect, for example, differences in metering costs amongst rate classes. Costs that are classified to the demand cost element are typically allocated to the rate classes using an

allocation factor based upon the rate classes' demand imposed upon the system during specific peak days. Costs that are classified to the commodity cost element are typically allocated to the rate classes using an allocation factor based upon the rate classes' energy usage, or throughput.

**Q. Does the ECOSS allocate costs to customer classes as defined in present rates?**

A. The ECOSS submitted for the 2013 future test year in this proceeding is based upon rates that are currently in effect, or present rates as they were referred to above. All values in the ECOSS are allocated to each customer class as described in the far right-hand column of each page titled "Source or Allocation Factor." Direct assignment of values to the appropriate customer classes was conducted whenever possible, as recommended by the American Gas Association ("AGA") in their Fourth Edition of Gas Rate Fundamentals (1987) ("AGA Gas Rate Fundamentals"), page 140.

**Q. Please describe how you defined the customer classes in North Shore's ECOSS.**

A. The customer classes that were utilized in the ECOSS follow the rate classes under which North Shore currently provides service in Illinois. Bifurcation of the small residential rate class between Non-Heating and Heating customers was also portrayed in the ECOSS based upon the 2011 Rate Case Order, which directed North Shore to present an ECOSS that distinguishes between low use and high use Service Classification ("S.C.") No. 1 customers. Additionally, segregation of the general service rate class by the three meter types served under this service class have also been portrayed in the ECOSS.

The classes (referred to in my direct testimony as "service classes" and referenced above as "S.C.") shown in the North Shore ECOSS consist of the following:

1. Service Classification 1: Small Residential Service – Non-Heating,

2. Service Classification 1: Small Residential Service – Heating,
3. Service Classification 1: Small Residential Service – Total,
4. Service Classification 2: General Service – Small,
5. Service Classification 2: General Service – Medium,
6. Service Classification 2: General Service – Large,
7. Service Classification 2: General Service – Total, and
8. Service Classification 3: Large Volume Demand Service.

**Q. Please explain the considerations relied upon in determining the cost allocation methodologies that are used to perform an ECOSS.**

A. As stated above, in order to allocate costs within any cost of service study, the factors that cause the costs to be incurred must be identified and understood. Additionally, the cost analyst needs to develop data in a form that is compatible with and supportive of rate design proposals. The availability of data for use in developing alternative cost allocation factors is also a consideration. In evaluating any cost allocation methodology, appropriate consideration should be given to whether it provides a sound rationale or theoretical basis, whether the results reflect cost causation and are representative of the costs of serving different types of customers, as well as the stability of the results over time.

**D. <u>Allocation of Distribution Costs</u>**

**Q. How did North Shore allocate distribution costs to customers in the ECOSS?**

A. In the case of distribution costs, North Shore has identified two significant cost causation relationships. Some distribution costs are incurred in order for customers simply to be

connected to the distribution system. Other distribution costs are incurred due to the level of the demand of the customers.

Some gas distribution demand related costs are influenced by both the average customer counts and the customers' peak demand, such as Account 376, Gas Mains. For North Shore, these costs are allocated based upon a form of demand allocation method called the Average and Peak methodology.

**Q. What is the Average and Peak methodology?**

A. The Average and Peak methodology is a simplified version of the Average and Excess demand allocation methodology. The Average and Excess demand allocation methodology allocates demand related costs to the classes of service on the basis of system and class load factor characteristics. Specifically, the portion of utility facilities and related expenses required to service the average load is allocated on the basis of each class' average demand and is derived by multiplying the total demand related costs by the utility's system load factor. The remaining demand related costs are allocated to the classes based on each class' excess or unused demand, i.e., total class non-coincident demand minus average demand. As is the case with the Average and Excess method, it has the effect of allocating a portion of the utility's capacity costs on a commodity-related basis.

**Q. Why does North Shore choose to utilize the Average and Peak demand allocation methodology within its ECOSS?**

A. In North Shore's rate case filing in Docket Nos. 07-0241/07-0242 (cons.), a variety of demand allocation methodologies were presented within the ECOSS, and North Shore proposed rates based upon a Coincident Peak demand allocation methodology. While

there are sound arguments to utilize various demand allocation methodologies, including the Coincident Peak demand methodology, the Commission directed that the Average and Peak demand allocation methodology be used to allocate system distribution costs (please see ICC Docket Nos. 07-0241/07-0242 (cons.), Order Feb. 5, 2008, p. 199). North Shore utilized the Average and Peak demand allocation methodology in both the 2009 Rate Case and 2011 Rate Case to limit the scope of contested issues, and that method was uncontested. It is again using the Average and Peak demand methodology in this proceeding.

**Q. What is the Coincident Peak methodology?**

A. The Coincident Peak demand allocation methodology is premised on the notion that investment in capacity is determined by the peak load(s) of the utility. Under this methodology, demand related costs are allocated to each customer class in proportion to the demand coincident with the system peak of that customer class. The Coincident Peak demand allocation process might focus on a single system peak, such as the highest daily demand occurring during the test period. Alternatively, it might include the average of several cold days, either consecutive or occurring over a period of several years, or it could be the expected contribution to the system peak under weather conditions for which the system was designed to serve, commonly referred to as a "design day."

**Q. Does North Shore utilize the Coincident Peak Demand allocation methodology to allocate any distribution costs within its ECOSS?**

A. No. North Shore does not allocate any of its distribution costs in the ECOSS based upon the Coincident Peak demand allocation methodology.

**Q. Were there any special analyses conducted for purposes of allocating distribution plant investment?**

A. Yes. Regarding North Shore's major plant accounts, customer weighting factors were developed to allocate the following plant accounts: Account 380: Services, Account 381: Meters, Account 382: Meter Installations, and Account 383: House Regulators. These weighting factors reflect any differences in the current unit costs that particular customer groups cause North Shore to incur. For example, a 3/4-inch plastic service line that could serve a residential customer costs less, on a per unit basis, than a 4-inch steel service line to serve a larger industrial customer. The use of weighting factors takes these unit cost differences into account when assigning costs to the various customer classes.

**Q. Please continue with your description of how North Shore allocated distribution costs within its ECOSS.**

A. Specifically, distribution costs were allocated to the customer classes within the ECOSS based on the following methods, which have not changed from North Shore's 2011 Rate Case:

1. Accounts 374 Land and Land Rights, 375 Structures and Improvements, 376 Gas Distribution Mains, 378 Measuring & Regulation Equipment – General, and 379 Measuring & Regulation Equipment – Gate Station were allocated to all service classifications based on the Average and Peak demand allocator.

2. Account 380 Services, was allocated on a customer basis, using a weighting factor of Cost Per Customer for Services which was derived from actual plant investment.

3. Account 381.0 Meters, Account 382.0 Meter Connections & Installations, and Account 383 House Regulators, were allocated on a customer basis, using a weighting factor of Cost Per Meter & Regulator which was based on actual plant investment.

4. Account 381.2 Automated Meter Reading, and Account 382.2 Automated Meter Installations, were allocated on a customer basis, using a weighting factor of ERT per customer which was based on actual number of ERTs as of December 31, 2011. ("ERT" means encoder-receiver-transmitter, which are devices that are part of North Shore's automated meter reading system.)

5. Account 381.3, Demand Devices, and Account 382.3, Demand Device Installations, were allocated based upon the demand device counts forecasted in the future test year ending December 31, 2013.

6. Account 385, Industrial Metering & Regulating Station Equipment, was allocated based on the number of industrial meters, based on actual plant investment, of those customer classes with large industrial metering equipment.

**Q. How did the ECOSS allocate distribution-related Operation and Maintenance ("O&M") expenses?**

A. In general, these expenses were allocated in the same manner as how the distribution plant investment costs were allocated, as stated above. A gas utility's distribution-related O&M expenses generally support the utility's corresponding plant–in-service accounts. In order to allocate distribution O&M costs in a similar manner as the distribution plant investment, a translation was performed to convert the FERC O&M distribution Accounts 870 through 894 to FERC Plant Distribution Accounts 303, and 374 through 386. The translation workpaper can be found in Workpaper WPE-6.11, which is part of North Shore's materials being made available under 83 Ill. Admin. Code Section 285.150(b), and a summary of the translation can be found in the table below. The allocation of distribution-related O&M expenses portrayed in the ECOSS is the same method in which they have been portrayed in North Shore's 2011 Rate Case.

| O&M Distribution Account | Translated to: | Distribution Plant Account |
|---|---|---|
| Account 870: Supervisory & Engineering<br>Account 871: Load Dispatch<br>Account 880: Other<br>Account 881: Rents<br>Account 885: Supervisory & Engineering | | Accounts 303, and 374-386 on the basis of Distribution Plant Investment in Accounts 303, and 374-386 for the future test year 2013 |
| Account 874: Mains & Services Expense | | Accounts 376 and 380, on the basis of Distribution Plant Investment in Accounts 376 and 380, which are Mains and Services |
| Account 877: Measuring & Regulating Expense-Gate Station | | Account 379, Measuring & Regulation Equipment-Gate Station |
| Account 878: Meter & House Regulators<br>Account 879: Customer Installations<br>Account 893: Meter & House Regulators | | Accounts 381.0, 381.2, 381.3, 383 and 385, on the basis of Distribution Plant Investment in Accounts 381.0, 381.2, 381.3, 383 and 385 which are all Metering and Regulator related |
| Account 886: Structures & Improvements | | Account 375: Structures & Improvements |
| Account 889: Measuring & Regulating Expense-General | | Account 378: Measuring & Regulation Equipment – General |
| Account 892: Services | | Account 380: Services |

## E. Allocation of Transmission Costs

**Q. How did North Shore allocate transmission costs to each of the customer classes in the ECOSS?**

A. North Shore first classified transmission costs to the demand classification, and then utilized the Average and Peak demand allocation methodology to allocate transmission costs within its ECOSS to the customer classes. This classification to demand is consistent with the AGA's assignment of transmission costs, as stated in AGA Gas Rate Fundamentals. This classification and allocation method is consistent with North Shore's classification and allocation in the 2011 Rate Case.

### F. Allocation of Production Costs

**Q. How did North Shore allocate production costs to customer classes within the ECOSS?**

A. In the North Shore ECOSS, production costs were classified to demand and allocated to the customer classes based upon the Coincident Peak allocation methodology. This classification to demand is consistent with the AGA's assignment of production costs, as stated in AGA Gas Rate Fundamentals and with North Shore's allocation in the 2011 Rate Case. The production costs in North Shore's ECOSS relate to manufactured gas production plants.

### G. Allocation of Storage Costs

**Q. How did North Shore allocate storage costs to the customer classes within the ECOSS?**

A. As in the 2011 Rate Case, North Shore first classified all storage costs to the category of Demand. It then went one step further and broke out the costs that are related to Gas in Storage, and leaves all other Storage classified under Storage-Demand. The only item that is classified to Gas in Storage is the rate base related item of Gas Stored Underground in Account 164. The stored gas in Account 164 is related to Top Gas from leased storage services. This item, along with all of the other costs classified to Storage-Demand, was allocated to the customer classes based upon Coincident Peak demand. Using the Coincident Peak demand allocation methodology to allocate these costs is consistent with the manner in which this stored gas is utilized to serve both sales and transportation customers.

**Q. Please describe the method used to allocate North Shore's investment in its underground storage plant that is classified to demand in FERC Plant Accounts 350 - 357.**

~~A.~~ Within the FERC Plant Account Series 350-357 Underground Storage, North Shore only has investment within Account 352.3, which represents cushion gas at Manlove Field. As in the 2011 Rate Case, this account was allocated to the customer classes based upon the Coincident Peak demand allocator. Given that North Shore's customers, whether sales or transportation, have access to storage service based upon the level of storage service to which they have rights, which is a function of their Maximum Daily Quantity, or peak usage, using Coincident Peak demand as the allocation methodology is most appropriate.

## H. <u>Allocation of Customer Costs</u>

**Q. How did North Shore allocate customer costs to each of the customer classes within the ECOSS?**

A. The customer costs in O&M Accounts 900 – 905 and 907-910, with the exception of Uncollectible Expense in Accounts 904 and 905008, were allocated based on average customer counts by customer class.

Uncollectible Expense in Accounts 904 and 905008 is allocated to the customer classes using a two-step process. As shown on my Workpaper WPE-6.6b, the first step is Uncollectible Expense in total, including uncollectible gas costs, allocated to the service classes on the basis of a Bad Debt allocation method. The Bad Debt allocation methodology was calculated by taking the average historical bad debt net write-offs per customer by customer class as of the three-year period ending December 31, 2011, and

applying that average to the customer counts by customer class for the future test year ending December 31, 2013. The second step is removal of the Uncollectible Expense that is attributable to gas costs by service class. These are direct assigned amounts by service class as shown in Column [J] of PGL Ex. 12.11. The net of these two steps provides the Uncollectible Expense in Accounts 904 and 905008 by service class recoverable in base rates.

**Q. Has North Shore changed how the Bad Debt allocation method has been calculated from the calculation presented for North Shore in the ECOSS in the 2011 Rate Case?**

A. Yes, it has. In the 2011 Rate Case, the Bad Debt allocation method was based upon the average historical bad debt net-write-offs per customer by customer class for the 12 month historical year ending June 30, 2010. As explained by North Shore witness Christine Gregor is proposing to use a three-year, rather than a one-year, average.

## I. <u>Allocation of Administrative and General Expenses</u>

**Q. How did North Shore allocate Administrative and General ("A&G") expenses to each customer class in the ECOSS?**

A. A&G expenses were first functionalized using: (1) a Labor function, as to Accounts 920, 925, and 926; (2) a General – O&M function, as to Accounts 921-923, and 927-931, and (3) a Plant function, as to Accounts 924 and 932. It was determined upon examination of Account 920 that it relates to the Labor function, which is a change from the presentation in the 2011 Rate Case. In the 2011 Rate Case, Account 920 was included in the O&M function.

The Labor function was then classified to the Commodity, Demand, and Customer classifications based upon Salaries and Wages, which can be found in NS Ex. 13.5, Page 3, lines 7-13. The Salaries and Wages allocation methodology is based upon the functional breakdown of Labor related O&M, including cross-charged labor, by FERC primary account. The Labor relating to Production, Storage, and Distribution-Demand is classified to Demand. The Labor relating to Distribution-Customer, Customer Accounting, Customer Service, and Customer Sales is classified to Customer. There is no Commodity-related Labor to classify.

The General – O&M function was classified to the Commodity, Demand, and Customer classifications based upon Total O&M, not including A&G, as shown on NS Ex. 13.4, Page 5, line 38. Total O&M, not including A&G, as shown on NS Ex. 13.4, Page 5, line 37 is derived from the total of lines 4, 7, 10, 29 and 35 on NS Ex. 13.4, page 5.

The Plant function was classified to the Commodity, Demand, and Customer classifications based upon Gross Plant, not including General or Intangible Plant amounts, as shown on NS Ex. 13.4, Page 1, line 32. Total Gross Plant, not including General or Intangible Plant amounts, as shown on NS Ex. 13.4, Page 1, line 31 is derived from the total of lines 2, 5, 8, and 28 on NS Ex. 13.4, Page 1.

Once these three functions of A&G were classified and summed, the total Commodity classification was allocated to the customer classes on the basis of the Sales allocator. The Demand function was broken down further among the Distribution that is related to Demand and the Distribution that is related to Customer. This Demand and Customer breakdown was arrived at by taking the ratio of Demand and Customer

classified Distribution O&M to Total Distribution O&M, as found on NS Ex. 13.4, Page 5, line 29 (i.e. [E29] / [C29] and [F29] / [C29]). The Distribution-Demand classification was then allocated to the customer classes based on the Distribution Demand O&M allocation methodology, and the Distribution-Customer classification was then allocated to the customer classes based on the Distribution Customer O&M allocation methodology. The Distribution Demand O&M and Distribution Customer O&M allocation methodologies can be found on NS Ex. 13.3, Page 2, lines 18 and 30, respectively. Lastly, the Customer classification was allocated to the customer classes based upon the Customer O&M allocation methodology, which can be found on NS Ex. 13.3, Page 2, line 44.

### J. <u>Allocation of General Plant</u>

**Q. How was General Plant investment classified and allocated to the customer classes within North Shore's ECOSS?**

A. General Plant investment was classified to Commodity, Demand, and Customer classifications on the basis of Gross Plant, not including General or Intangible Plant amounts, as shown on NS Ex. 13.4, Page 1, line 32. Then the Commodity portion of General Plant was allocated to the customer classes using the Sales allocation methodology, and the Customer portion of General Plant was allocated to the customer classes using the Customer allocation methodology.

The amount classified to Demand was further broken down into detailed functions of Production, Underground Storage, Local Storage, Transmission, and Distribution. This detailed breakdown was based on the ratio of each corresponding amount of Demand related Plant-in-Service to Total Demand related Plant-in-Service, not including

Intangible or General Plant. For example, to calculate the ratio for the Demand portion of General Plant – Production, the Production Plant-in-Service of $7,320,687 (NS Ex. 13.4, Page 1, cell [E2]) was divided by Total Demand related Plant-in-Service of $264,095,252, not including Intangible or General Plant (NS Ex. 13.4, Page 1, cell [E31]). This calculated ratio of 2.77% was then multiplied against the amount classified to Total Demand-General Plant of $9,642,029 (NS Ex. 13.4, Page 1, cell [E34]) to arrive at General Plant – Production Demand of $267,276 (NS Ex. 13.3, Page 6, cell [B34]). The calculations were also performed to arrive at the Underground Storage, Local Storage, Transmission, and Distribution Demand related portions of General Plant.

### K. <u>Unique Allocations</u>

**Q. Please describe the remaining components of the North Shore ECOSS that have unique allocators and why these unique allocators are appropriate.**

A. The remaining components of North Shore's ECOSS which have unique allocators are as follows:

1. Income Taxes and Taxes other than Income Taxes ("TOTI") associated with Unauthorized Insurance Tax, Invested Capital Tax-Other, Federal Excise Tax, State Franchise Tax, and Real Estate Tax were allocated to the customer classes using a Rate Base allocator, which is shown on NS Ex. 13.1, line 36. The Rate Base allocator was utilized because these items follow cost-causation theory from various Rate Base investments.

2. Miscellaneous Revenues in Account 487, Forfeited Discounts, was allocated to the customer classes using a Delayed Payment allocator, which was based upon the total late payment charges by service classification for the 12 months ending December 31, 2011 applied against total forecasted late payment charges for the 2013 future test year. The Delayed Payment allocator was utilized because it has a direct causation relationship with forfeited discounts.

3. Miscellaneous Revenues in Account 495 pertaining to the Municipal Utility Tax Accounting Charge, was allocated to the customer classes using a Municipal Utility Tax allocator, which was based upon forecasted municipal utility taxes accounting charges, by customer class, for the 2013 future test year. The

Municipal Utility Tax allocator was utilized because it has a direct causation relationship with Municipal Utility Tax revenues.

4. TOTI relating to Payroll Taxes were allocated to the customer classes based upon a Salaries and Wages allocator, which can be found in NS Ex. 13.5, page 3, line 32. The Salaries and Wages allocator was utilized because this TOTI item is payroll related and therefore follows cost-causation theory.

5. TOTI relating to the Illinois Public Utility Tax was allocated to the customer classes based upon a Revenue allocator, which can be found in NS Ex. 13.3, page 1, line 2. The Revenue allocator was utilized because it follows the basis upon which this TOTI item is calculated, and therefore follows cost-causation theory.

6. Rate Base related item Customer Deposits was allocated to the customer classes using a Customer Deposits allocator, which was based upon the average of actual Customer Deposits for the 12 months ending December 31, 2011. The Customer Deposits allocator was utilized because the historical basis of this allocator is proficient for allocating forecasted Customer Deposit amounts.

7. Rate Base related item Budget Plan Balances was allocated to the customer classes using a Budget Plan allocator, which was based upon the average of net budget plan balances for the 12 months ending December 31, 2011. The Budget Plan allocator was utilized because the historical basis of this allocator is proficient for allocating forecasted amounts Budget Plan balance amounts.

**Q. Are there any other unique allocations used with the North Shore ECOSS that merit explanation?**

A. Yes. I will explain the methods used to classify the rate base components of Cash Working Capital, Materials & Supplies ("M&S"), Accumulated Deferred Taxes, Net Retirement Benefits, and Reserve for Injuries and Damages and why these allocations are appropriate. The classification methodologies used for these rate base components are in accordance with the Commission's findings in North Shore's last two rate case filings.

Cash Working Capital is classified to Commodity, Demand, and Customer classifications based upon Total O&M, not including A&G, as shown on NS Ex. 13.4, Page 5, line 38. Total O&M, not including A&G, was utilized as the classification methodology because Cash Working Capital provides support for O&M utility functions.

Once classified, the Commodity and Customer portions are then allocated to the customer classes based upon the Sales and Customer allocation methodologies, respectively. The portion classified to Demand was further broken down into detailed functions of Production, Underground Storage, Transmission, and Distribution. This detailed breakdown was based on the ratio of each corresponding amount of O&M to Total O&M, not including A&G. The calculation of the ratios follows the same calculation performed for General Plant as I describe earlier in my testimony, except the O&M amounts shown on NS Ex. 13.4, Page 5 were utilized rather than the Plant-in-Service amounts. Once further classified into the functions of Production, Underground Storage, Transmission, and Distribution, the amounts were allocated to the customer classes based upon the Coincident Peak, Coincident Peak, Average and Peak, and Average and Peak allocation methodologies, respectively.

M&S is classified to Commodity, Demand, and Customer classifications based upon Distribution Plant, not including Intangible Plant amounts, as shown on NS Ex. 13.4, Page 1, line 29. M&S is classified according to Distribution Plant, not including Intangible Plant amounts because M&S are used to support Plant-in-Service functions, and Distribution comprises the majority of Plant-in-Service. Once classified, the Commodity, Demand, and Customer portions are then allocated to the customer classes based upon the Sales, Average and Peak, and Customer allocation methodologies, respectively.

Accumulated Deferred Taxes is classified to Commodity, Demand, and Customer classifications based upon Depreciated Reserve, not including General or Intangible Plant amounts, as shown on NS Ex. 13.4, Page 2, line 43. Accumulated Deferred Taxes are

allocated according to Depreciation Reserve, not including General or Intangible Plant amounts because Accumulated Deferred Taxes follow the same type of cost-causation theory as Accumulated Depreciation Reserve. Once classified, the Commodity and Customer portions are then allocated to the customer classes based upon the Sales and Customer allocation methodologies, respectively. The portion classified to Demand was further broken down into detailed functions of Production, Underground Storage, Transmission, and Distribution. This detailed breakdown was based on the ratio of each corresponding amount of Depreciation Reserve to Total Depreciation Reserve, not including General. The calculation of the ratios follows the same calculation performed for General Plant as I describe earlier in my testimony, except that the Depreciation Reserve amounts shown on NS Ex. 13.4, Page 2 were utilized rather than Plant-in-Service amounts. Once further classified into the functions of Production, Underground Storage, Transmission, and Distribution, the amounts were allocated to the customer classes based upon the Coincident Peak, Coincident Peak, Average and Peak, and Average and Peak allocation methodologies, respectively.

Both Net Retirement Benefits and Reserve for Injuries and Damages are classified to Commodity, Demand and Customer classifications based upon Total O&M, not including A&G, as shown on NS Ex. 13.4, Page 5, line 38. These rate base components were classified according to Total O&M, not including A&G, because they are a function of various O&M accounts. Once classified, the Commodity and Customer portions are then allocated to the customer classes based upon the Sales and Customer allocation methodologies, respectively. The Demand classified portion was further broken down into detailed functions of Production, Underground Storage, Transmission and

Distribution. This detailed breakdown was based on the ratio of each corresponding amount of O&M to Total O&M, not including A&G. The calculation of the ratios follows the same calculation performed for General Plant as I describe earlier in my testimony, except the O&M amounts shown on NS Ex. 13.4, Page 5 were utilized rather than Plant-in-Service amounts. Once classified as Production, Underground Storage, Transmission, and Distribution, the amounts were allocated to the customer classes based upon the Coincident Peak, Coincident Peak, Average and Peak, and Average and Peak allocation methodologies, respectively.

### L. <u>North Shore's ECOSS</u>

**Q. What is the source of the cost data analyzed in North Shore's ECOSS?**

A. All cost of service data have been extracted from North Shore's revenue requirement and rate base contained in the instant filing. Where more detailed information was required to perform various subsidiary analyses related to certain plant and expense elements, the data were either taken directly from North Shore's various software systems or derived from the historical books and records of North Shore.

**Q. Did you make any changes to the classes of service included in the ECOSS you prepared compared to the cost study submitted in North Shore's last general rate case proceeding?**

A. Yes, I made three changes. First, in the ECOSS submitted in this proceeding, S.C. 1 – Small Residential Service, is bifurcated into Non-Heating and Heating categories, along with presenting the class of service as a Total. The Commission's 2011 Rate Case Order directed North Shore to present an ECOSS that distinguishes between low use and high use S.C. No. 1 customers. Second, S.C. 2 – General Service, is segregated into Small,

Medium, and Large categories, which are representative of the three different meter classes serviced in this rate class, along with presenting the S.C. 2 class of service as a Total. Third, North Shore does not anticipate having any customers taking service under S.C. No. 4 during the test year.

**Q. Please describe NS Ex. 13.1.**

A. NS Ex. 13.1 consists of one page and shows the summarized results of North Shore's ECOSS for the 2013 future test year under present rates. Line 38 of NS Ex. 13.1 shows the rate of return resulting from operations. Line 50 shows the revenue deficiency by customer class based on the required rate of return on common equity of 10.75%, which is North Shore's requested return on common equity in this proceeding and is supported by the testimony of North Shore witness Paul Moul (NS Ex. 3.0). Lastly, line 54 of NS Ex. 13.1 shows the revenue requirements under present rates. I also note that the internal allocation methodology of rate base is created on NS Ex. 13.1; the Rate Base allocator is used throughout other sections of the ECOSS.

**Q. Please describe NS Ex. 13.2.**

A. NS Ex. 13.2 consists of 11 pages. Pages one and two provide a summary of revenue requirements and rate base, respectively, shown by functional and classification breakdown. Page three of NS Ex. 13.2 shows the unit costs by customer class for the 2013 future test year, which was calculated by taking the revenue requirement under present rates on page one and dividing by the appropriate denominator shown in Lines 44-46 of NS Ex. 13.2, Page 3. Pages 4 - 11 of NS Ex. 13.2 provide the detail behind the creation of the summaries shown on pages one and two.

**Q. Please describe NS Ex. 13.3.**

A. NS Ex. 13.3 consists of nine pages and contains the detailed allocation of all investment and expenses to the customer classes of North Shore. This exhibit provides the detail behind the figures shown in the summary presented as NS Ex. 13.1. All of the investment and expenses were allocated to the customer classes using the allocation methodologies listed in the far right column labeled "Source or Allocation Factor".

Page 1 contains the Operating Revenues for North Shore by customer class based on the rates authorized in the 2011 Rate Case. I also note that the internal allocation methodology of Revenue is created on NS Ex. 13.3, page 1; the Revenue allocator is used throughout other sections of the ECOSS.

Page 2 contains the allocation of Total O&M Expenses, both Labor and Non-Labor related, to North Shore's customer classes. Page 2 also contains the creation of the internal allocation methodologies Distribution-Demand O&M, Distribution-Customer O&M, and Customer O&M, which are used to allocate Distribution and Customer classifications of A&G expense, respectively.

Page 3 contains the allocation of Depreciation and Amortization expenses to North Shore's customer classes.

Page 4 contains the allocation of TOTI expense to North Shore's customer classes.

Page 5 contains the allocation of Other Income and Adjustments, for both Before Income Taxes as well as After Income Taxes, for North Shore. In the 2013 future test year, there were no Other Income and Adjustments.

Page 6 contains the allocation of investment in Plant in Service to North Shore's customer classes.

Page 7 contains the allocation of Accumulated Reserve for Depreciation and Amortization to North Shore's customer classes.

Page 8 contains the allocation of Construction Work in Progress to North Shore's customer classes.

Page 9 contains the allocation of Other Rate Base Components to North Shore's customer classes.

**Q. Please describe NS Ex. 13.4.**

A. NS Ex. 13.4 consists of five pages and contains the functionalization and classification detail of the ECOSS. This exhibit provides the detail behind the figures shown in the cost allocation to customer classes presented as NS Ex. 13.3.

Page 1 contains the functionalization and classification of investment in Plant in Service. These figures were utilized in the costs allocation to customer classes shown on page 6 of NS Ex. 13.3. Page 1 also contains the creation of the classificational allocation methodology for Gross Plant, not including Intangible or General Plant amounts, and Distribution Plant, not including Intangible amounts, which were used throughout other sections of the ECOSS.

Page 2 contains the functionalization and classification of Accumulated Reserve for Depreciation and Amortization. These figures were utilized in the costs allocation to customer classes shown on page 7 of NS Ex. 13.3. Page 2 also contains the creation of the classificational allocation methodology for Depreciation Reserve, not including

Intangible or General Plant amounts, which is used throughout other sections of the ECOSS.

Page 3 contains the functionalization and classification of Construction Work in Progress. These figures were utilized in the costs allocation to customer classes shown on page 8 of NS Ex. 13.3.

Page 4 contains the functionalization and classification of Depreciation and Amortization Expense. These figures were utilized in the costs allocation to customer classes shown on page 3 of NS Ex. 13.3.

Page 5 contains the functionalization and classification of Total O&M Expense, including both Labor and Non-Labor. These figures were utilized in the cost allocation to customer classes shown on page 2 of NS Ex. 13.3. Page 5 also includes the creation of the classificational allocation methodology titled Total O&M, not including A&G amounts, which is used in other sections of the ECOSS.

**Q. Please describe NS Ex. 13.5.**

A. NS Ex. 13.5 contains a summary of most of the allocation methodologies used within the ECOSS exhibits shown in NS Exs. 13.1 through 13.4. NS Ex. 13.5 consists of ten pages.

Page 1 shows the development of the following allocation factors:

1. The Average Customers allocation factor, which is based on the simple 12 month average of customer counts for all customer classes,

2. The Services allocation factor for Account 380, which is based on average customer counts and utilizes a Cost Per Customer for Services weighting factor,

3. The Meters & House Regulators allocation factor for Accounts 381.0 and 383, which is based on average customer counts and utilizes a Cost Per Customer for Meters & Regulators weighting factor,

4. The Automated Meter Devices allocation factor for Accounts 381.2 and 382.2, which is based on average customer counts and utilizes a Count of Encoder/Receiver Transmitters per Customer weighting factor,

5. The Bad Debt allocation factor for Accounts 904 and 905008, which is based on average customer counts and utilizes a Cost per Customer – Bad Debt weighting factor,

6. The Demand Gas Measurement Devices allocation factor for Accounts 381.3 and 382.3, which is based on the demand device counts forecasted for the 2013 future test year,

7. The Municipal Utility Tax allocation factor which is based on the forecasted municipal utility tax accounting charges, by customer class, for the 2013 future test year, and

8. The Delayed Payment Charges allocation factor for Account 487, which is based on the total late payment charges by service classification for the 12 months ending December 31, 2011 applied against total forecasted late payment charges for the 2013 future test year.

Page 2 shows the development of the following allocation factors:

1. The Budget Plan Balances allocation factor, which is based on average customer counts and utilizes a Budget Plan Balance per Customer weighting factor,

2. The Customer Deposits allocation factor, which is based on average customer counts and utilizes a Customer Deposits per Customer weighting factor,

3. Sales, or Commodity, allocation factor, which is the annual total of forecasted sales of all customers, including transportation sales, for the 2013 future test year,

4. The Coincident Peak Demand allocation for class coincident demand for each of the customer classes, and

5. The Average and Peak Demand allocation, which consists of a combination of the utility's average sales and coincident peak demand, calculated in accordance with the method approved in Docket Nos. 07-0241/07-0242 (cons.).

Page 3 shows the development of the following allocation factors:

1. The Account 385 allocation, which consists of the number of industrial meters of only those customer classes that utilize industrial size meters,

2. The Salaries and Wages functional allocation factor, and

3. The Salaries and Wages customer class allocation factor.

Pages 4 through 10 consists a list of all of the externally generated allocation factors in the ECOSS and also provides a full narrative description of the derivation of all the externally generated allocation factors, as required by the 83 Ill. Admin. Code Section 285.5110.

**Q. Please explain the significance of the far right column labeled "Source or Allocation Factor" on each of the pages 1 – 3 of NS Ex. 13.5.**

A. The far right column labeled "Source or Allocation Factor" represents the name that was given to each of the specific allocators created within NS Ex. 13.5. Each of these names shown in the "Source or Allocation Factor" column is what is used throughout the ECOSS for North Shore when referencing the allocation methodology that was used to allocate costs to the customer classes.

**Q. Please describe NS Ex. 13.6.**

A. NS Ex. 13.6 shows the summarized results of North Shore's ECOSS for the 2013 future test year under the proposed changes in rate design as proffered by North Shore witness Ms. Grace. NS Ex. 13.6 consists of one page. Line 38 of NS Ex. 13.6 shows the Rate of Return resulting from operations. Line 50 shows the revenue deficiency by customer class based on the required rate of return on common equity of 10.75%, which is North Shore's requested return on common equity in this general rate case proceeding and is supported by Mr. Moul's testimony. Line 54 of NS Ex. 13.6 shows the revenue requirements taking into consideration the proposed Other Revenues in Accounts 487-495 that would be received under the proposed rate design, along with proposed changes

to Uncollectibles Expense in Accounts 904 and 905008 and Federal and State Income Taxes. Lines 56-64 present the proposed revenue requirement required as proffered by Ms. Grace.

**Q. Specifically, what changes can be seen between NS Ex. 13.1 and NS Ex. 13.6?**

A. The Other Revenues in Accounts 487-495 have been updated to include increased revenues arising from proposed increases in certain miscellaneous charges as discussed in Ms. Grace's direct testimony. The increase in Other Revenues in Accounts 487-495 lowers the amount that would need to be recovered via base rates in tariff revenue. Accordingly, an adjustment was made to account for the reduction to tariff revenues (see line 3 of NS Ex. 13.6).

Additionally, O&M Expense shown on line 8 has changed because Uncollectibles Expense in Accounts 904 and 905008has changed under Proposed Rates, as well as Federal and State Income Taxes, as shown on line 12. Please see Ms. Moy's Schedule C-1. Lastly, lines 56-64 portray the proposed revenue requirement recovery as proffered by Ms. Grace.

**Q. Please describe NS Ex. 13.7.**

A. NS Ex. 13.7 consists of 11 pages. Page one provides a summary of the revenue requirement under proposed rates (see NS Ex. 13.6, line 54). This summary is shown by functional and classification breakdown. Page two provides a summary of rate base shown by functional and classification breakdown. Page three shows the unit costs by customer class for the 2013 future test year, which was calculated by taking the revenue requirements on page one and dividing by the appropriate denominator shown in Lines

44-46 of NS Ex. 13.7, Page 3. Pages 4 - 11 provide the detail behind the creation of the summaries shown on pages one and two.

**Q. Please describe NS Ex. 13.8.**

A. NS Ex. 13.8 consists of two pages and contains the detailed allocation of only the investment and expenses to the customer classes of North Shore that change under proposed rates. Accordingly, page 1 contains the Operating Revenues for North Shore by customer class based on the rates authorized in the 2011 Rate Case. Lines 5 – 19 also reflect the proposed Other Revenues that would be recovered via the proposed rate design.

Page 2 contains the allocation of Total O&M Expenses, both Labor and Non-Labor related, to North Shore's customer classes taking into account the change to Uncollectibles Expense in Accounts 904 and 905008 that would occur under the proposed rate design. Page 2 also contains the creation of the internal allocation methodologies Distribution-Demand O&M, Distribution-Customer O&M, and Customer O&M, which were used to allocate Distribution and Customer classifications of A&G expense, respectively.

The allocation of Uncollectible Expense in Accounts 904 and 905008 becomes a three step process under proposed rates. As shown on my Workpaper WPE-6.6c, the first step is Uncollectible Expense in total, including uncollectible gas costs, allocated to the service classes on the basis of a Bad Debt allocation methodology. The second step is allocating the rate making adjustment for Uncollectible Expense under the proposed base rates on the basis of a Base Rate Uncollectibles allocation methodology. The Base Rate Uncollectibles allocation methodology is calculated on my Workpaper WPE-6.6b and is

the net Uncollectible Expense in Accounts 904 and 905008 by service class recoverable in present base rates. The third step is removal of the Uncollectible Expense that is attributable to gas costs by service class. These are direct assigned amounts by service class as shown in Column [J] of PGL Ex. 12.11. The net of these three steps provides the Uncollectible Expense in Accounts 904 and 905008 by service class recoverable in the proposed base rates.

There were no other changes made to any other investment or costs, nor to any other allocation methodologies, in the North Shore ECOSS under proposed rates, with the exception of Federal and State Income Taxes, which can be seen on NS Ex. 13.6, lines 12 and 48.

**M. <u>Results of North Shore's ECOSS</u>**

**Q. Based on the ECOSS filed by North Shore, do you have any comments with respect to the ECOSS results at present rates?**

A. Yes. Referring to NS Ex. 13.1, the following results at present rates from the ECOSS are indicated on Line 38:

1. The average system rate of return is 4.97%.
2. The small residential service class – non-heating (S.C. No. 1 – Non-Heating) exhibits a rate of return of 72.45%,
3. The small residential service class – heating (S.C. No. 1 - Heating) exhibits a rate of return of 4.63%,
4. The small residential service class, in total (S.C. No. 1 - Total) exhibits a rate of return of 4.73%,

5. The small general service class (S.C. No. 2 – Small) exhibits a rate of return of 3.32%,

6. The medium general service class (S.C. No. 2 – Medium) exhibits a rate of return of 7.20%,

7. The large general service class (S.C. No. 2 – Large) exhibits a rate of return of 6.62%,

8. The general service class, in total (S.C. No. 2 – Total) exhibits a rate of return of 6.17%,

9. The large volume demand service class (S.C. No. 3) exhibits a rate of return of 3.61%.

**Q. Why have you not addressed S.C. Nos. 4 and 6?**

A. S.C. Nos. 4 and 6 do not appear in the ECOSS because these service classifications have customer-specific charges that are negotiated pursuant to special contracts. Therefore, these customers' rates are not affected and are not shown within the ECOSS analyses. It is expected that there will no longer by any customers served under S.C. No. 4 in the test year, and there are currently no customers receiving service under S.C. No. 6.

**Q. Please discuss the results of the ECOSS at proposed rates, as shown in NS Ex. 13.6.**

A. Referring to NS Ex. 13.6, the following proposed revenue requirement recovery results from the ECOSS are indicated on Line 57:

1. The average system rate of return is 4.97%.

2. The small residential service class – non-heating (S.C. No. 1 – Non-Heating) exhibits a rate of return of 70.16%,

3. The small residential service class – heating (S.C. No. 1 - Heating) exhibits a rate of return of 4.63%,

4. The small residential service class, in total (S.C. No. 1 - Total) exhibits a rate of return of 4.72%,

5. The small general service class (S.C. No. 2 – Small) exhibits a rate of return of 3.12%,

6. The medium general service class (S.C. No. 2 – Medium) exhibits a rate of return of 7.25%,

7. The large general service class (S.C. No. 2 – Large) exhibits a rate of return of 6.66%,

8. The general service class, in total (S.C. No. 2 – Total) exhibits a rate of return of 6.17%,

9. The large volume demand service class (S.C. No. 3) exhibits a rate of return of 3.66%.

**Q. In your opinion, does the ECOSS provide a reasonable basis for establishing rates in this case?**

A. Yes. The ECOSS for North Shore is a reasonable estimate of revenue requirements by customer class, given the total revenue requirement, and supports the rates requested in this case, as explained further by Ms. Grace.

**Q. Does this complete your direct testimony?**

A. Yes.