

## DESCRIPTION AND JUSTIFICATION

### 1.0 Introduction and Description of Filing

In this tariff filing, scheduled to become effective February 15, 2009, the Bell Operating Companies (BOCs) propose changes to Tariff F.C.C. No. 1, 800 Service Management System (SMS/800) Functions (SMS/800 Tariff) to update the supporting cost study, and modify rates and charges based on an updated cost study and current cost and demand data, and certain service offering text. The proposed modifications are detailed below.

### 1.1 Modify Regulations and Service Offerings

- On Title Page 4, minor revisions to update contact information.
- On pages 10 and 11, we are updating the current name, issue number and date for certain Technical Publications. All publications are available as of the filing date for this tariff.
- Service Offerings
  - ◆ Section 3.4, revise text to incorporate the elimination of using tapes for the submission of Batch Updates. All future batch submissions will be performed via an electronic format. All customers have been informed of the elimination of batch tapes and the transition to electronic file format is being proactively supported by the SMS/800 vendor team. Remove reference to the Data Center address where tapes were previously sent for processing.
  - ◆ Section 4.1.2 (A), reference to 2.3.4 is corrected to 2.3.6.
  - ◆ Section 4.1.2 (A), clarify when Smart Cards are billed by removing “or replacement” and adding language that clarifies when replacement Smart Cards are billed. Note that this is not a change from current policy.
  - ◆ Section 4.1.2 (B), incorporates change in policy from charging Resp Orgs only for dedicated access ports into the production data center to charging for access ports into both the production and disaster recovery data centers.
  - ◆ Section 4.1.2 (C), clarifies existing policy regarding which reports are included in the CRA charge.
  - ◆ Section 4.1.2(D), update this section to identify the difference between on-line and off-line reports and change the charge for off-line reports from “per report” to “per hour”. The proposed language clarifies the difference between the two distinct report rate elements. Currently, on-line and off-line reports are charged the same amount “per report”. With this tariff filing, the BOCs propose to create distinct rate elements for on-line and off-line reports.
    - On-line reports are routinely prepared and delivered to customers or are created by SMS/800 vendors using the SMS/800 Web Reporting System (WRS) and delivered to customers. The effort to produce the on-line reports

is very consistent and requires a minimum of effort. Due to these factors and to maintain consistency and predictability for the customer, a "per report" charge is used.

- Off-line reports are customized reports whose creation requires technical analysis and development support by the SMS/800 help desk, software and/or Data Center teams. This support may include preparation of datasets and development of software needed to provide the requested report. The effort required to fulfill each customer request may be different. An hourly charge will apply for the time required to prepare and deliver each off-line report.
- ◆ Section 4.1.2(D), due to the addition of the description of on-line and off-line reports, an additional page is required. Original page 58.1 is added and includes material that originally appeared on page 58.
- ◆ Section 4.2(D)(1), clarify how on-line reports are charged by removing "printed", since reports are no longer "printed."
- ◆ Section 4.2(D)(2), change "per report" to "per hour" representing the change to the hourly rate for the production off-line reports.
- ◆ Section 4.2(F)(1), change the Batch Update rate element from "per tape processed" to "per file processed" consistent with the elimination of tapes from the batch update process.

## **1.2 Modify Rates and Charges**

This tariff filing is also being made by the BOCs to modify rates and charges in the SMS/800 Tariff. The proposed changes, reflecting the BOCs' most current estimates of demand and cost for services provided under the tariff, would *decrease* revenue over the prospective one-year period of February 15, 2009 through February 14, 2010 by \$9,679,615. A comparison of current and proposed rates, as well as the revenue impact of the rate changes, is displayed in Table 1 (after section 4.8).

## **2.0 Revenue Requirement Development**

The prospective revenue requirement for SMS/800 from February 15, 2009 through February 14, 2010 consists of expenditures for ongoing operations of the existing system. Virtually all of the costs are expense items. Specific budget items for SMS/800 ongoing operations are:

1. *SMS/800 Operation and Administration* which consists of: (a) Help Desk operational support to SMS/800 users including telephone assistance related to interfacing with SMS/800 and preparation/maintenance of toll-free number records, and processing of requests for changes in Responsible Organization for toll-free numbers; (b) day-to-day management, planning and administrative oversight provided by the SMT Business Manager (DSMI), external operational support services such as billing and collections, accounting, cost analysis and website support, and other costs such as bad debt (services provided to bankrupt Responsible Organizations), and general administrative and human resources expenses related to SMS/800; and (c) the indirect

cost of significant internal resources that the Bell companies expend to support management, operation and administration of the SMS/800. These resources include employees in the companies' tariff, regulatory, legal, technical, financial, taxation, procurement, accounting, network operations, systems provisioning, and operations support organizations.

During the past tariff year the BOCs have continued to incur bad debt costs for those Responsible Organizations that either filed for bankruptcy protection or voluntarily discontinued service to their customers and could not pay for services rendered. The BOCs expect that additional Responsible Organizations will either terminate service or file for bankruptcy protection. However, the amount of bad debt allowance accrued to date is sufficient for the upcoming tariff year and thus there is no 'bad debt' allowance included in the revenue requirement for the proposed tariff year (February 15, 2009 through February 14, 2010).

The estimated revenue requirement for SMS/800 operation and administration for the one-year period of February 15, 2009 through February 14, 2010 is \$6,888,013 distributed as follows: (a) Help Desk: \$1,714,972; b) Management and Administration, including the bad debt noted above: \$4,623,041; and (c) BOC indirect costs: \$550,000.

2. *SMS/800 Data Center Operation* reflects the cost of the ongoing support, maintenance of the existing production and test/disaster recovery SMS/800 data centers and operation of a Service Center (Help Desk) facility to handle security and access problems. The estimated revenue requirement for the data center operation is \$22,328,793.

3. *SMS/800 Software Support* includes the provision of software maintenance, computer site and application support, and software development for new features for the existing SMS/800 system. The estimated revenue requirement for software support is \$7,394,941.

A comparison of projected past year and actual past year costs, and projected future year costs are shown in Table 2.

## **2.1 Revenue Requirement Distributions**

A detailed hardware, software and activity based cost study was performed to identify average unit costs for the SMS/800 rate elements. The updated costing methodology is consistent with the methodology used for previous SMS/800 tariff filings. The average unit costs developed are shown in Table 5. The resulting revenue requirement for each rate element is shown in Table 4. Cost-causation analyses were performed and applied to budget elements as follows:

- A Task Oriented Costing (TOC) study was used to distribute SMS/800 Help Desk costs to rate elements. Help Desk managers identified the primary tasks performed, how often the tasks were performed, and the average time spent performing them. Each task was then analyzed and associated with the particular rate element it supports. To the extent that Help Desk costs are not specific to a rate element, the costs are included in the CRA rate element. The resulting unit costs are shown in Table 5, column (a).

- Data center costs consist primarily of: (a) network equipment and facilities needed to provide communications access for customers' links; (b) storage hardware (tape and disk drives) for toll-free number record data; and (c) a processing community used to respond to and execute customer requests for SMS/800 services. *Network costs* are attributable almost entirely to rate elements required to access SMS/800. A unit cost analysis of each type of connection to SMS/800 was used to determine its cost. The processing community, consisting of central processing units and server-based distributed processors, and storage costs are related almost exclusively to the support and processing of customer records and were therefore, with only a few minor exceptions, assigned to the CRA rate element. The Data Center also supports production of some reports and batch updates. Activity based analyses were used to capture these costs and associate them with the appropriate rate elements. The resulting average unit costs for the Data Center are shown in Table 5, column (b).
- The cost of software support includes software maintenance, site support and software development for new features. The software maintenance and site support dollars were attributed on the basis of analyses of effort by software personnel for the basic functions of software development, software maintenance and support services. The costs of the various functions were attributed to rate elements based on these analyses. The software development staff also supports production of some reports. Activity based analyses were used to capture these costs and associate them with the appropriate rate elements. The average unit costs developed for software costs are shown in Table 5, column (c).
- The Operations and Administration cost are analyzed to determine if they explicitly support any of the SMS/800 rate elements. With the exception of a small amount associated with the preparation of additional bills requested by SMS/800 customers, the operations and administration costs are shared and common costs. The resulting average unit costs are shown in Table 5, column (d).

### **3.0 Basis of Ratemaking**

The rate structure for SMS/800 consists of service elements that are used by Responsible Organizations. The proposed rate for each element is based on its projected revenue requirement and demand. The only exceptions are the proposed daily and hourly rates for Responsible Organization requested MGI Testing and the daily and hourly rates for Batch Update Testing. These rates are based on changes to vendor contracts. The contractual rate of \$180 per hour, or \$1,440 per day, is expected to remain valid for the proposed tariff period. This information is shown in Table 6.

### **4.0 Demand Forecast**

The demand forecast for the prospective year is displayed in Table 3. Information and/or data considered in developing the forecast are discussed in the following sections.

## 4.1 Customer Record Administration (CRA)

This rate element represents the quantity of toll-free numbers for which customer records exist in the SMS/800 and is charged on a recurring (monthly) basis for each number record administered. Following the methodology used to produce prior CRA forecasts, we examined alternative ARIMA models, searching to find the best fit of the historical data. An ARIMA model predicts the future value of the dependent variable (toll free numbers) solely by analysis of past values of that variable.<sup>1</sup>

The first issue addressed involved data frequency. The toll free number data are collected and reported weekly, but previous tariff filings (as well as the CRA rate element charge) use monthly data. A two-year forecast of monthly data requires a 24-period forecast. Because data typically contain random elements, projections tend to become less reliable with the number of periods forecast. This problem can be mitigated by using lower data frequency, allowing random influences to offset, smoothing observed values. When high frequency forecasts are not needed, modeling the dynamics at a lower frequency is usually more accurate. For example, estimating a moving average error term with quarterly data provides an average over three months to improve the forecast, while using monthly data produces just one month's worth of moving average correction. When the individual months are not required in their own right—as is the case here—the longer observation period provides an error correction more closely related to the longer forecast needed. Of course, lower frequency data yield fewer observations over the same time frame and, all else equal, additional observations tend to improve estimation accuracy. Given that the use of annual data is ruled out due to insufficient degrees of freedom, we chose to perform our estimations with demand measured quarterly. This approach is designed to balance forecast variance against loss of observations.

The monthly forecasts for January 2009 through February 2010 reported in Table 3A represent linear interpolations of the quarterly forecasts. (For instance, if toll free lines were projected to rise from 22,000,000 to 22,300,000 from one quarter to the next, the consecutive estimated monthly totals would be 22,100,000, 22,200,000, and 22,300,000.) For the forecast, we used the unweighted average of the three months in each quarter to construct the quarterly series of toll free numbers. The average monthly number of lines for a quarter was considered to be that number which would accrue to the middle month of each quarter. The middle month for the quarter ending March 2008 is February 2008, the middle month for the quarter ending June 2008 is May 2008, etc. Use of this averaging methodology tended to smooth out random fluctuations, as desired.

Similar to the choice of quarterly data, a three-year estimation window represents a tradeoff between regime stability and the number of estimation observations. Shorter time periods for estimation were considered, but there was reason to believe that these estimates were more susceptible to short term fluctuations and were less precise. Longer periods were not used because it is believed that factors that might drive demand change over time, and that factors that

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<sup>1</sup> This is an example of the Box-Jenkins approach to time-series modeling that only uses past values of a variable to predict future values.

affected the market as recently as four years ago might not have any influence over current market conditions. It should be noted that this was the methodology used in previous forecasts.

Note that whenever actual data available ends mid-quarter, data for the remaining months of that quarter are unknown. This means that either some known data must be disregarded or that the remaining months in the quarter must be extrapolated. Since the former option requires disregarding actual data, the latter option is preferable. The methodology for forecasting demand for the remaining months of the quarter is similar to the methodology used for forecasting quarterly estimates (i.e., ARIMA). The difference is that only monthly data will be used in this forecast, as opposed to smoothed quarterly data. The lack of smoothing is acceptable because the demand will only be forecasted one or two months ahead, which is a fairly short run forecast. Twelve months of monthly data is used in this forecast to capture all the effects that might be observed in a year.

#### *Forecasting Quarterly Demand Through February 2010*

The ARIMA model that appeared to produce the best fit using the most recent 12 quarters of data has an AR(1) MA(2) form and is defined by the following parameters and summary statistics:

R-Square = 0.9384 R-Square Adjusted = 0.9152

PARAMETER	ESTIMATES	STD ERROR	T-STAT
AR(1)	0.8138	0.1546	5.264
MA(1)	-1.2122	0.2226	-5.447
MA(2)	-0.8529	0.1709	-4.989
CONSTANT	4,556,100	3,782,000	1.205

In equation form, the model indicates that:

$$\text{Forecasted CRA}_t = 4,556,100 + 0.8138 \text{ CRA}_{t-1} + u_t - 1.2122u_{t-1} - 0.8529u_{t-2}$$

The results of the quarterly forecast are shown in Table 3A.

#### **4.2 Change of Responsible Organization for Toll-Free Number**

This element provides for changing the Responsible Organization for a toll-free number and is charged on a non-recurring (per request) basis. However, year to date monthly demand for 2008 has been increased to approximately 2,700. Projected demand is estimated at 30,000 annually for the prospective one-year period of February 15, 2009 through February 14, 2010.

#### **4.3 SMS/800 Access**

This service element provides for the connection of dedicated and non-dedicated communications links to the SMS/800 and is charged on a recurring (monthly) basis. The monthly demand for the non-dedicated access is approximately 813 and the demand is

anticipated to remain stable for the upcoming tariff period. MGI-dedicated and non-MGI dedicated access demand have remained stable throughout 2008. Monthly demand for dedicated MGI access was approximately 20 in 2008. This demand includes only MGI links into the production data center facility in Eagan, MN. With this filing, the BOCs propose charging for every MGI link into the Eagan and Salt Lake City data centers which will raise the monthly MGI access demand to 33. Average monthly demand for non-MGI dedicated access is approximately 73 in 2008. Similar to the MGI access demand, the BOCs propose charging for every link into the production and disaster recovery data centers which will raise the projected monthly demand to 145 connections and is projected to remain at that level for the prospective period of February 15, 2009 through February 14, 2010.

#### **4.4 Service Establishment**

This service element provides for various aspects of establishing service, i.e., first logon ID, subsequent (additional) logon IDs and Smart Cards. Charges for these services are applied on a non-recurring (one time) basis. Demand for first logon IDs averaged 2.1 requests per month during 2008 and is forecast slightly higher at 2.25 per month for the upcoming tariff period. Demand for subsequent IDs averaged approximately 108 requests per month during 2008, and is forecast slightly higher resulting in annualized demand projection of 1,520 for the prospective tariff period. Smart Cards are projected to be slightly lower than the 2008 YTD average resulting in an annual projection of 145 Smart Cards for the prospective tariff period of February 15, 2009 through February 14, 2010.

#### **4.5 Customer Reports**

This service element provides for the preparation and delivery of customer specific off-line reports as well as the preparation and delivery of standard recurring on-line reports. To date, the rate and structure for both types of reports has been the same. With this filing, given the substantial difference in effort required for the different types of reports, the BOCs propose having distinct rates for on-line and off-line reports. The on-line report demand projection for the prospective tariff period February 15, 2009 through February 14, 2010 is 184, slightly higher than the year to date average 2008 level of 164 reports. The on-line report will continue to be charged “per report”. Off-line report are proposed to be charged “per hour” to prepare and deliver for each customer request. Off-line report demand is estimated at 261 hours for the prospective tariff period of February 15, 2009 through February 14, 2010.

#### **4.6 MGI Additional Testing per Hour**

This service element provides for initial and/or additional MGI testing as requested from the SMS/800 software support team and is charged on an hourly basis as required. Monthly demand during 2008 has averaged nearly 62 hours of additional MGI testing, a significant increase from 2007. The demand for the prospective tariff period February 15, 2009 through February 14, 2010 is expected to remain at the 2008 level.

#### **4.7 Copy of Additional Bill**

This service element provides for SMS/800 customers to obtain additional copy, in whole or in part, of their bill. Demand for additional bills has been steady at approximately 17 bills per month and demand is anticipated to remain at that level for the prospective tariff period February 15, 2009 through February 14, 2010.

#### **4.8 Batch Updates**

This service element allows customers to request changes and updates to many toll-free records and is charged per file. Monthly demand during 2008 has averaged 41 batch updates, a slight decrease from 2007. The demand is expected to remain at that level for the prospective tariff period February 15, 2009 through February 14, 2010.