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Sprint

Pete Sywenki
Director, Federal Regulatory Relations

Law & External Affairs
1850 M Street, NW, Suite 1100
Washington, DC 20036
Voice 202 828 7452
Fax 202 296 3409
pete.m.sywenki@mail.sprint.com

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JAN 26 1999

January 26, 1999

Ms. Magalie Roman Salas
Secretary - Federal Communications Commission
The Portals, 445 Twelfth St., SW
Washington, D.C., 20554

RE: CC Docket Nos. 96-45 and 97-160
FCC CCB Cost Model Input Workshops—Network Operations and Plant Specific Expense Inputs

Dear Ms. Salas,

The attached information is being provided to the Common Carrier Bureau staff in response to the Bureau workshops related to 1) network operations expenses and 2) plant specific expense inputs for use in the universal service cost proxy model. First, the attached information on network operations expenses is being provided to respond to concerns raised regarding Sprint's comments submitted in the above referenced matters on December 22, 1998. Specifically, as demonstrated in the attached information, the concerns are without merit and should be dismissed. Second, the attached information on plant specific expense inputs is being provided to expand upon and to clarify Sprint's January 22, 1999 submission on these expense inputs.

I request that this information be made a part of the record in the above referenced dockets. The original and three copies of this notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206(a)(1) for this purpose. If there are any questions, please call.

Sincerely,

Pete Sywenki

Attachments

cc: C. Brown, K. King, S. Burnett, B. Loube, P. Cech, R. Clarke (AT&T)

Network Operations Expenses

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SPRINT - LTD
COMMENTS ON PRELIMINARY USF INPUT VALUES
NETWORK OPERATIONS EXPENSES
JANUARY 25, 1999

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On December 22, 1998, Sprint filed comments on CC Docket Nos. 96-45 and 97-160, FCC CCB Cost Model Inputs, relating to customer operations, corporate operations, and plant nonspecific expenses. The purpose of these additional comments is to respond to concerns subsequently raised about Sprint's proposed network operations monthly expense input of $3.00 per line. Specifically, we would like to comment on some of those concerns, clarify the data presented in our December 22 comments that detailed the $3.00 input, and make a correction to the amounts assigned to USF on the basis of local switching investment.

First, a concern was raised that the data presented was based on only one company. However, it should be noted that the company used for our estimate was Sprint's Florida company, which is by far our largest company in terms of access lines. Consequently, Sprint's Florida data would be representative of our best economies of scale. On the other hand, the data used for the FCC's regressions was largely based on RBOC data, which should show even higher levels of efficiency. Although Sprint of Florida is our largest company in terms of access lines, it still could not be expected to match the economies of scale of the densely populated RBOC study areas. Also, the local switching USF assignment factor of 85% was questioned. To clarify, the statement in the December 22 comments that "switching related expense subaccounts were assigned to USF at 85%, the ratio of Florida local switching minutes to total switching minutes" was in error. The 85% factor represented the Florida BCPM default local call percentage. Accompanying today's additional comments is a revised schedule of Sprint's proposed network operations input. In calculating the revised input, we used the actual Florida percentage of local calls developed from the 1997 ARMIS 43-08. The actual local call factor is 78%. In the new table, Attachment A, revised results are presented alongside the December 22 results. The results show that even with the use of an actual call factor, Sprint's proposed network operations input is $2.93 per line, a reduction of only $0.07 from our December 22 proposal. Of course, this is still about double the FCC proposed inputs determined from regressions. Due to the extreme variability of values between companies, Sprint believes that expense inputs should be based on individual study area data.

Another concern raised was that power expense would decline as more digital equipment was used in Sprint's network. In response, as of December 31, 1997, 95.6% of Sprint's central office equipment and circuit equipment was already digital, as measured by investment dollars. Clearly, the opportunity for further power savings due to increased use of digital equipment is minimal.

Another concern was raised that Sprint's network administration costs were overstated because of future deployment of SONET based transport. Again, SONET based transport has already been deployed in Sprint's network to a large degree. Also, the levels of most expenses in Acct 6532 are not dependent on the degree of deployment of SONET technology to begin with. Following are descriptions of subaccounts within Acct 6532 taken from Sprint's chart of accounts. We see very little here (other than *Acct 6532.400 item j)*) that will be impacted by further deployment of SONET. And *item j)* is a very small part of Acct 6532.400. Accordingly, Sprint continues to believe that our proposed expense input relating to Acct 6532 is reasonable.

6532 100 GENERAL SUPERVISION

This account shall include the pay and associated expenses of general office, field management and staff personnel responsible for network administration.

6532 200 TRAFFIC ENGINEERING

This account shall include:

a) Pay, office, travel, and other expenses of employees performing traffic engineering functions and their associated supervision.

b) Time required to prepare forecasts for local dialing rates and toll data by office and trunk group.

c) Time required while preparing and forecasting switchboard data.

d) Time devoted to preparing trunk estimates (general).

e) Time spent in code assignment coordination (planning stage).

f) Time spent participating in decisions fixing grade of service standards.

g) Time spent in the development of 5-year implementation programs for each central office.

h) Time spent in preparing forecasts of estimated call volumes and equipment quantities for capital budget purposes.

6532 300 ASSIGNMENT FUNCTION

This account shall include the cost of assigning plant facilities due to service order activity.

6532 400 TRAFFIC ADMINISTRATION

This account shall include:

a) Pay and expenses of traffic department employees engaged in preparing tariff and route data.

b) Pay and expenses of traffic superintendents, managers, chiefs and supervisors.

c) Time devoted to switch counts and other counts, special studies or analyses which are required for the proper administration of local dial equipment.

d) Time required for taking local dial equipment register readings and their summarization.

e) Time devoted to dial line assignment includes time spent in maintaining line equipment and directory number records and special work occasioned by dial rearrangements when performed in dial administration organizations.

f) Time devoted to local or toll trunk administration performed in dial administration organizations.

g) Time devoted to message register readings, toll dial equipment register readings, circuit usage counts, division of revenue studies, special ticket analysis and other such studies, counts or record maintenance relating to equipment or engineering requirements.

h) Expenses of employees outside of central office whose time is devoted to preparing records, analyzing tickets and obtaining data for supplementary peg counts.

i) Time devoted to the preparation of basic information and intercepting records, including the associated service order work. This would include the time required to prepare new records due to dial cutovers or rearrangements, or work occasioned by the issue of a new directory.

j) Time devoted to collection of data on call completion success percentages.

SPRINT - LTD
COMMENTS ON PRELIMINARY USF INPUT VALUES
NETWORK OPERATIONS EXPENSES
JANUARY 25, 1999

6532 500 NETWORK RECORDS

This account includes the cost of creating, maintaining and administering records required for proper administration of the network. This would include records such as line cards, cable line assignment (CLAS) records, street indexes (SIG) and like records.

Another concern was raised that Sprint's proposed input for Testing, Acct 6533, was too high because in the future, expenses would decline due to outsourcing and the use of "hot spares". First, Sprint is not aware of any trend in the industry to outsource the testing function. But even if the function were outsourced, we strongly believe that costs of outsourcing would not be materially different than costs incurred internally for this function. Sprint's testing function is already highly automated. Second, Sprint already uses central office transmission equipment "hot spares" as appropriate. Also, if "hot spares" is assumed as an expense reduction, then the capital cost should be reflected in USF investment. Currently, "hot spares" is not reflected in USF investment.

Another concern was raised that Sprint's proposed input for Plant Operations Administration (POA), Acct 6534, was too high because in the future, expenses would decline due to vendors taking over these functions. Again, Sprint is not aware of a trend in the industry for vendors to take over POA functions. And, even if they did, there would be comparable costs of these functions, either charged explicitly by the vendor, or implicitly included in the price of network equipment.

Last, a concern was raised that 2/3 of Sprint's Engineering expense (Acct 6535) was "Other", and should be excluded because it would eventually be assigned to specific projects. This assumption is false. In accordance with FCC accounting, Acct 6535 "Other" expenses include only residual dollars after assignments have been made to specific projects. These expenses definitely should not be excluded from the network operations input. The "Other" category of Acct 6535 in our December 22, 1998 comments was made up of Accts 6535.500, 6535.600, and 6535.900. An excerpt from Sprint's chart of accounts follows which explains the contents of these accounts. From these explanations, it can readily be seen that none of these expenses are subject to capitalization into the costs of projects.

6535 500 DRAFTING

This account shall include the expenses of drafting personnel while supporting an undertaking prior to the assignment of a project number or while performing other drafting functions not reportable to a specific project.

6535 600 ADMINISTRATION

This account shall include the expense of preliminary engineering work carried out in support of an undertaking, prior to the assignment of a project number, and other engineering work.

This account shall include:

a) General advance planning work which cannot be directly allocated to specific projects.

b) Work in connection with the general agreements for joint use of poles and other plant, including inventorying attachments.

c) Special studies and work of a miscellaneous nature.

d) Reviewing and analyzing actual costs of approved undertakings for administrative purposes or in comparison to budget.

e) Development of broad gauge unit costs.

f) Reviewing bulletins, circulars, field suggestions, practices, publications etc., to determine their effect on existing or planned telephone plant.

g) Preparation of supplements to Specific Estimates, General Estimates and Work Orders.

6535 900 OTHER ENGINEERING

This account shall include those engineering expenses not defined elsewhere which are not capitalizable and as a result may be charged direct to these accounts.

In summary:

- Sprint Florida data is a valid representation of Sprint's network operations expense. Since it is Sprint's most populous operating territory, if anything, it is more efficient than other Sprint territories. Use of the actual local call percentage of 78% only reduces Sprint's proposed network operations input to $2.93 per line.
- There will be very little savings in power expense from further deployment of digital plant.
- There will be very little savings in network administration expense from further deployment of SONET based transport.
- Sprint knows of no industry trend to outsource the testing function. Even if there were such a trend, there would still be a cost associated with an outside contractor's performance of that function. Sprint does not believe that contractor's charges would be any less than our cost of providing this function internally.
- Sprint does not believe that further use of "hot spares" would reduce overall USF costs. Sprint already uses "hot spares" in the network as appropriate. And, if "hot spares" are assumed as an expense reduction, then they should also be included in USF investment. Inclusion in investment would offset any assumed expense savings. Currently, they are not included in USF investment.
- Sprint knows of no industry trend for vendors to perform the plant operations administration function. Even if there were such a trend, there would still be a cost associated with a vendor's performance of that function. Sprint does not believe that vendor's charges, either explicit or implicit, would be any less than our cost of providing this function internally.
- Engineering expenses do not include any charges that will eventually be capitalized into projects.

SPRINT - LTD
COMMENTS ON PRELIMINARY USF INPUT VALUES
NETWORK OPERATIONS EXPENSES
JANUARY 25, 1999

ATTACHMENT A

Account	Description	Subaccount	Investment Categories Applicable to USF	Dec. 22,1998 Assignment To USF	Jan. 25, 1999 Assignment To USF	Dec.22,1998 Monthly Per Line	Jan. 25, 1999 Monthly Per Line
6531	Power		Local Switching & Loop Carrier	80%	76%	$ 0.18	$ 0.17
6532	Network Administration	Traffic Engineering	Local Switching	67%	61%	0.04	0.04
		Assignment	Loop	95%	95%	0.29	0.29
		Supervision, Other	Loop and Local Switching	87%	85%	0.28	0.26
6533	Testing	Line Testing	Loop	100%	100%	0.22	0.22
		Other Testing	Local Switching & Loop Carrier	80%	76%	0.22	0.21
		Supervision, Dispatch	Local Switching & Loop	85%	82%	0.28	0.27
6534	Plant Operations Admin	Central Office	Local Switching	80%	76%	0.22	0.21
		Outside Plant	Loop Cable & Loop Carrier	95%	95%	0.22	0.22
		Cable & Wire	Loop	95%	95%	0.14	0.14
		Other	Local Switching & Loop	90%	89%	0.15	0.14
6535	Engineering	Cable & Wire	Loop	95%	95%	0.13	0.13
		Central Office	Local Switching	80%	76%	0.05	0.05
		Drafting	Loop	90%	90%	0.08	0.08
		Other Administrative	Loop	90%	90%	0.50	0.50
	Total Account 6530					$ 3.00	$ 2.93

Plant Specific Expenses

SPRINT - LTD
COMMENTS ON PRELIMINARY USF INPUT VALUES
PLANT SPECIFIC EXPENSES
JANUARY 25, 1999

Current to Book Ratio

It has been suggested that the investment base upon which to calculate maintenance ratios should have all prior years additions brought forward to a current year level by the application of a telephone plant inflation index. Such an approach effectively equates to a first year maintenance cost versus a level representative of maintenance over the life of an asset. Sprint believes this approach understates maintenance expenses over the lives of assets. Consequently, Sprint believes that a Current to Book Ratio should not be used in calculating maintenance expenses.

Sprint believes that the most accurate method of calculating plant specific expense ratios is simply to divide the current year's actual expense for each account by the average plant balance that gave rise to the expense. Forward looking expense reductions then flow into studies in two ways. First, the investment base to which maintenance rates are applied is lower due to assumed economies of scale in reconstructing the forward looking network all at one time. Second, greater use of fiber in the forward looking network leads to reduced maintenance cost because less maintenance is required of fiber than of the copper in the embedded network. We have included a schedule, Attachment A, which summarizes forward looking maintenance reductions versus embedded maintenance costs in two recent Sprint cost filings. The Florida data is from Docket 980696-TP, a USF filing. And, the Nevada data is from Docket 98-6005, a UNE filing. The schedule supports our belief that significant maintenance reductions result from the assumption of a forward looking network. The schedule shows that in two of Sprint's largest properties, Florida and Nevada, forward looking plant specific maintenance costs fell by 28% and 30% respectively.

In practice, a telephone company's plant is made up of an accumulation of many years additions; in most cases, at succeedingly higher cost throughout the years. Due to increases in labor and material cost, maintenance will also increase each year. This has the effect of producing an average maintenance rate that is higher than the rate in an asset's first year. We have constructed an example, Attachment B, to illustrate this point. In the example:

- The asset class has a ten year life
- The company begins business in year-1 and completes a cycle of plant in year-11, when the year-1 asset is retired and the year-11 asset is added
- Assets are added and retired at mid-year
- The beginning maintenance rate is 10%
- Costs increase annually at a rate of 3% for both additions and maintenance expenses

It is realistic to assume rising costs over the life of an asset because in today's telecommunications environment, competitive wages and annual salary increases must be offered in order for an employer to attract and keep good employees.

The average maintenance rate is shown on the bottom line of Attachment B. As the example shows, the average maintenance rate:

- Is 10% in the first year
- Climbs in years two through eleven due to increases in maintenance cost while prior year's investment remains constant
- Remains constant at 11.55% from the eleventh year, when a full ten years of plant is reflected in average TPIS

The eleventh through the twentieth year of Attachment B is most indicative of real world operations, since that time frame best illustrates the impact of rising costs of maintaining long term assets after a complete cycle of additions and retirements. Of course, in contrast to the reality demonstrated in the example, indexing of plant would cause the maintenance rate for all years to revert to the first-year rate of 10%. In the case of

Attachment B, the first year rate of 10% versus the run rate of 11.55% represents a 13% understatement of the maintenance rate.

Perhaps a simpler way of demonstrating the same point is to show the impact of rising maintenance costs throughout the life of a single unit of plant. We have constructed an example, Attachment C, which shows this impact. The assumptions for Attachment C are the same as those for Attachment B, except only one unit of plant is studied. The example results in an average maintenance rate of 11.64% over the economic life of the asset. Again, the point is made that using the first year's maintenance rate of 10% would substantially understate maintenance costs.

The concept of recovering average maintenance over the life of an asset is similar to the concept of calculating return on investment on a net asset balance over the life of the asset. The application of an equated cost of money to an investment to calculate the total of all year's returns on an investment recognizes that an average return over the life of the asset is theoretically correct. In the case of return on investment, if the first year return was incorrectly projected over the whole life of the investment, return would be significantly overstated. Conversely, in the case of indexing of investment for calculating maintenance rates, maintenance would be significantly understated if the first year rate was applied over the life of the investment.

Maintenance rates should be representative of the costs to operate over the life of the asset. Otherwise, in years after the first year, USF cost recovery will not reflect the reality of operating conditions and supported expenses will be understated. To this extent, implicit subsidies remain implicit. The rate should allow for the recovery of average maintenance expenses over the life of the asset and not assume a constant first-year rate.

Sprint's proposal to use the current year's actual expense for each account divided by the current year's average plant balance theoretically mirrors the results of Attachments B and C, and would produce maintenance rates that would recover average maintenance expenses over the lives of assets.

Level of Aggregation and Separation of Copper and Fiber Cable Accounts

Sprint believes that study area plant specific expense inputs are most appropriate. Sprint is concerned that if national average data is used for expense inputs, data from companies with a higher density of customers (primarily the RBOC's), will cause E/I inputs to be much lower than those which would be calculated for smaller carriers. To illustrate this point, we compiled statistics on the number of switched access lines per kilometer of cable in service from the 1997 ARMIS Report 43-08 for three RBOC's and for Sprint. The following table shows those statistics. Kilometers of cable include both copper and fiber for aerial, underground, and buried cable. These results show that the RBOC's studied have a much higher access line density than Sprint, which would translate to efficiencies in maintenance expenses. Only if study area inputs are used will costs accurately reflect the specific characteristics of high-cost areas.

	Switched Access Lines	Km of Cable	Lines Per Km
Bell South	22,772,890	1,041,594	21.86
Southwestern Bell	15,213,655	680,379	22.36
US West	16,132,694	697,457	23.13
Sprint	6,665,111	459,080	14.52

Similarly, Sprint is concerned that if holding company level inputs are used, data from more densely populated study areas within a holding company will cause E/I inputs to be much lower than those which would be calculated for less densely populated study areas.

SPRINT - LTD
COMMENTS ON PRELIMINARY USF INPUT VALUES
PLANT SPECIFIC EXPENSES
JANUARY 25, 1999

Most study area data can easily be taken from ARMIS reports. Supplemental data would need to be provided by carriers to split copper and fiber cable by study area. Sprint maintains investment and expense data by study area, including a split of copper and fiber cable, so providing such data does not pose a problem.

Due to the significant difference in maintenance requirements of copper versus fiber plant, Sprint believes that copper and fiber plant should be segregated in forward looking USF studies. For example, Sprint-Florida's E/I ratio for buried copper cable was 5.30% in 1997, but only 0.62% for buried fiber cable. If a segregation is not made, forward looking cable maintenance costs will not be reliable.

Productivity Offset

Sprint does not believe that a productivity offset should be used in the calculation of plant specific maintenance expenses. As stated previously in these comments, a forward looking network is a lower cost network because of construction efficiencies. Maintenance rates applied to a lower cost network yield lower maintenance costs. Also, greater use of fiber in a forward looking network results in lower maintenance versus embedded simply because maintenance rates are lower on fiber plant.

In effect, the use of a forward looking network in USF studies inherently incorporates a productivity offset.

Preliminary Results

In addition to Sprint's disagreement with the overall approach of indexing plant, we would like to comment specifically on four of the preliminary input values presented at the December 10, 1998 workshop.

General Support Expense

Sprint believes that the general support expense input should be on the basis of a fixed amount per line and not on an E/I ratio basis. The reason is that the majority of Sprint's general support expense is not for maintenance of general support assets. In accordance with FCC accounting, Sprint's general support expense accounts include significant amounts of building rental, equipment rental, and expenses for services provided by our regional data processing centers. These types of expenses are cost causative by numbers of customers rather than plant. If inputs were on an E/I basis, and if cost models calculate general support investment based on a reduced, forward looking level of operating plant, then general support expenses would show drastic and unrealistic reductions.

Due to rental and computer service expenses, Sprint's general support expense as a percent of average investment for 1997 is 29% as opposed to the FCC preliminary input value range of 6.2% to 8.7%. Sprint proposes that this input should be on a per line basis. But, if an E/I ratio is used, the input range should be broadened to include the types of rental and computer service expenses discussed above. The FCC preliminary input value range of 6.2% to 8.7% would seriously understate Sprint's general support expense.

Aerial Cable Metallic, Underground Cable Metallic, and Buried Cable Metallic Expense

In all of these categories of expense, Sprint's inputs are significantly higher than the FCC preliminary input values presented at the December 10, 1998 workshop. These differences are summarized below. Sprint's averages are based on total Local Telephone Division regulated results for 1997.

	Sprint LTD Average	FCC Low Range	FCC High Range
Aerial Cable Metallic	8.71%	2.88%	6.19%
Underground Cable Metallic	3.82%	1.31%	1.96%
Buried Cable Metallic	6.18%	2.07%	4.82%

Again, Sprint believes that incorporating RBOC data into the derivation of the FCC ranges understates the ratios for smaller carriers. Higher levels of customer density in the RBOC's bring about more efficient operations that cannot be duplicated by smaller carriers. Maintenance in Sprint's non-rural territories will naturally be higher than that of the RBOC's since our territories are more sparsely populated. The intent of USF is to compensate high cost carriers, not RBOC's. Therefore, inputs should not be based on RBOC data. These results again point to the importance of basing inputs on study area data.

In summary:

- Sprint believes that a current to book ratio should not be used because it does not allow for the recovery of forward looking maintenance expenses over the economic life of assets. Also, use of a current to book ratio is inconsistent with the cost of money concepts employed in cost models.

- Maintenance ratios applied to forward looking investment yield cost savings due to construction efficiencies and a higher mix of fiber in the network.

- Study area data should be used to derive maintenance ratios and split cable between copper and fiber. If necessary, carriers should provide supplemental data necessary to split copper and fiber cable.

- No productivity offset is necessary because the use of a forward looking network inherently incorporates reductions for productivity.

- The proposed input ranges for general support assets, metallic aerial cable, metallic underground cable, and metallic buried cable understate expenses. General support inputs should be on the basis of expense per line. And, all inputs should be based on study area data that recognizes the variability in efficiency among carriers brought about by the relative customer density of operating territories.

Sprint
Forward Looking Maintenance Reductions - Attachment A
Comments On Preliminary USF Input Values - Plant Specific Expenses

Plant Specific Expense Amounts Are The Total Of Switching, Transmission & Cable & Wire Facilities Expense Accounts

	ARMIS 1997 Expenses	Forward Looking Expenses	% Change from Embedded
Florida	138,863	100,181	-28%
Nevada	43,032	30,124	-30%

Sprint
Maintenance Example - Attachment B
Comments On Preliminary USF Input Values - Plant Specific Expenses

- Example Asset With 10-Year Life
- Company Begins Doing Business in Year-1
- Additions & Retirements Occur at Mid-Year
- Year-1 Addition is Retired in Year-11
- Beginning Maintenance Rate 10%
- Inflation Rate For Both Additions and Maintenance is 3%

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Additions	Year 1	$ 1,000																			
	Year 2		$ 1,030																		
	Year 3			$ 1,061																	
	Year 4				$ 1,093																
	Year 5					$ 1,126															
	Year 6						$ 1,159														
	Year 7							$ 1,194													
	Year 8								$ 1,230												
	Year 9									$ 1,267											
	Year 10										$ 1,305										
	Year 11											$ 1,344									
	Year 12												$ 1,384								
	Year 13													$ 1,426							
	Year 14														$ 1,469						
	Year 15															$ 1,513					
	Year 16																$ 1,558				
	Year 17																	$ 1,605			
	Year 18																		$ 1,653		
	Year 19																			$ 1,702	
	Year 20																				$ 1,754
Retirements	Year 1 Addns											$ (1,000)									
	Year 2 Addns												$ (1,030)								
	Year 3 Addns													$ (1,061)							
	Year 4 Addns														$ (1,093)						
	Year 5 Addns															$ (1,126)					
	Year 6 Addns																$ (1,159)				
	Year 7 Addns																	$ (1,194)			
	Year 8 Addns																		$ (1,230)		
	Year 9 Addns																			$ (1,267)	
	Year 10 Addns																				$ (1,305)
Telephone Plant In Service		$ 1,000	$ 2,030	$ 3,091	$ 4,184	$ 5,309	$ 6,468	$ 7,662	$ 8,892	$ 10,159	$ 11,464	$ 11,808	$ 12,162	$ 12,527	$ 12,903	$ 13,290	$ 13,688	$ 14,099	$ 14,522	$ 14,958	$ 15,406
Average TPIS		$ 500	$ 1,515	$ 2,560	$ 3,637	$ 4,746	$ 5,889	$ 7,065	$ 8,277	$ 9,526	$ 10,811	$ 11,636	$ 11,985	$ 12,344	$ 12,715	$ 13,096	$ 13,489	$ 13,894	$ 14,311	$ 14,740	$ 15,182
Maintenance	Year 1 Addns	$ 50.00	$ 103.00	$ 106.09	$ 109.27	$ 112.55	$ 115.93	$ 119.41	$ 122.99	$ 126.68	$ 130.48	$ 67.20	--	--	--	--	--	--	--	--	--
	Year 2 Addns	--	$ 51.50	$ 106.09	$ 109.27	$ 112.55	$ 115.93	$ 119.41	$ 122.99	$ 126.68	$ 130.48	$ 134.39	$ 69.21	--	--	--	--	--	--	--	--
	Year 3 Addns	--	--	$ 53.05	$ 109.27	$ 112.55	$ 115.93	$ 119.41	$ 122.99	$ 126.68	$ 130.48	$ 134.39	$ 138.42	$ 71.29	--	--	--	--	--	--	--
	Year 4 Addns	--	--	--	$ 54.64	$ 112.55	$ 115.93	$ 119.41	$ 122.99	$ 126.68	$ 130.48	$ 134.39	$ 138.42	$ 142.58	$ 73.43	--	--	--	--	--	--
	Year 5 Addns	--	--	--	--	$ 56.28	$ 115.93	$ 119.41	$ 122.99	$ 126.68	$ 130.48	$ 134.39	$ 138.42	$ 142.58	$ 146.85	$ 75.63	--	--	--	--	--
	Year 6 Addns	--	--	--	--	--	$ 57.96	$ 119.41	$ 122.99	$ 126.68	$ 130.48	$ 134.39	$ 138.42	$ 142.58	$ 146.85	$ 151.26	$ 77.90	--	--	--	--
	Year 7 Addns	--	--	--	--	--	--	$ 59.70	$ 122.99	$ 126.68	$ 130.48	$ 134.39	$ 138.42	$ 142.58	$ 146.85	$ 151.26	$ 155.80	$ 80.24	--	--	--
	Year 8 Addns	--	--	--	--	--	--	--	$ 61.49	$ 126.68	$ 130.48	$ 134.39	$ 138.42	$ 142.58	$ 146.85	$ 151.26	$ 155.80	$ 160.47	$ 82.64	--	--
	Year 9 Addns	--	--	--	--	--	--	--	--	$ 63.34	$ 130.48	$ 134.39	$ 138.42	$ 142.58	$ 146.85	$ 151.26	$ 155.80	$ 160.47	$ 165.28	$ 85.12	--
	Year 10 Addns	--	--	--	--	--	--	--	--	--	$ 65.24	$ 134.39	$ 138.42	$ 142.58	$ 146.85	$ 151.26	$ 155.80	$ 160.47	$ 165.28	$ 170.24	$ 87.68
	Year 11 Addns	--	--	--	--	--	--	--	--	--	--	$ 67.20	$ 138.42	$ 142.58	$ 146.85	$ 151.26	$ 155.80	$ 160.47	$ 165.28	$ 170.24	$ 175.35
	Year 12 Addns	--	--	--	--	--	--	--	--	--	--	--	$ 69.21	$ 142.58	$ 146.85	$ 151.26	$ 155.80	$ 160.47	$ 165.28	$ 170.24	$ 175.35
	Year 13 Addns	--	--	--	--	--	--	--	--	--	--	--	--	$ 71.29	$ 146.85	$ 151.26	$ 155.80	$ 160.47	$ 165.28	$ 170.24	$ 175.35
	Year 14 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 73.43	$ 151.26	$ 155.80	$ 160.47	$ 165.28	$ 170.24	$ 175.35
	Year 15 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 75.63	$ 155.80	$ 160.47	$ 165.28	$ 170.24	$ 175.35
	Year 16 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 77.90	$ 160.47	$ 165.28	$ 170.24	$ 175.35
	Year 17 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 80.24	$ 165.28	$ 170.24	$ 175.35
	Year 18 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 82.64	$ 170.24	$ 175.35
	Year 19 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 85.12	$ 175.35
	Year 20 Addns	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	$ 87.68
Total Maintenance		$ 50.00	$ 154.50	$ 265.23	$ 382.45	$ 506.48	$ 637.60	$ 776.13	$ 922.41	$ 1,076.75	$ 1,239.53	$ 1,343.92	$ 1,384.23	$ 1,425.76	$ 1,468.53	$ 1,512.59	$ 1,557.97	$ 1,604.71	$ 1,652.85	$ 1,702.43	$ 1,753.51
Average Maintenance Rate		10.00%	10.20%	10.36%	10.51%	10.67%	10.83%	10.98%	11.14%	11.30%	11.46%	11.55%	11.55%	11.55%	11.55%	11.55%	11.55%	11.55%	11.55%	11.55%	11.55%

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Maintenance Example - Attachment C
Comments On Preliminary USF Input Values - Plant Specific Expenses

			Annual & Average Maintenance Rate
Addition		$ 1,000.00	
Maintenance	Year 1	50.00	10.00%
	Year 2	103.00	10.30%
	Year 3	106.09	10.61%
	Year 4	109.27	10.93%
	Year 5	112.55	11.26%
	Year 6	115.93	11.59%
	Year 7	119.41	11.94%
	Year 8	122.99	12.30%
	Year 9	126.68	12.67%
	Year 10	130.48	13.05%
	Year 11	67.20	13.44%
Total Maintenance & Average Rate		$ 1,163.58	11.64%

- Example Asset With 10-Year Life
- Addition Occurs at Mid-Year
- Beginning Maintenance Rate 10%
- Inflation Rate For Maintenance is 3%