e. Different Network Interface Devices (NID) are used for business and residence locations.

f. Branch cables are sized to the number of pairs for housing units and business locations.

Transport

The BCPM Transport module is based upon Synchronous optical network (SONET) technology. SONET is a set of standards for optical (fiber optic) transmission. It was developed to meet the need for transmission speeds above the T3 level (45 Mbps) and is generally considered the standard choice for transmission devices used with broadband networks.

SONET enables efficient use of installed fiber; it taps the latent capacity already in the network. SONET allows new network configurations, including ring networks, which have a greater degree of survivability than traditional mesh networks. The transport module has three different size/bandwidth SONET terminals (OC3, OC12, OC48). The Model's algorithms select the appropriate terminal size/bandwidth based on traffic demands, making it an efficient model while building in redundancy to the network.

The BCPM 3.1 transport module uses manual digital cross connect systems as opposed to automated cross connect systems. In modeling basic service, BCPM 3.1 provides the cost of interoffice transport connections of umbilical switching trunks to a remote.

Equipment items included in the BCPM transport module include the following:

Termination Equipment

Fiber Tip Cable (Per Fiber)
Fiber Patch Panel (Per Fiber)
Sonet Terminal Shelf (OC3)
  DS3 Card
  DS1 Card (Per DS1)
Sonet Terminal Shelf (OC12)
  OC3 Card
  3 DS3 Card (OC12)
Sonet Terminal Shelf (OC48)
  OC3 Card
  3 DS3 Card (OC48)
DSX3 Cross Connect Shelf
DSX3 Cross Connect Card
DSX1 Cross Connect Jack Field
Channel Bank Shelf
Channel Bank Card

Mileage Equipment
Aerial Fiber (per fiber mile)
Underground Fiber (per fiber mile)
Buried Fiber (per fiber mile)

Installation and Sheath
Aerial Fiber (per fiber)
Underground Fiber (per fiber)
Buried Fiber (per fiber)

Fiber Repeaters
OC3
OC12
OC48

(b) Explain how this technology is the least-cost, most-efficient, and reasonable technology currently being deployed for providing the supported services that are reflected in your study. Are technology determinations based on engineering practice rules of thumb or explicit optimization processes? If relying on engineering practices, provide any studies that show that these practices result in a least-cost network. Describe any optimization routines or engineering rules of thumb that are used in the study to achieve a least-cost, most-efficient, and reasonable network design. In your response, please answer the following questions:

The BCPM 3.1 establishes an optimal grid size that is determined by adhering to sound engineering practices that reflect forward looking, least cost technology for providing basic service.

1. Describe how the study determines whether feeder, sub-feeder, and distribution plant should consist of fiber or copper, and whether electronics, such a T-1 carrier system, are used in the feeder and subfeeder plant. Also, please describe the gauge(s) of copper considered in the study.

The type of cable used in the feeder system is determined based on the specified copper/fiber breakpoint. The copper/fiber breakpoint is a user adjustable input; however, the default input for the copper/fiber breakpoint is 12,000 feet. A copper/fiber breakpoint of 12,000 feet requires placing copper in the feeder if the maximum loop length from the wire center to all customers within an ultimate grid is less than 12,000 feet. If the loop length for any customer in the ultimate grid exceeds 12,000 feet, fiber is placed in the feeder to serve all customers in the ultimate grid. For all loops, cable beyond the DLC site is copper.

Within a grid, if the length of copper from the DLC to the last lot in a quadrant is less than 11,100 feet, 26 gauge cable is used to serve all

customers. In those circumstances where the distance from the DLC to the last lot is greater than 11,100 feet, 24 gauge wire is used in all cables to and within the distribution quadrant. Where distances exceed 13,600 feet, extended range plug-ins are installed on lines that exceed 13,600 feet.

2. Describe how the model determines the feeder and subfeeder paths that connect distribution areas to the wire center. Does the model rely on current feeder paths or does the model choose a different path? If the study or model determines feeder paths, describe the algorithm that determines the feeder path. Similarly, a model will connect customer locations within a distribution area to the serving area interface. Does the model employ an optimization routine or employ a rule of thumb for determining distribution routes?

The BCPM 3.1 employs a multi-step process to design feeder. First, a maximum of four routes runs north, south, east and west for ten kilofeet from the central office. At this point a decision is made whether to angle or split the feeder, based on population concentrations. Any decision to angle or split the feeder at this point is based on the outcome of a test to determine whether this produces the least cost network. Subfeeder branches from the main feeder, every 1/200th of a degree boundary within ten kilofeet of the central office, and at most every 1/25th of a degree boundary beyond ten kilofeet from the central office. The direction of branching varies depending on whether or not the feeder has been directed at an angle from the cardinal direction. The BCPM 3.1 designs plant to connect customers based on the assumption of equal square-sized lots within square distribution areas whose total area is equal to the length of roads in the populated microgrids in the quadrant of the ultimate grid, times one thousand feet.

3. Describe how the study determines whether cable should be placed as either aerial, underground (conduit), or buried. Please identify whether the study assumes that plant mix decisions will be affected by zoning restrictions and, if so, how.

The BCPM 3.1 determines the mix of aerial, underground or buried cable, by specific terrain and density factors for the ultimate grid involved. The model does not explicitly include zoning restrictions in plant mix decisions.

Distribution

Distribution plant mix is determined based one of three terrain types, each of which has an input table: normal, soft rock, or hard rock. Within each input table, the user may input a plant mix (percent aerial, buried, and underground) for each of nine density zones.

Feeder

Feeder plant mix is based on two sets of plant mix tables: one for copper and one for fiber. Both copper and fiber sets contain separate

tables for normal, soft rock, and hard rock terrain types. Each terrain type table contains plant mixes for each of nine density zones.

Interoffice

The BCPM Transport module uses a fiber plant mix table similar to that of the feeder module. Each terrain type (for normal, soft rock, and hard rock) table contains plant mixes for each of nine density zones.

In additions to the structure dimensions captured in the tables, BCPM recognizes the impacts of water table depth and slope (slope creates a variation in structure cost proportional to the additional distance created). BCPM, with its flexibility of input values allows the user to incorporate all relevant factors in the placement decision without resorting to an override process that is beyond user control.

The BCPM recognizes common zoning restrictions in its selection of DLC devices and Feeder Distribution Interfaces (FDI).

4. Does the study incorporate wireless technology? If so, please describe.

The BCPM 3.1 does not explicitly include wireless technology.

5. Does the study incorporate host-remote switching configurations? If so, how? In your explanation, please discuss how host locations are identified and how costs are allocated among customers in wire centers that are part of host-remote relationships.

The NPRM, at Paragraph 122, tentatively concluded that the model should enable the placement of host switches in certain wire centers and remote switches in certain wire centers. BCPM 3.1 meets these requirements. BCPM 3.1 has separate switch models for host, remote and stand-alone switches. The BCPM 3.1 places hosts and remotes based on the nature of the switch that is currently in that switching node, according to the LERG. The BCPM 3.1 Switching Module has a detailed method for allocating costs of the switches on the basis of functional categories of investment, so that customers in the host-remote relationship, pay for the cost of the functions they use. Switching investments are allocated among customers as follows: The processor investment per line is determined by a three-step process that allocates the host processor investment across all switches on the host/remote complex. The first step is to divide the total USF processor investment for all switches on the complex by the total number of lines on the complex. This produces a host processor investment per line. The second step is to divide the processor investment for each remote switch by its associated number of lines. This produces a remote processor investment for each remote. The final step is to compute the total processor investment per line for each switch. For standalone switches, this is simply the processor investment from step 1. For hosts and remotes in the same rate center, the per line investment is the

weighted average of the host investment for the host and the host plus remote investments for each remote. This produces a single processor investment per line for all switches in the rate center. For remotes located outside the host rate center, the processor investment is the sum of the host processor investment per line and the remote processor investment per line.

The trunking and Signaling System (SS7), a protocol, host office investments must be allocated by complex, since remotes are assumed not to have these facilities and use the trunking and signaling resources of the host. For each complex, BCPM divides the host USF trunking investment by the local trunk usage for all switches on the complex. SS7 investments are handled similarly.

(c) Describe how the study incorporates assumptions that the incumbent LECs' wire centers are the center of the loop network and that the outside plant terminates at the incumbent LECs' current wire centers.

The starting point of the BCPM 3.1 design is the existing central office locations. The model uses the wire center V and H coordinate location information from Bellcore's Local Exchange Routing Guide (LERG) to locate the central office within the wire center. Feeder routes are designed to begin at this point, and move out to cover the wire center geography based on the methodology explained in Section B.1.b. (above)

(d) Describe how the loop design incorporated into the study does not impede the provision of advanced services while still meeting the criterion in (b), above.

The loop design of the BCPM 3.1 does not impede the provision of advanced services. The voice grade service that the design would provide includes the capability to support currently available modems for dial up access. Loaded loop plant is not used in the BCPM 3.1.

The BCPM 3.1 is designed carefully to observe required limits for loading and resistance by limiting copper loop lengths to twelve kilofeet. The BCPM 3.1 design is based on 26 gauge cable in the feeder and 26 and 24 gauge cable in the distribution. This allows the design to meet both the 1500 ohm supervisory limit of today's digital switches and the 900 ohm powering limit of digital loop carrier line cards, without requiring the use of much more expensive extended range cards. By avoiding bridged-tap, the BCPM 3.1 design also removes capacity area concerns. When the demand in a grid exceeds the capacity of copper cables, the BCPM 3.1 uses digital loop carrier systems for voice grade services.

(e) Describe how distances are measured in the model (e.g., does the model use airline distances, adjusted airline distances, rectilinear distances, or road distances)? Please identify in each portion

of the model in which a particular distance metric is used and why that metric was selected.

The BCPM 3.1 uses road distances to size the distribution area by multiplying such road distances in populated microgrids in a quadrant of an ultimate grid by one thousand feet. All of these uses of road distance are based on giving effect to the intelligence about customer location that is embodied in the location and length of roads in the census block. Once customer locations and distribution areas have been established, plant is built using rectilinear distances, except where feeder is angled, in which case distance along the feeder and subfeeder would be airline.

(f) Do wire center line counts equal actual incumbent LEC wire center line counts? If a closing factor is used to achieve this equality, describe the size of the closing factor and how it is used in the study. If the study's wire center line counts do not equal actual incumbent LEC wire center line counts, explain why not.

The BCPM 3.1 wire center line counts for U S WEST, agree with US WEST's actual wire center line counts. Wire counts do not equal incumbent LEC wire center line counts for the other three Nebraska non-rural LECs.

(g) Does the study's average loop length reflect the incumbent LEC's actual average length? If not, explain why not.

No. The BCPM 3.1 builds to all housing units while U S WEST's actual loop lengths are built to current customers.

(h) Please describe how the study determines customer location. Specify the data that were used to determine the number and location of customers. In addition, please describe in detail if the study locates customers in grids, clusters, census blocks, census block groups, or other areas smaller than a wire center. How does the study identify serving areas?

BCPM 3.1 determines customer location through a four step process. First the model develops wire center boundaries and apportions customer information to the wire center. The model then establishes micro grids and aggregates micro grids into Ultimate Grids . Finally, distribution quadrants are established within each Ultimate Grid.

Wire Center Boundaries and Customer Information

BCPM 3.1 uses wire center data obtained from BLR to define the wire center boundaries. After the boundaries are established, the model determines which Census Block (CB) data fall within the corresponding wire center boundary. For the occasional CB that crosses a wire center

boundary, housing and business data is apportioned to the respective wire center based either on the proportion of land area, if the CB is less than 1/4 of a square mile, or on the proportion of roads, if the CB is greater than 1/4 of a square mile. The Bureau of the Census establishes CB boundaries based on roads and natural borders such as rivers. The CB data that provides household and housing unit line counts reflect 1990 Census data that have been updated based upon 1995 Census statistics regarding household growth by county. BCPM 3.1 also uses business line data obtained from PNR and Associates (PNR).

The final step is the creation of the variable size grids from the CB data within the wire center boundaries. The purpose of developing variable size grids is to simulate the basic telephone plant engineering units of a CSA and DA.

Establishing Microgrids

It is necessary to establish microgrids so that populated areas can be aggregated appropriately into telephone engineering CSAs and DAs. There are two phases of the grid process. The first phase entails assigning CB data to microgrids. "Microgrid" refers to the smallest grid size used in the grid process. A microgrid is 1/200th of a degree latitude and longitude. This corresponds to approximately 1,500 feet by 1,700 feet latitude and longitude. The entire serving wire center is partitioned into microgrids. Thus, each CB within the serving wire center is overlaid with microgrids (unless the entire CB falls within a single microgrid). Smaller CBs, typically located in the denser, urban areas, are aggregated into microgrids while larger CBs located in the rural areas may span multiple microgrids.

Since household and business line data are assigned at the CB level, this process requires apportioning CB line data to the corresponding microgrids. Two approaches are used to apportion this data to the microgrids, depending on the size of the CB. For CBs whose area is less than 1/4 of a square mile, (2,640 feet by 2,640 feet), encompassing approximately three to four microgrids, household and business line data is apportioned based on the land area of the microgrid used relative to the CB's total area.

For CBs with an area greater than 1/4 of a square mile, household and business line data is apportioned based on relative road lengths using actual road data obtained from TIGER/Line files [Topologically Integrated Geographic Encoding and Referencing from the US Census Bureau]. That is to say, the line data is apportioned based on the road length contained within a microgrid that traverses that CB, relative to the total road length within that CB. Since roads are used to locate customers, certain roads where customers are unlikely to reside, have been excluded from the road data. To illustrate the apportionment of household and business line data to microgrids based on relative road lengths, assume that the total road length associated with a particular CB is 60 miles and that 20 of those miles traverse a particular microgrid. Since (20 miles / 60 miles) = .333,

1/3 of the household and business line data is associated with that particular microgrid. At the end of phase one of the grid process, the total census housing unit and PNR business line data associated with a wire center have been apportioned to each of the microgrids comprising that serving wire center.

Aggregating Microgrids into Grids

The second phase of the grid process entails aggregating these microgrids into larger grids as appropriate. The ultimate size of the larger grids depends upon housing and business line data and technological constraints on the reasonable size of CSAs. In general, the largest ultimate grid size is 1/25th of a degree latitude and longitude in size or approximately 12,000 to 14,000 feet per side. Hereafter, grids 1/25th of a degree latitude and longitude are referred to as macrogrids. The macrogrid constrains the maximum copper distribution length from the DLC to the customer to 12,000 feet, in most cases.

To reduce the potential for isolated microgrids, BCPM 3.1 establishes fixed grid boundaries by overlaying macrogrids upon the microgrids. A total of 64 microgrids constitutes a macrogrid. These macrogrid boundaries constitute the maximum size grid associated with each respective group of 64 microgrids.

The ultimate grid size utilized essentially reflects the manner in which customers are clustered. Modeling grids that vary in size is tantamount to allowing clusters of customers associated with a particular CSA to vary in density and dispersion.

The algorithm for determining the ultimate grids is actually a multistage process built to satisfy engineering constraints, minimize processing time, and simplify computer code. The following provides the essence of the grid algorithm. The derivation of grids is essentially an iterative process where partitioning occurs if the number of lines within a grid is too large, or if other technological constraints become binding. The macrogrid is partitioned into smaller grids, if warranted, based on household and business line data associated with the underlying microgrids, and CSA guidelines. The iterative process partitions the macrogrid into four equally sized subgrids. In some instances, these subgrids, which are 1/50th of a degree latitude and longitude in size, become the ultimate size for that composite of microgrids. In other instances, the number of lines within a subgrid is still too large. In those instances, additional sub-partitioning occurs for the subgrids. Additional sub-partitioning continues to occur until all grids satisfy line size and technological constraints. The smallest grid allowed is the 1/200th of a degree latitude and longitude, the microgrid. The resulting ultimate grids have a composite household and business line count equal to the sum of the household and business lines for the associated underlying microgrids.

It is possible that, after completing this iterative process, small groups of isolated microgrids remain within the macrogrids that have less than 100 lines associated with each group. Such isolated microgrids do not warrant placement of a CSA within a group. Instead these small groups of microgrids are aggregated with ultimate grids within the macrogrid in which they reside, that are equal or larger in size, and are located closest to the road centroid of each small group of microgrids.

Partial grids arise from microgrids that intersect the wire center's boundaries and do not lie within a macrogrid. Partial grids with line demand less that 100 and smaller than 1/5th of a macrogrid in area and, therefore, not supportive of a CSA for that partial grid, are aggregated with the adjacent macrogrid that constitutes the longest border along that partial grid. This process is repeated for each macrogrid within the wire center boundaries.

Establishing Distribution Quadrants Within Each Grid

Once the ultimate grids have been established, each ultimate grid is segmented into four distribution quadrants. Each quadrant represents a potential DA. The latitude and longitude coordinates of the distribution quadrants are determined by first establishing the road centroid of the grid. The road centroid is calculated as the average horizontal and vertical point of all roads in the defined area.

Within each distribution quadrant, another road centroid is established. If a distribution quadrant does not contain any roads, that distribution quadrant is simply treated as an empty distribution quadrant. For each non-empty distribution quadrant, the total area that falls within a 500-foot buffer along each side of the roads within that distribution quadrant is calculated. The DA is modeled as a square whose size is equal to the total road buffer area. The center of each distribution quadrant's square DA is placed at the road centroid of the distribution quadrant. Such an approach provides a reasonable model of the required telecommunications network facilities for two reasons. First, households and businesses typically reside near roads and centering the distribution quadrant of the distribution area about the center of the roads establishes network facilities closer to where customers are located than does the geographic center of the distribution quadrant. Second, rights of way for telecommunications structure generally exist near roadways. This approach reduces requisite network facilities, given customers' actual location.

(i) How does the cost study determine the cost of the outside plant from the wire center to the customer locations identified in (a)? Does the cost study estimate the costs of a forward-looking network, or does the cost study rely on a loop length study? If the cost study relies on a loop length study, please describe how the cost study relies on the loop length study and provide the loop length study as part of the documentation

provided in response to II.(7)(a), above, including a discussion of the sampling methods used in the loop length study. Also, if a loop length study is used to estimate forward-looking costs, please compare the mix of loop technologies in the loop length study sample to the mix of technologies in the loops assumed by the cost study. If the mix of loop technologies assumed in the cost study is based on the mix of technologies in the sample, please justify the use of this assumption.

The BCPM 3.1 estimates the cost of a forward-looking network which is based on building loops of lengths necessary to reach all customers identified.

A key element of platform design in this regard is the determination of the length of the loop. The NPRM discussed this issue in Paragraph 44, and tentatively concluded:

The selected mechanism should calculate the population clusters' proximity to wire centers with more precision than the models currently permit. We seek comment on our tentative conclusions and also seek comment on how BCPM's uniform distribution algorithm and Hatfield's clustering algorithm could be modified to provide more accurate information regarding the locations of customers.

The BCPM 3.1 calculates the proximity of population clusters to the wire centers with far more precision than was the case with the version of the BCPM which the FCC considered in the NPRM.

At Paragraph 46 of the NPRM, the FCC sought comment on whether any commercial mapping software existed which could identify the locations of customers in all census blocks in a company's service area. At the same reference, the FCC sought comment on whether a model should impose a uniform grid structure over the service area to establish population clusters, determining the size of the cluster according to the constraints of electronic equipment used to provide universal service.

By using standard engineering practices based on CSAs and DAs, BCPM assures that the network will be able to meet service requirements for all customers.

(j) If the cost study meets criterion 1 in any way not captured by (a) through (h), please explain.

Criterion 2: Any network function or element, such as loop, switching, transport signaling, necessary to produce supported services must have an associated cost.

(a) Does the study contain costs associated with all network functions or elements (such as loop, switching, transport or signaling) necessary to produce supported services?

Yes. Within BCPM 3.1, each network function has an associated cost. This includes the local loop from the drop to the distribution to the feeder to the switch, with transport signaling, support plant, and the associated capital costs and operating expenses. The algorithms assure that sufficient plant and equipment are provided and are clearly documented and verifiable within the model software and methodology documentation.

(b) What non-supported services, if any, are currently included in your cost study; are the costs associated with the provision of advanced services included in your calculation of cost?

The BCPM 3.1 only supports local basic service.

(c) If the cost study meets criterion 2 in any way not captured by (a) and (b), please explain.

Criterion 3: Only long-run forward-looking economic cost may be included. The period used must be a period long enough that all costs may be treated as variable and avoidable. The costs must not be the embedded cost of the facilities, functions, or elements. The study or model, however, must be based upon an examination of the current cost of purchasing facilities and equipment, such as switches and digital loop carriers (rather than list prices).

Describe how the costs used in the study represent long-run, forward-looking costs. In particular, describe and verify how the costs of facilities and equipment used in the study reflect the current costs of purchasing those facilities and equipment.

BCPM 3.1 incorporates the forward-looking cost of purchasing and operating known and proven facilities, equipment and technologies. While switch (i.e., wire center) locations are assumed to be fixed, no equipment or technology is assumed to be embedded or fixed; all equipment is assumed to be variable and avoidable. Forward-looking costs are based on material prices net of discounts rather than list prices for equipment and material. The model does not rely upon embedded costs for facilities, functions or elements.

Criterion 4: The rate of return should be either the authorized federal rate of interstate services, currently 11.25 percent, or the state's prescribed rate of return for intrastate services.

(a) What rate of return is used in the cost study?

The NPSC has elected to use the authorized federal rate of 11.25%.

(b) Please provide an explanation of the basis for the rate of return used if it is different from the authorized federal rate of return on interstate services.

If available, please identify any documents (e.g., commission orders) supporting the value used in the study.

(c) If the cost study meets criterion 4 in any way not captured by (a) and (b), please explain.

Criterion 5: Economic lives and future net salvage percentages used in calculating depreciation expense should be within the FCC-authorized range and use currently authorized depreciation lives.

Please identify the depreciation rates and future net salvage percentages used in the study.

The NPSC has changed BCPM's default depreciation lives and future net salvage percentages pursuant to a Commission Order entered in Docket C-1633 on May 22, 1998. The inputs approved by the NPSC are as follows:

Depreciation Values						
Economic Life						
	Asset					
	Class		Value			
	Land		0			
	Motor Vehicles		8.5			
	Special Purpose Vehicles		14			
	Garage Work		14			
	Other Work		14			
	Buildings		37			
	Furniture		17			
	Office Support		12.5			
	General Purpose Computers		6			
	Switching		16			
	Circuit/DLC		11			
	Pole		25			
	Aerial Copper		20			
	Aerial Fiber		25			
	U/G Copper		25			
	U/G Fiber		25			
	Buried Copper		20			
	Buried Fiber		25			
	Conduit		55			
Net Salvage Value						
	Asset					
	Class		Value			
	Land		0			
	Motor Vehicles		10%			
	Special Purpose Vehicles		0%			
	Garage Work		0%			
	Other Work		7%			
	Buildings		3%			
	Furniture		0%			
	Office Support		0%			
	General Purpose Computers		0%			
	Switching		3%			
	Circuit/DLC		0%			
	Pole		-75%			

	Aerial Copper		-20%			
	Aerial Fiber		-20%			
	U/G Copper		-5%			
	U/G Fiber		-5%			
	Buried Copper		-10%			
	Buried Fiber		-10%			
	Conduit		-10%			

Criterion 6: The cost study or model must estimate the cost of providing service for all businesses and households within a geographic region. This includes the provision of multi-line business services, special access, private lines, and multiple residential lines. The inclusion of multi-line business services and multiple residential lines will permit the cost study or model to reflect the economies of scale associated with the provision of these services.

Describe how the study takes into account the cost of providing service for all business and households within a geographic region, including the provision of multi-line business services, special access private lines, and multiple residential lines serve household.

BCPM 3.1 includes the multi-line business services, special access and multiple residential lines. The Model includes the capability to include private lines, designated "non-switched working loops" within the Model. Thus, the user can collect and define private lines in running BCPM 3.1.

This study uses two steps to assure it takes into account the cost of providing service for all business and households within the geographic region.

First, the model identifies and locates housing units and businesses in the wire center area. The methodology used to accomplish this step is detailed in the answer to question B(1)(h)(above).

Second, the model provides two methods to develop the service needs of the households and businesses in the wire center. In the first method the user can directly input wire center line count information. As an alternative, the model uses a residence line multiplier, single business line multiplier and special access line multiplier to reflect the line needs in the wire center. The residence line multiplier is a factor developed at a state level from ARMIS and NERA data and is applied to the number of Housing Units to produce the number of residence lines served in the wire center. The single line business multiplier is also a state level factor developed from ARMIS and NERA data and when applied to the number of total business lines produces the number of single business lines in the wire center. The special access line multiplier is a factor developed from BCPM sponsor

studies and when applied to the number of total business lines produces the number of special access and private lines in the wire center.

Criterion 7: A reasonable allocation of joint and common costs should assign cost of supported services.

Describe how the study's methodology assigns a reasonable allocation of joint and common costs to the cost of supported services. What is the amount of common costs attributed to supported services, and what percentage does this represent of total common costs as identified in the study or model? Please explain how this amount was determined. Specifically, please identify how line-side port costs are identified as a portion of total switching costs.

BCPM 3.1 allows the user to input common cost expenses on a per line basis by account. Direct expenses can be applied on a per line basis or as a factor applied to investment by account.

Criterion 8: The cost study or model and all underlying data, formulae, computer software associated with the model should be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible.

(a) Please identify any underlying data, formulae, computations, or software used in study that are not available for review and comment, and explain why they are unavailable.

All underlying data, formulae, computations and software used in the study are available for review and comment.

(b) Please describe what steps were taken to determine that the study's outputs are plausible.

A continual refinement of BCPM has been done through a series of field tests comparing results with actual data; workshop challenges by state regulators, FCC staff members, and advocates for other proxy models; and numerous analytical studies. On March 2 and 3, 1998, BCPM sponsors filed Ex Parte documentation with the FCC discussing the results of tests done on the most recent output runs of both the BCPM and HAI models.

(c) Standardized presentation of outputs. If the state cost study is based on a version the HAI model, please file: the universal service calculation, cost summary, cost of network elements, and USOA detail breakdown (HAI 5.0 only) reports. If the state cost study is based on a version of BCPM, please file: the area-wide summary, key elements, aggregate support summary and plant summary reports. If the state cost study is based on neither BCPM nor HAI, please provide outputs in either of the BCPM or HAI formats just mentioned, or provide investment and expenses per study area by USOA accounts or ARMIS

rows, and show whether and how cost calculations differ across geographic areas.

Our outputs have been attached to this filing in a spreadsheet format. There is one spreadsheet for each of the four non-rural ILECs in Nebraska.

(d) If the cost study meets criterion 8 in any way not captured by (a) through (c), please explain.

The BCPM sponsors have made a web site available that provides model documentation, the model itself, and BCPM sponsor filings with the FCC. Additionally, the BCPM sponsors provide an 800 help line for questions concerning the model.

Criterion 9: The cost study or model should include the capability to examine the critical assumptions and engineering principles. These assumptions and principles include, but are not limited to, the cost of capital, depreciation rate fill factors, input costs, overhead adjustments, retail costs, structure sharing percentages, fiber-copper cross-over points, and terrain factors.

(a) Please describe the extent to which and how the user can examine and modify the cost study's critical assumptions and engineering principles.

All underlying data, formulae, computations and software used in the study are available for review and comment. Thousands of inputs are user changeable.

(b) Standardized presentation of inputs. Please provide the input values used in your study using the attached Excel spreadsheet document. If your study uses input values that are not identified in the Excel document, please add them to the end of the list in the appropriate category. You may also provide the standard presentation of inputs in electronic form in an identical spreadsheet prepared using any other commercially available spreadsheet software.

As part of this submission, the proxy model inputs have been requested. The format of the attached Excel spreadsheet provided by the FCC does not correspond to the BCPM input requirements, but rather appears similar to the Hatfield Input Spreadsheet. We have attached an input spreadsheet which we believe contains a comprehensive list of the BCPM inputs.

(c) If the cost study meets criterion 9 in any way not captured by (a) and (b), please explain.

Criterion 10: The cost study or model must deaverage support calculations to the serving area level at least, and, if feasible, to even smaller areas such as Census Block Group, Census Block, or grid cell in order to target universal service support efficiently.

(a) Describe the manner in which the study disaggregates investment calculations to study geographic areas, such as wire centers, census block groups, census blocks, or grid cells and identify the level to which cost calculations are disaggregated. For example, please describe how costs that are shared among customers in different geographic areas, such as feeder structures, are allocated.

BCPM calculates investment at the individual grid level. This analysis can then be aggregated to the CBG or wire center level. Per line costs are calculated based on the cost impact of each piece of plant structure on each individual line. To create the line cost per grid, the model calculates the cost impact of each piece of plant equipment that supports lines in the grid.

C. DEMONSTRATION THAT THE COST STUDY FULFILLS OTHER REQUIREMENTS OF THE UNIVERSAL SERVICE ORDER

1. "In order for the Commission to accept a state cost study submitted to [the Commission] for the purposes of calculating federal universal service support, that study must be the same cost study that is used by the state to determine intrastate universal service support levels pursuant to section 254(f)."

If your state has an intrastate universal service support mechanism for non-rural LECs please demonstrate that the cost study being submitted for the purpose of calculating federal universal service support is the same cost study that will be used by your state to determine intrastate universal service support levels pursuant to Section 254(f) of the Telecommunications Act of 1996.

Nebraska has not established a intrastate universal service fund for non-rural or rural LECs.

2. "We also encourage a state, to the extent possible and consistent with the criteria, to use its ongoing proceedings to develop permanent unbundled network element prices as a basis for its universal service cost study." Please explain the interrelationship, if any, between this universal service cost and the cost study that will be used by your state in developing permanent prices for unbundled network elements.

Permanent unbundled network element prices have not been developed yet in Nebraska. When we address that issue, consideration will be given to the relationship between the universal service cost study selected herein and the cost study to be used for unbundled network elements. This issue will be fully explored in our pricing dockets.