ORIGINAL

REBUTTAL TESTIMONY OF MR. JAMES W. STEGEMAN
ON BEHALF OF BELLSOUTH TELECOMMUNICATIONS, INC.
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 990649-TP
(PHASE II)
August 21, 2000

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS AFFILIATION.

A. My name is James W. Stegeman. I am the President of CostQuest Associates, Inc. I am testifying on behalf of BellSouth Telecommunications ("BellSouth", "BST" or the "Company").

Q. ARE YOU THE SAME JAMES STEGEMAN WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING ON MAY 1, 2000?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. In my rebuttal testimony, I address BSTLM issues raised in the rebuttal testimony of John C. Donovan and Brian F. Pitkin, on behalf of AT&T Communications of the Southern States, Inc. ("AT&T") and MCI WorldCom, Inc. ("MCI").

Also, for the reader's convenience, I have provided a list of acronyms used as an attachment to my testimony as Exhibit JWS-1.

Q. BELLSOUTH RECENTLY MADE AN UPDATED FILING OF BSTLM IN THIS PROCEEDING ON AUGUST 16, 2000. DOES THIS NEW VERSION OF THE BSTLM ADDRESS SOME OF THE ISSUES RAISED BY MR. DONOVAN AND MR. PITKIN?

A. Yes. Mr. Donovan and Mr. Pitkin raise several issues concerning the speed of BSTLM, structure costs in the model, and drop routing.

BellSouth has addressed their concerns as follows:

Speed:

On pages 6 and 8, Mr. Donovan and Mr. Pitkin make mention of the fact that BSTLM requires a significant amount of time to process the state of Florida. We are aware of the speed issue and are constantly looking for ways to increase the granularity and accuracy of reported information while decreasing the model's run time and improving the response time of reporting. The new version of BSTLM has made major strides in this area. First, the new version's summary process has been reengineered so that the state of Florida can be processed in ONE run. This eliminates 3 of 6 runs that need to be processed. Second, the processing time for Florida has been reduced so that the entire state can now be run in well under 24 hours (machine dependent). Third, the reports from the system can now be obtained in a fraction of the time needed in Version 1.2.

Fourth, the process wizard has been improved to allow the user to set up all processing, all reports, and all CostCalculator files in one step. Finally, the interaction of the system with Excel has been modified to reduce the possibility of system shutdown that has been noted on a few machines.

Structure:

On page 30, Mr. Donovan and Mr. Pitkin state that they are prevented from developing structure costs within the BSTLM. In the original filing, the structure tables were hidden and the associated documentation was omitted. This was due to the fact that BellSouth applies in-plant factors in the CostCalculator to the material investment generated by BSTLM rather than using BSTLM to produce the structure costs. In recognition of the fact that other parties may want to have BSTLM produce the structure costs, the new version of BSTLM has all structure input tables turned on and the associated documentation added into the BSTLM Methodology Manual.

Drop Routing:

On pages 42 and 43, Mr. Donovan and Mr. Pitkin take issue with how the model routes the drop. They recommend that the drop be run from the corner of a lot at an angle to the geocoded customer position rather than the rectilinear approach used in Version 1.2 of BSTLM. In the new version of BSTLM, the user is now able to select the method used to route the drop. By selecting the appropriate value for the input, the drop is either run rectilinearly or at an angle from the corner of the lot[1]. BellSouth chose to use the angled drop approach in the August 16th, 2000 filing.

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[1] The maximum lot width must be specified as a new GIS Rule.

However, the impact of this change for Florida is not the 21.7 percent change postulated by Mr. Donovan and Mr. Pitkin. Their analysis is based on a DTBT being placed at a lot corner. In this situation, the angled drop change compared to the rectilinear distance will result in the highest percentage change compared to any other DTBT placements that may actually occur in the model. In reality, the model's approach to DTBT placements results in some DTs being placed directly in front of a customers location or some DTs being placed so that the drop route first must run in front of other customer lots. For these non-lot corner placed DTBTs, the percentage change will be less than what Mr. Donovan and Mr. Pitkin demonstrate. In fact, the realized impact of the drop routing change is minimal as it only changes costs by less than a penny a month.

Q. ON PAGE 7, MR. DONOVAN AND MR. PITKIN STATE THAT THE INABILITY TO PRODUCE MAPS LIKE THOSE IN MY DIRECT TESTIMONY IS A DISADVANTAGE IN REVIEWING BSTLM. CAN YOU COMMENT?

A. BellSouth has provided to AT&T/MCI the MapInfo tables used to develop the charts presented in my direct testimony. These tables allow AT&T and MCI to not only produce the maps I used, but also lets AT&T and MCI view the results of the model for the entire wire center. In addition to these mapping tables, BSTLM has a "Tree" viewing capability. This auditing function allows the user to graphically depict the modeled network. While this is not as "pretty" as the MapInfo picture, it is a useful tool in understanding the network that has been designed. Further, the Audit Tree view is dynamic, allowing a user to review Node information such as equipment size, quantity and capacity demanded. This information can even be translated to the investment logic allowing an interested party to determine the BSTLM investment for a specific element within the modeled network.

Q. MR. DONOVAN AND MR. PITKIN RECOMMEND THAT "WORKAROUND" TECHNIQUES BE USED TO CORRECT PERCEIVED SHORTCOMINGS IN BSTLM. SPECIFICALLY THEY MENTION THE DLC VENDOR SELECTION AND THE APPORTIONMENT OF FIBER AND DLC COSTS. SHOULD THE "WORKAROUNDS" PROPOSED BY MR. DONOVAN AND MR. PITKIN BE IMPLEMENTED?

A. No. First, I believe the new version of the model produces accurate estimates of material costs for BellSouth UNE purposes. Second, I am concerned that some of the changes Mr. Donovan and Mr. Pitkin recommend would introduce more bias than exists in the claimed deficiencies that they are trying to correct. Let me cover the two items discussed by Mr. Donovan and Mr. Pitkin.

DLC Vendor Selection:

- While this is partially an input issue that is covered by Daonne Caldwell, it is also a BSTLM modeling issue. The current DLC costing approach in BSTLM uses a melded cost at each DLC location. While this approach does not reflect the reality that a single vendor is typically used at each location, it does represent the true proportion of vendor equipment installed in the state of Florida.
- Mr. Donovan's and Mr. Pitkin's proposed approach, on the other hand, may be too simplistic and does not reflect the real proportion of vendor equipment

installed in Florida by BST, nor the engineering rationale beyond cost. Their approach ignores the fact that DLC vendor selection is not only a function of material cost, but also a function of installation costs, maintenance costs, and efficient deployment criteria. In addition to the problem of using a single vendor, the analysis of the two vendors' total DLC cost in Exhibit JCD/BFP 9 simplistically assumes that all DLC installations use 100% POTS cards and ignores the fact that there are many instances of Indoor DLC systems.

Allocation of Fixed costs

- I agree that any allocation of shared costs should be competitively neutral and fair, but it should also produce unbiased results. The DS0 approach to apportioning the Fiber and portions of the DLC is reasonable and no more "arbitrary" than the use of Service counts or copper pair counts. Indeed, it appears that Mr. Donovan and Mr. Pitkin agree that DS0 capacity is a valid approach to use to size the DLC systems. This seems to indicate that there is some cost causality between DS0 and required DLC equipment. Such cost causality indicates merit to apportioning costs by DS0s.
- However, even assuming that service counts or pair counts were an appropriate allocation method, Mr. Donovan's and Mr. Pitkin's workaround is still unacceptable, particularly since they recognize (page 39) that their approach may underbuild the network. This introduction of a bias should be a major cause of concern.

To test their approach and determine if a true bias is introduced, I performed a comparison run of the new BSTLM (BST2000 scenario). One run was made using the model as filed on August 16, 2000. A second run was made using Mr. Donovan's and Mr. Pitkin's proposed DS0 equivalents contained in Exhibit JCD/BFD 10. As correctly assumed by Mr. Donovan and Mr. Pitkin on page 39, the use of their proposed workaround did in fact underbuild the Florida network by almost 3%. It should also be noted that the services listed by Mr. Donovan and Mr. Pitkin in Exhibit JCD/BFD 10 represent less than 1% of the services provisioned off of fiber fed DLC systems.

An underbuilding of the network by 3% seems an unreasonable bias for dealing with services that represent less than 1% of the services provisioned out of fiber fed DLC systems. Therefore, I would recommend that it is best to continue with the current BSTLM's use of DS0s to apportion the costs of Fiber and portions of the DLC equipment. The DS0 approach is fair, neutral, unbiased, and is supported by some amount of cost causality.

Q. MR. DONOVAN AND MR. PITKIN CONTEND THAT THE FACT THAT SOURCE CODE HAS NOT BEEN OPENED UP FOR MODIFICATION MAKES THIS SYSTEM UNREVIEWABLE AND HAVE CALLED IT A "PROTOTYPE" SYSTEM. DO YOU AGREE?

A. No. It is true that the source code has not been released in electronic format for other parties to modify. However, we have released the code in a document that parties could review and have been willing to entertain and implement suggested changes from other parties based upon such review. Finally, I would not characterize the model as a prototype. A prototype is typically a proof of concept model that is used in the development of portions of complex models. This model is a complete platform that has been tested, verified, and shown to work.

Q. MR. DONOVAN AND MR. PITKIN STATE ON PAGE 35 THAT "BECAUSE IT IS SERVICE ORIENTED, RATHER THAN ELEMENT ORIENTED, THE BSTLM MUST ALLOCATE THE SHARED EQUIPMENT INVESTMENT TO THE INDIVIDUAL SERVICES THAT USE THE EQUIPMENT". IS THIS CORRECT?

A. It is not clear what Mr. Donovan and Mr. Pitkin mean by this statement. Nor is BellSouth clear as to any real implications this has for estimating costs. BSTLM is a model that builds a network to services purchased by customers. BSTLM does look at services and their impact on the network that needs to be constructed. In this regard, BSTLM is different from proxy models that Mr. Donovan and Mr. Pitkin have previously endorsed. The proxy models simplified the complex task of building a network to serve the multitude of services that are actually demanded. However, I am not sure how the BSTLM's approach would impact the allocation and definition of what is a shared facility. If in the end, we are looking at a forward-looking approach to costs, BSTLM simply builds up the costs of elements used by each service, which is the approach used by proxy models elsewhere.

Q. MR. DONOVAN AND MR. PITKIN MAKE COMPARISONS OF THIS MODEL TO THE BCPM AND HAI TO SUPPORT THE RATIONALE FOR THEIR MUCH LOWER RESULTING UNE COSTS. IS THIS A VALID COMPARISON?

A. No. I recommend that Mr. Donovan's and Mr. Pitkin's comparison to the HAI and BCPM and their resulting conclusions be dismissed, since there are a number of issues that make their comparison of BSTLM to these proxy models invalid. First, the BCPM and HAI were designed as universal service models. In fact, the BCPM was never touted as a UNE model, contrary to the statement of Mr. Donovan and Mr. Pitkin on page 23 that "BCPM...estimates ...cost of providing UNEs". This is important in that a universal service model is based on a different set of assumptions. The most important of which is that the model reflect the cost of the most efficient potential provider in an area based upon publicly available inputs. By comparison, a UNE model is typically based upon as much actual data that represents the costs the incumbent carrier is expected to incur in providing service on a going forward basis. While the UNE and USF approaches may be similar, they can lead to differences in modeling and results. Second, the BCPM and HAI relied upon public sources of customers, wire centers, and inputs that do not reflect the actual network, practices, customers, and wire centers of BellSouth. Third, the networks built are based upon different engineering inputs, guidelines, and modeling approaches. For example, both the BCPM and HAI build to an abstraction of where customers may be. The BSTLM builds to the roads customers live on. In addition, the BCPM was based upon a maximum DLC size of approximately 1344 lines while the BSTLM uses a maximum design size of 2016.

In addition, in their use of route distances, Mr. Donovan and Mr. Pitkin have compared apples to oranges. The BCPM and HAI do not break out the shared routing of Feeder and Distribution. Therefore, if 5 miles, for example, of route were shared between a distribution and feeder route, the BCPM and HAI would have reported this in both the distribution and feeder distances. On the other hand, the way the BSTLM route mileage is reported by Mr. Donovan and Mr. Pitkin, this distance shows up in NEITHER the distribution nor feeder. Rather, it shows up as a shared route. If we restated Exhibit JCD/BFP 3 to reflect these differences, it would show the following:

Equipment Type	BCPM	BSTLM	HAI
Distribution Route Miles	44,504	43,063	47,751
Feeder Route Miles	17,466	7,853	10,819
Total	61,970	50,916	58,570

From this restated table, we can see that the differences are not as great as represented by Mr. Donovan and Mr. Pitkin. As a final point, the models design the network differently. Customers are neatly laid out in the BCPM and HAI with drop conveniently running from the corner of a lot. The BSTLM places the distribution terminals more realistically to serve actual customer locations. This may mean that the models may define portions of the route as feeder, distribution or drop differently. When one considers that the BSTLM places over 50,000 miles of drop cable in addition to the route mileage of distribution and feeder, the classification of the route distance as either drop, distribution, or feeder could have a dramatic influence on any potential comparisons between the models.

Q. MR. DONOVAN AND MR. PITKIN MAKE NUMEROUS REFERENCES TO BSTLM'S USE OF COST OPTIMIZATION. DOES THE MODEL OPTIMIZE ROUTE COST OR ROUTE DISTANCE?

A. The BSTLM minimizes total network component placements (DTBTs, DLCs) while minimizing the route distance in between the components using the Minimum Spanning Road Tree (MSRT). We believe that this approach will result in minimized cost. However, the model does not minimize costs directly in the optimization. Part of the confusion stems from the fact that there was unused variable in the model left from our true "Prototyping". This variable "MinimizeTotDistFDICost" is not used in the model. In the latest release, this variable has been removed from the inputs to eliminate any confusion.

Q. ON PAGES 40-42 OF THEIR REBUTTAL, MR. DONOVAN AND MR. PITKIN CLAIM THAT THE MODEL'S MSRT APPROACH MAY OVERSTATE THE NETWORK FACILITIES. IS THIS TRUE?

A. No. In part, these claims may stem from the fact that the original documentation on the MSRT was not clear. This section of the documentation has been rewritten as part of the August 16th, 2000 filing to provide a clearer overview of how the model constructs both the feeder and distribution routes. We believe that the following explanation and the improved documentation should clear up AT&T's and MCI's purported issue. In fact, as explained below, the BSTLM's route distance is the minimum realistic route distance needed to connect the distribution terminals within a CSA.

BSTLM Usage of the MSRT for Cable Routing

The BSTLM uses the Minimum Spanning Road Tree (MSRT) to efficiently route cable to the network elements of a wire center. This overview introduces an important property of the MSRT and how that property is used to produce optimal cable routes for both Allocation Areas (AAs) and Carrier Serving Areas (CSAs).

The MSRT is analogous to the classic Minimum Spanning Tree (MST) with the exception that points must be connected using road segments. The points of the MSRT are optimally connected using the shortest length set of road-based paths. The strategy for each step of the MSRT algorithm is to connect the point that is closest to the *current* tree via a path along roads.

This strategy requires that a point be specified as the starting point, or *source node*, for the algorithm. When the BSTLM builds the MSRT for AA generation and the "big" MSRT for CSA generation, the source node is the location of the switch. The points that the algorithm connects to the switch are the Distribution Terminal (DT) locations established in an earlier process. It is important to note that the location of the source node plays a significant part in the resulting configuration of an MSRT. Using the algorithm to connect the same set of points to two different source nodes may produce two different MSRTs. The important aspect of this is that the points are optimally connected as a whole to the source node.

Every point in the MSRT has a path in the tree that can be followed back to the source node. A point's source path may course through other points in the MSRT. If the source path for point B goes through point A, then both points share the same path back to the source *starting* at point A. This produces a relationship between the two points:

- point B is *downline* from A, or *further* from the source following MSRT paths or conversely,
- point A is *upline* from B, or *closer* to the source following MSRT paths

There is an important property regarding the MSRT paths of points that are downline from another point. The sub-tree defined by paths of all downline points back to a common upline point is also an MSRT, having that common upline point as the source node. For example, points A, B and C are three of many points in an MSRT. If points B and C are downline from point A, then the paths from B and C back to A define a sub-tree that is the MSRT of A, B and C using A as the source node. The BSTLM takes advantage of this property during AA and CSA generation.

The BSTLM generates AAs by constructing the MSRT connecting all DTs that are close enough to the switch to be handled by copper alone (based on the user input for the design limit). The switch is used as the source node for building the MSRT. The model generates an AA by looking for a point in the original MSRT where the service demand of all downline DTs is close to but does not exceed the design limits for an AA. This point becomes the Allocation Area Node (AAN), a common node in the distribution network of an AA. The MSRT that connects the DTs to the AAN would define optimal cable routes for the AA. Since the DTs of the AA are all downline from the AAN, the sub-tree of paths from the original MSRT back to the AAN *is* the MSRT for the AA. Generating AAs with optimal cable routes is as simple as splitting up the original MSRT into AA-sized sub-trees.

Generating CSAs is almost as simple as generating AAs. The first step is to construct the MSRT connecting every DT in the wire center that did not get included in an AA. Once again, the switch is used as the source node for building the MSRT. To generate a CSA, the model starts with the DT that is furthest downline. The model follows this initial DT's path back to the switch until it finds the last point *X* where:

i. the service demand of all DTs downline from point *X* is not greater than the service capacity of a Digital Loop Carrier (DLC)
ii. the number of extenders downline is not greater than a specified limit, where extenders are the customers of DTs with MSRT paths to point *X* that are longer than the design limit for copper distribution
iii. there are no DTs downline with MSRT paths to point *X* that are longer than the hard limit for copper distribution

All DTs downline from *X* become members of the CSA. Point *X* is the furthest upline the DLC may be placed to serve these downline DTs. The service demand of the downline DTs is often lower than the capacity of a DLC. Therefore, the model looks upline from *X* for more DTs that may be included in the CSA. Upline DTs are added to the CSA as long as their MSRT paths to *X* do not exceed the design limit for copper *and* they do not add more service demands to the CSA than can be handled by the DLC. The DLC is then optimally placed along the path of the MSRT to the initial DT, but no further upline than point *X*.

The original MSRT paths for all DTs *downline* from the DLC define a sub-tree that is the MSRT for those DTs using the DLC as the source node. Therefore, the original MSRT paths for downline DTs are used as the optimal cable paths for the CSA. However, the MSRT paths of DTs *upline* may not be optimal with respect to the DLC location (new source node). The model recognizes this and rebuilds the MSRT of CSAs to upline DTs using the DLC location as the source node.

Q. **MR. DONOVAN AND MR. PITKIN PROPOSE CERTAIN INPUT CHANGES TO BSTLM (EXHIBIT JCD/BFP-10). DO ANY OF THE PROPOSED CHANGES LEAD TO THE EXCLUSION OF RELEVANT INVESTMENTS?**

A. Yes. While Daonne Caldwell will cover the value of the inputs used by Mr. Donovan and Mr. Pitkin, there are several material input changes proposed by Mr. Donovan and Mr. Pitkin that would result in the omission of material costs for modeled equipment. These appear to be the result of model misunderstandings or input errors. The troublesome input changes are as follows:

- It appears that FDIs of sizes 4800, 5400, and 7200 have had their material inputs levels effectively set to 0. Exhibit JCD/BFP-10, pages 3 and 4, list the new inputs as "#DIV/0!". This value would be treated the same as a 0 input level in the model.
- It appears that a fiber cable size of 6 has had its material investment level effectively set to 0. Exhibit JCD/BFP-10, pages 4 and 5, list the new inputs as "#DIV/0!". This value would be treated the same as a 0 input level in the model.

- It appears that all indoor FDI costs have been zeroed out. Exhibit JCD/BFP-10, page 6, list all of the FDI primitive inputs as "-" or "0". These primitives are used to develop the cost of the Indoor FDI equipment.
  - This change also has an impact on DTBT material levels. Due to an error in the previous version of BSTLM, the user-provided DTBT investment levels did not flow to the Investment determination in the model. Instead, the model relied on the FDI primitives to build up the costs of the various DTBT sizes. This did not cause major problems in the BellSouth initial filing results since the actual DTBT inputs were derived in the same manner. However, since the new FDI primitives recommended by Mr. Donovan and Mr. Pitkin appear to be 0, the DTBT investments resulting from their model run would be close to, if not, 0.
- It appears that the HDSL Modem and NIU material levels do not have material amounts represented. Based on the notes in Exhibit JCD/BFP-10, pages 6, the input of 17.04 represents only labor costs.

Q. MR. DONOVAN AND MR. PITKIN RECOMMEND THE USE OF BCPM INPUT VALUES FOR CABLE, FDIs, AND SOME OTHER ITEMS APPROVED BY THIS COMMISSION IN DOCKET NO. 980696-TP FOR USE IN BSTLM FOR THIS PROCEEDING. PLEASE COMMENT ON THIS APPROACH BASED ON YOUR EXPERIENCE WITH BOTH MODELS.

A. On page 31, Mr. Donovan and Mr. Pitkin recommend the use of BCPM inputs approved by the Commission in Docket No. 980696-TP. However, it is interesting that they chose only certain input values and failed to use other of the Commission approved input values. As I mentioned previously, the BCPM was designed as a universal service model. Inputs were argued from the standpoint of developing the engineering practices and resulting costs of the most efficient provider in Florida. As such, numerous inputs developed and approved in Docket 980696-TP did not and still do not represent BellSouth in Florida. In addition, directly transferring inputs from a universal service cost model (BCPM) to an unbundled network element model (BSTLM), without consideration of the basis for the inputs, their inter-relationships and the engineering practices reflected by each unique model, should be avoided unless it is done carefully and thoughtfully with a realization of what the outputs are applicable to. This is particularly true since BSTLM was not designed to be directly compatible with the BCPM and both models were designed with a different set of assumptions. As noted by Daonne Caldwell, the best set of inputs for BSTLM in this proceeding are those that represent the most up to date values for BellSouth's engineering practices, technology choices, and actual material and installation costs.

However, even if one were to use the inputs from Docket No. 980696-TP, they need to be used in whole and ideally brought up to date. First, one must consider that the BCPM inputs advocated by Mr. Donovan and Mr. Pitkin are more than 2 years old. Second, one must also consider that Docket No. 980696-TP was considered and decided in whole. If the inputs are used in this proceeding, the BSTLM inputs should mirror as close as possible all approved inputs to the BCPM. This includes engineering rules, material inputs, and contractor costs. To use only piece parts of the inputs would be incorrect without fully reviewing each input and its inter-relationships with other input values. For example, in Mr. Donovan's and Mr. Pitkin's Exhibit JCD/BFP-10, it appears that there has been no input of the trenching cost associated with the BCPM cable inputs.

These BCPM trenching costs represent a very significant cost of the network and could lead to a large understatement of the resulting UNE costs.

Q. WAS BELLSOUTH ABLE TO CONVERT OVER THE BCPM INPUT VALUES APPROVED IN DOCKET NO. 980696-TP?

A. Yes. BellSouth made its best efforts of converting all of the inputs approved in Docket No. 980696-TP to the BSTLM. In certain instances where BCPM inputs were not available or too difficult to translate (DLC and SONET), BellSouth left BSTLM inputs as is. For engineering rule decisions, BellSouth made BSTLM mimic these rules as best as possible for this analysis. A complete set of changes between BellSouth's BST2000-Fl-Ref scenario and this new "BCPM" scenario is listed in Exhibit JWS-2. Please note that no attempt was made to bring these values up to date.

Q. WHAT ARE THE RESULTS OF THIS "BCPM" RUN IN COMPARISON TO BELLSOUTH'S AUGUST 16th, 2000 FILING AND MR. DONOVAN'S AND MR. PITKIN'S RESULTS?

A. After carefully setting BSTLM inputs to values mimicking BCPM inputs, a run was made and compared to the August 16th, 2000 filed results. As one can see from the table below, when considering the inputs of Docket No. 980696-TP as a whole in BSTLM, the results filed on August 16th, 2000 are very reasonable. The new "BCPM" results do bring into question the results of Mr. Donovan and Mr. Pitkin.

Run	Average Loop Investment	Average Monthly Cost
August 16th, 2000	$852	$18.04
Donovan/Pitkin	436[2]	7.42
BSTLM with BCPM loop inputs	832	16.81

Q. GIVEN MR. DONOVAN'S AND MR. PITKIN'S RESULTS AND THE RESULTS YOU PRESENT, HOW CAN THIS COMMISSION BE ASSURED AS TO WHICH RESULTS ARE REASONABLE?

A. I understand the great difference in numbers between Mr. Donovan's and Mr. Pitkin's and BellSouth's results may raise a few questions. However, it appears that BellSouth's August 16th, 2000 filed results are reasonable when compared with the results of BSTLM run with a complete set of the inputs adopted in Docket No. 980696-TP. In addition to this comparison above, BellSouth compared the total network investment developed by the filed BSTLM and Mr. Donovan's and Mr. Pitkin's BSTLM results against what is on BellSouth's books in Florida. While I recognize that the BSTLM is a forward-looking model, the booked investments can serve as a "sanity check" for the BSTLM filed results. As one can see from the table below, BellSouth's results filed on August 16th, 2000 and those results of BSTLM run with a complete set of BCPM inputs appear fairly reasonable to the booked amount. However, it seems unlikely that Mr. Donovan's and Mr. Pitkin's resulting investments are plausible. While I realize that the booked amount

[2] This value was estimated using Mr. Donovan's and Mr. Pitkin's inputs in the August 16th, 2000 version of the BSTLM. The BSTLM value was then converted to investment by using the BellSouth CostCalculator that was populated with BST inputs. As such, this estimate represents an upper bound of the actual Mr. Donovan and Mr. Pitkin value.

of plant presented is not made up of the local loop only, I would surmise that 75-85% of this plant is local loop. I am also aware that the material investment in A.1.1 is not 100% of the local loop. However, over 93% of the investment generated by BSTLM is represented by A.1.1.

	Total Plant in Circuit, Poles, Aerial Fiber and Copper, Intrabuilding Fiber and Copper, Underground Fiber and Copper, Buried Fiber and Copper, and Conduit.
Booked Amount Year End 1998	$7,147 million
August 16th, 2000	$5,189 million
Donovan/Pitkin	$2,639 million[3]
BSTLM with BCPM loop inputs	$5,034 million

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes it does.

[3] This value was estimated using Mr. Donovan's and Mr. Pitkin's inputs in the August 16th, 2000 version of the BSTLM. The BSTLM value was then converted to investment by using the BellSouth CostCalculator that was populated with BST inputs. As such, this estimate represents an upper bound of the actual Mr. Donovan and Mr. Pitkin value.

List of Acronyms

AA	Allocation Area (area within certain distance of the central office served over copper loop)
BCPM	Benchmark Cost Proxy Model (universal service model)
BSTLM	BellSouth Telecommunications Loop Model
BT	Building Terminal
CABS	Carrier Access Billing System
CO	Central Office
CRIS	Customer Records Information System
CSA	Carrier Serving Area (that portion of a local loop extending from a digital loop carrier site to the distribution area drop terminal)
DLC	Digital Loop Carrier (includes equipment to translate signals from optical to electrical)
DS0	Digital Signal Zero (a measure of single channel equivalence)
DT	Distribution Terminal
EFI	Engineered Furnished and Installed
FDI	Feeder Distribution Interface
GIS	Geographic Information System
HAI	Previously Hatfield & Associates Inc proxy model
HCPM	Hybrid Cost Proxy Model (created by the FCC)
ID	Identification
MST	Minimum Spanning Tree (provides a theoretical minimum distance for any network connecting points).
MSRT	Minimum Spanning Road Tree (provides a practical minimum distance to connect customers along a road network)
NID	Network Interface Device
RLAC	Regional Landbase Administration Center
Rservice	Reporting Service
TELRIC	Total Element Long-Run Incremental Cost
UNE	Unbundled Network Element
USPS	United States Postal Service

Aerial Structure [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Poles	25	215.14
BCPM	Poles	25	229.89
BST2000-FI-Ref	Poles	30	215.14
BCPM	Poles	30	229.89
BST2000-FI-Ref	Poles	35	215.14
BCPM	Poles	35	229.89
BST2000-FI-Ref	Poles	40	215.14
BCPM	Poles	40	229.89
BST2000-FI-Ref	Poles	45	215.14
BCPM	Poles	45	229.89
BST2000-FI-Ref	Poles	50	215.14
BCPM	Poles	50	229.89
BST2000-FI-Ref	Poles	55	215.14
BCPM	Poles	55	229.89
BST2000-FI-Ref	Poles	60	215.14
BCPM	Poles	60	229.89
BST2000-FI-Ref	Anchor	NA	26.62
BCPM	Anchor	NA	71.34

Copper Cable 24 gauge [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Aerial	25	0.32
BCPM	Aerial	25	2.28
BST2000-FI-Ref	Aerial	50	0.57
BCPM	Aerial	50	2.51
BST2000-FI-Ref	Aerial	100	0.74
BCPM	Aerial	100	2.97
BST2000-FI-Ref	Aerial	200	1.25
BCPM	Aerial	200	4.23
BST2000-FI-Ref	Aerial	300	1.68
BCPM	Aerial	300	4.8
BST2000-FI-Ref	Aerial	400	2.26
BCPM	Aerial	400	5.78
BST2000-FI-Ref	Aerial	600	3.38
BCPM	Aerial	600	7.63
BST2000-FI-Ref	Aerial	900	4.84
BCPM	Aerial	900	9.79
BST2000-FI-Ref	Aerial	1,200	6.58
BCPM	Aerial	1,200	10.89
BST2000-FI-Ref	Aerial	1,500	8.6
BCPM	Aerial	1,500	14.17
BST2000-FI-Ref	Aerial	1,800	10.66
BCPM	Aerial	1,800	17.68
BST2000-FI-Ref	Aerial	2,100	11.97
BCPM	Aerial	2,100	20.47
BST2000-FI-Ref	Aerial	2,400	13.68
BCPM	Aerial	2,400	22.82
BST2000-FI-Ref	Aerial	2,700	15.39
BCPM	Aerial	2,700	27.25
BST2000-FI-Ref	Aerial	3,000	17.1
BCPM	Aerial	3,000	32.03
BST2000-FI-Ref	Aerial	3,600	20.52
BCPM	Aerial	3,600	36.81
BST2000-FI-Ref	Aerial	4,200	23.94

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BCPM	Aerial	4,200	45.14
BST2000-FI-Ref	Buried	25	0.23
BCPM	Buried	25	2.27
BST2000-FI-Ref	Buried	50	0.38
BCPM	Buried	50	2.55
BST2000-FI-Ref	Buried	100	0.67
BCPM	Buried	100	3.07
BST2000-FI-Ref	Buried	200	1.24
BCPM	Buried	200	4.51
BST2000-FI-Ref	Buried	300	1.91
BCPM	Buried	300	5.27
BST2000-FI-Ref	Buried	400	2.37
BCPM	Buried	400	6.3
BST2000-FI-Ref	Buried	600	3.42
BCPM	Buried	600	7.55
BST2000-FI-Ref	Buried	900	5.04
BCPM	Buried	900	10.24
BST2000-FI-Ref	Buried	1,200	6.74
BCPM	Buried	1,200	11.46
BST2000-FI-Ref	Buried	1,500	8.44
BCPM	Buried	1,500	15.43
BST2000-FI-Ref	Buried	1,800	10.04
BCPM	Buried	1,800	19.83
BST2000-FI-Ref	Buried	2,100	11.76
BCPM	Buried	2,100	23.18
BST2000-FI-Ref	Buried	2,400	13.44
BCPM	Buried	2,400	26.18
BST2000-FI-Ref	Buried	2,700	15.12
BCPM	Buried	2,700	31.58
BST2000-FI-Ref	Buried	3,000	16.8
BCPM	Buried	3,000	37.45
BST2000-FI-Ref	Buried	3,600	20.16
BCPM	Buried	3,600	43.21
BST2000-FI-Ref	Buried	4,200	23.52
BCPM	Buried	4,200	53.39
BST2000-FI-Ref	Riser/Intrabuilding	25	0.36
BCPM	Riser/Intrabuilding	25	2.28
BST2000-FI-Ref	Riser/Intrabuilding	50	0.54
BCPM	Riser/Intrabuilding	50	2.51
BST2000-FI-Ref	Riser/Intrabuilding	100	0.98
BCPM	Riser/Intrabuilding	100	2.97
BST2000-FI-Ref	Riser/Intrabuilding	200	1.63
BCPM	Riser/Intrabuilding	200	4.23
BST2000-FI-Ref	Riser/Intrabuilding	300	2.5
BCPM	Riser/Intrabuilding	300	4.8
BST2000-FI-Ref	Riser/Intrabuilding	400	3.2
BCPM	Riser/Intrabuilding	400	5.78
BST2000-FI-Ref	Riser/Intrabuilding	600	4.42
BCPM	Riser/Intrabuilding	600	7.63
BST2000-FI-Ref	Riser/Intrabuilding	900	6.65
BCPM	Riser/Intrabuilding	900	9.79
BST2000-FI-Ref	Riser/Intrabuilding	1,200	8.57
BCPM	Riser/Intrabuilding	1,200	10.89
BST2000-FI-Ref	Riser/Intrabuilding	1,500	10.75
BCPM	Riser/Intrabuilding	1,500	14.17
BST2000-FI-Ref	Riser/Intrabuilding	1,800	13.14

BCPM	Riser/Intrabuilding	1,800	17.68
BST2000-FI-Ref	Riser/Intrabuilding	2,100	15.33
BCPM	Riser/Intrabuilding	2,100	20.47
BST2000-FI-Ref	Riser/Intrabuilding	2,400	17.52
BCPM	Riser/Intrabuilding	2,400	22.82
BST2000-FI-Ref	Riser/Intrabuilding	2,700	19.71
BCPM	Riser/Intrabuilding	2,700	27.25
BST2000-FI-Ref	Riser/Intrabuilding	3,000	21.9
BCPM	Riser/Intrabuilding	3,000	32.03
BST2000-FI-Ref	Riser/Intrabuilding	3,600	26.28
BCPM	Riser/Intrabuilding	3,600	36.81
BST2000-FI-Ref	Riser/Intrabuilding	4,200	30.66
BCPM	Riser/Intrabuilding	4,200	45.14
BST2000-FI-Ref	Underground	25	0.13
BCPM	Underground	25	3.23
BST2000-FI-Ref	Underground	50	0.27
BCPM	Underground	50	3.51
BST2000-FI-Ref	Underground	100	0.53
BCPM	Underground	100	4.03
BST2000-FI-Ref	Underground	200	1.06
BCPM	Underground	200	5.47
BST2000-FI-Ref	Underground	300	1.59
BCPM	Underground	300	7.1
BST2000-FI-Ref	Underground	400	2.12
BCPM	Underground	400	8.51
BST2000-FI-Ref	Underground	600	3.33
BCPM	Underground	600	8.95
BST2000-FI-Ref	Underground	900	4.82
BCPM	Underground	900	12.39
BST2000-FI-Ref	Underground	1,200	6.45
BCPM	Underground	1,200	14.21
BST2000-FI-Ref	Underground	1,500	8
BCPM	Underground	1,500	18.8
BST2000-FI-Ref	Underground	1,800	9.79
BCPM	Underground	1,800	23.8
BST2000-FI-Ref	Underground	2,100	11.16
BCPM	Underground	2,100	27.68
BST2000-FI-Ref	Underground	2,400	12.75
BCPM	Underground	2,400	31.51
BST2000-FI-Ref	Underground	2,700	14.31
BCPM	Underground	2,700	37.37
BST2000-FI-Ref	Underground	3,000	15.9
BCPM	Underground	3,000	43.65
BST2000-FI-Ref	Underground	3,600	19.08
BCPM	Underground	3,600	50.61
BST2000-FI-Ref	Underground	4,200	22.26
BCPM	Underground	4,200	61.69

Copper Cable 26 gauge [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Aerial	25	0.31
BCPM	Aerial	25	2.23
BST2000-FI-Ref	Aerial	50	0.39
BCPM	Aerial	50	2.42
BST2000-FI-Ref	Aerial	100	0.61
BCPM	Aerial	100	2.79

BST2000-FI-Ref	Aerial	200	0.98
BCPM	Aerial	200	3.87
BST2000-FI-Ref	Aerial	300	1.38
BCPM	Aerial	300	4.27
BST2000-FI-Ref	Aerial	400	1.72
BCPM	Aerial	400	5.07
BST2000-FI-Ref	Aerial	600	2.53
BCPM	Aerial	600	6.55
BST2000-FI-Ref	Aerial	900	3.81
BCPM	Aerial	900	8.18
BST2000-FI-Ref	Aerial	1,200	4.99
BCPM	Aerial	1,200	8.75
BST2000-FI-Ref	Aerial	1,500	6.41
BCPM	Aerial	1,500	11.5
BST2000-FI-Ref	Aerial	1,800	7.83
BCPM	Aerial	1,800	14.47
BST2000-FI-Ref	Aerial	2,100	9.59
BCPM	Aerial	2,100	16.72
BST2000-FI-Ref	Aerial	2,400	10.8
BCPM	Aerial	2,400	18.54
BST2000-FI-Ref	Aerial	2,700	12.42
BCPM	Aerial	2,700	24.84
BST2000-FI-Ref	Aerial	3,000	13.5
BCPM	Aerial	3,000	32.03
BST2000-FI-Ref	Aerial	3,600	16.2
BCPM	Aerial	3,600	36.81
BST2000-FI-Ref	Aerial	4,200	18.9
BCPM	Aerial	4,200	45.14
BST2000-FI-Ref	Buried	25	0.18
BCPM	Buried	25	2.22
BST2000-FI-Ref	Buried	50	0.31
BCPM	Buried	50	2.44
BST2000-FI-Ref	Buried	100	0.51
BCPM	Buried	100	2.85
BST2000-FI-Ref	Buried	200	0.87
BCPM	Buried	200	4.07
BST2000-FI-Ref	Buried	300	1.28
BCPM	Buried	300	4.61
BST2000-FI-Ref	Buried	400	1.74
BCPM	Buried	400	5.42
BST2000-FI-Ref	Buried	600	2.54
BCPM	Buried	600	6.21
BST2000-FI-Ref	Buried	900	3.68
BCPM	Buried	900	8.24
BST2000-FI-Ref	Buried	1,200	4.77
BCPM	Buried	1,200	8.8
BST2000-FI-Ref	Buried	1,500	6.12
BCPM	Buried	1,500	12.1
BST2000-FI-Ref	Buried	1,800	7.28
BCPM	Buried	1,800	15.83
BST2000-FI-Ref	Buried	2,100	8.94
BCPM	Buried	2,100	18.53
BST2000-FI-Ref	Buried	2,400	10.21
BCPM	Buried	2,400	20.86
BST2000-FI-Ref	Buried	2,700	11.42
BCPM	Buried	2,700	28.59

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BST2000-FI-Ref	Buried	3,000	12.69
BCPM	Buried	3,000	37.45

BST2000-FI-Ref	Buried	3,600	15.12
BCPM	Buried	3,600	43.21

BST2000-FI-Ref	Buried	4,200	17.64
BCPM	Buried	4,200	53.39

BST2000-FI-Ref	Riser/Intrabuilding	25	0.31
BCPM	Riser/Intrabuilding	25	2.23

BST2000-FI-Ref	Riser/Intrabuilding	50	0.39
BCPM	Riser/Intrabuilding	50	2.42

BST2000-FI-Ref	Riser/Intrabuilding	100	0.61
BCPM	Riser/Intrabuilding	100	2.79

BST2000-FI-Ref	Riser/Intrabuilding	200	0.98
BCPM	Riser/Intrabuilding	200	3.87

BST2000-FI-Ref	Riser/Intrabuilding	300	1.38
BCPM	Riser/Intrabuilding	300	4.27

BST2000-FI-Ref	Riser/Intrabuilding	400	1.72
BCPM	Riser/Intrabuilding	400	5.07

BST2000-FI-Ref	Riser/Intrabuilding	600	3.64
BCPM	Riser/Intrabuilding	600	6.55

BST2000-FI-Ref	Riser/Intrabuilding	900	3.81
BCPM	Riser/Intrabuilding	900	8.18

BST2000-FI-Ref	Riser/Intrabuilding	1,200	4.99
BCPM	Riser/Intrabuilding	1,200	8.75

BST2000-FI-Ref	Riser/Intrabuilding	1,500	6.41
BCPM	Riser/Intrabuilding	1,500	11.5

BST2000-FI-Ref	Riser/Intrabuilding	1,800	10.19
BCPM	Riser/Intrabuilding	1,800	14.47

BST2000-FI-Ref	Riser/Intrabuilding	2,100	9.59
BCPM	Riser/Intrabuilding	2,100	16.72

BST2000-FI-Ref	Riser/Intrabuilding	2,400	13.78
BCPM	Riser/Intrabuilding	2,400	18.54

BST2000-FI-Ref	Riser/Intrabuilding	2,700	15.94
BCPM	Riser/Intrabuilding	2,700	24.84

BST2000-FI-Ref	Riser/Intrabuilding	3,000	16.98
BCPM	Riser/Intrabuilding	3,000	32.03

BST2000-FI-Ref	Riser/Intrabuilding	3,600	20.38
BCPM	Riser/Intrabuilding	3,600	36.81

BST2000-FI-Ref	Riser/Intrabuilding	4,200	23.1
BCPM	Riser/Intrabuilding	4,200	45.14

BST2000-FI-Ref	Underground	25	0.1
BCPM	Underground	25	3.18

BST2000-FI-Ref	Underground	50	0.2
BCPM	Underground	50	3.4

BST2000-FI-Ref	Underground	100	0.4
BCPM	Underground	100	3.82

BST2000-FI-Ref	Underground	200	0.8
BCPM	Underground	200	5.06

BST2000-FI-Ref	Underground	300	1.2
BCPM	Underground	300	6.48

BST2000-FI-Ref	Underground	400	1.6
BCPM	Underground	400	7.69

BST2000-FI-Ref	Underground	600	2.59
BCPM	Underground	600	7.7

BST2000-FI-Ref	Underground	900	3.9
BCPM	Underground	900	10.51

BST2000-FI-Ref	Underground	1,200	4.54
BCPM	Underground	1,200	11.71

BST2000-FI-Ref	Underground	1,500	6
BCPM	Underground	1,500	15.67

BST2000-FI-Ref	Underground	1,800	7.09
BCPM	Underground	1,800	20.05

BST2000-FI-Ref	Underground	2,100	8.49
BCPM	Underground	2,100	23.32

BST2000-FI-Ref	Underground	2,400	8.97
BCPM	Underground	2,400	26.53

BST2000-FI-Ref	Underground	2,700	10.06
BCPM	Underground	2,700	34.57

BST2000-FI-Ref	Underground	3,000	11.34
BCPM	Underground	3,000	43.65

BST2000-FI-Ref	Underground	3,600	13.49
BCPM	Underground	3,600	50.61

BST2000-FI-Ref	Underground	4,200	18.74
BCPM	Underground	4,200	61.69

Drop [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Aerial	2	0.0679
BCPM	Aerial	2	0.299

BST2000-FI-Ref	Aerial	6	0.1111
BCPM	Aerial	6	0.299

BST2000-FI-Ref	Buried	2	0.0691
BCPM	Buried	2	0.69

BST2000-FI-Ref	Buried	5	0.1511
BCPM	Buried	5	0.69

DTBT Material [Material] A518

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Aerial	25	0
BCPM	Aerial	25	288

BST2000-FI-Ref	Aerial	50	0
BCPM	Aerial	50	486.16

BST2000-FI-Ref	Aerial	100	327.6
BCPM	Aerial	100	885.46

BST2000-FI-Ref	Aerial	200	646.33
BCPM	Aerial	200	1684.04

BST2000-FI-Ref	Aerial	300	973.93
BCPM	Aerial	300	2482.63

BST2000-FI-Ref	Aerial	400	1292.66
BCPM	Aerial	400	3281.22

BST2000-FI-Ref	Aerial	600	1938.99
BCPM	Aerial	600	4878.39

BST2000-FI-Ref	Aerial	900	2912.92
BCPM	Aerial	900	7274.15

BST2000-FI-Ref	Buried	25	0
BCPM	Buried	25	220

BST2000-FI-Ref	Buried	50	0
BCPM	Buried	50	356.01

BST2000-FI-Ref	Buried	100	327.6
BCPM	Buried	100	629.87

BST2000-FI-Ref	Buried	200	646.33
BCPM	Buried	200	1177.57

BST2000-FI-Ref	Buried	300	973.93

BCPM	Buried	300	1725.27

BST2000-FI-Ref	Buried	400	1292.66
BCPM	Buried	400	2272.98

BST2000-FI-Ref	Buried	600	1938.99
BCPM	Buried	600	3368.38

BST2000-FI-Ref	Buried	900	2912.92
BCPM	Buried	900	5011.49

FDI Terminals [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Aerial	50	0
BCPM	Aerial	50	949.04

BST2000-FI-Ref	Aerial	100	139.52
BCPM	Aerial	100	1197.67

BST2000-FI-Ref	Aerial	200	279.04
BCPM	Aerial	200	1371.59

BST2000-FI-Ref	Aerial	300	418.56
BCPM	Aerial	300	1590.54

BST2000-FI-Ref	Aerial	400	796.96
BCPM	Aerial	400	1794.08

BST2000-FI-Ref	Aerial	600	1061.11
BCPM	Aerial	600	2447.66

BST2000-FI-Ref	Aerial	900	1429.52
BCPM	Aerial	900	3361.55

BST2000-FI-Ref	Aerial	1,000	1489.8
BCPM	Aerial	1,000	3550.75

BST2000-FI-Ref	Aerial	1,200	1735.67
BCPM	Aerial	1,200	4039.73

BST2000-FI-Ref	Aerial	1,400	1953.28
BCPM	Aerial	1,400	4587.48

BST2000-FI-Ref	Aerial	1,500	2048.43
BCPM	Aerial	1,500	4915.16

BST2000-FI-Ref	Aerial	1,800	2240.25
BCPM	Aerial	1,800	5736.78

BST2000-FI-Ref	Aerial	2,100	2929.92
BCPM	Aerial	2,100	6684.45

BST2000-FI-Ref	Aerial	2,400	3348.48
BCPM	Aerial	2,400	7110.22

BST2000-FI-Ref	Aerial	2,700	3767.04
BCPM	Aerial	2,700	7880.11

BST2000-FI-Ref	Aerial	3,000	4185.6
BCPM	Aerial	3,000	8623.59

BST2000-FI-Ref	Aerial	3,300	4604.16
BCPM	Aerial	3,300	9485.95

BST2000-FI-Ref	Aerial	3,600	5022.72
BCPM	Aerial	3,600	10348.31

BST2000-FI-Ref	Aerial	4,200	5859.84
BCPM	Aerial	4,200	12073.03

BST2000-FI-Ref	Aerial	4,800	6696.96
BCPM	Aerial	4,800	12020.68

BST2000-FI-Ref	Aerial	5,400	7534.08
BCPM	Aerial	5,400	13545.77

BST2000-FI-Ref	Aerial	7,200	10045.44
BCPM	Aerial	7,200	18061.03

BST2000-FI-Ref	Buried	50	0
BCPM	Buried	50	949.04

BST2000-FI-Ref	Buried	100	150.09
BCPM	Buried	100	1197.67
BST2000-FI-Ref	Buried	200	300.18
BCPM	Buried	200	1371.59
BST2000-FI-Ref	Buried	300	450.27
BCPM	Buried	300	1590.54
BST2000-FI-Ref	Buried	400	976.38
BCPM	Buried	400	1794.08
BST2000-FI-Ref	Buried	600	1567.55
BCPM	Buried	600	2447.66
BST2000-FI-Ref	Buried	900	1758.38
BCPM	Buried	900	3361.55
BST2000-FI-Ref	Buried	1,000	1328.36
BCPM	Buried	1,000	3550.75
BST2000-FI-Ref	Buried	1,200	2135.97
BCPM	Buried	1,200	4039.73
BST2000-FI-Ref	Buried	1,400	2101.26
BCPM	Buried	1,400	4587.48
BST2000-FI-Ref	Buried	1,500	2263.17
BCPM	Buried	1,500	4915.16
BST2000-FI-Ref	Buried	1,800	2921.51
BCPM	Buried	1,800	5736.78
BST2000-FI-Ref	Buried	2,100	3221.89
BCPM	Buried	2,100	6684.45
BST2000-FI-Ref	Buried	2,400	3367.71
BCPM	Buried	2,400	7110.22
BST2000-FI-Ref	Buried	2,700	3929.32
BCPM	Buried	2,700	7880.11
BST2000-FI-Ref	Buried	3,000	4047.41
BCPM	Buried	3,000	8623.59
BST2000-FI-Ref	Buried	3,300	3841.3
BCPM	Buried	3,300	9485.95
BST2000-FI-Ref	Buried	3,600	5243.07
BCPM	Buried	3,600	10348.31
BST2000-FI-Ref	Buried	4,200	7862.27
BCPM	Buried	4,200	12073.03
BST2000-FI-Ref	Buried	4,800	6558.79
BCPM	Buried	4,800	11792.26
BST2000-FI-Ref	Buried	5,400	7212
BCPM	Buried	5,400	12966.69
BST2000-FI-Ref	Buried	7,200	10806.48
BCPM	Buried	7,200	19429.33
BST2000-FI-Ref	Underground	50	0
BCPM	Underground	50	949.04
BST2000-FI-Ref	Underground	100	0
BCPM	Underground	100	1197.67
BST2000-FI-Ref	Underground	200	0
BCPM	Underground	200	1371.59
BST2000-FI-Ref	Underground	300	0
BCPM	Underground	300	1590.54
BST2000-FI-Ref	Underground	400	0
BCPM	Underground	400	1794.08
BST2000-FI-Ref	Underground	600	0
BCPM	Underground	600	2447.66
BST2000-FI-Ref	Underground	900	0
BCPM	Underground	900	3361.55

BST2000-FI-Ref	Underground	1,000	0
BCPM	Underground	1,000	3550.75

BST2000-FI-Ref	Underground	1,200	0
BCPM	Underground	1,200	4039.73

BST2000-FI-Ref	Underground	1,400	0
BCPM	Underground	1,400	4587.48

BST2000-FI-Ref	Underground	1,500	0
BCPM	Underground	1,500	4915.16

BST2000-FI-Ref	Underground	1,800	0
BCPM	Underground	1,800	5736.78

BST2000-FI-Ref	Underground	2,100	0
BCPM	Underground	2,100	6684.45

BST2000-FI-Ref	Underground	2,400	0
BCPM	Underground	2,400	7110.22

BST2000-FI-Ref	Underground	2,700	0
BCPM	Underground	2,700	7880.11

BST2000-FI-Ref	Underground	3,000	0
BCPM	Underground	3,000	8623.59

BST2000-FI-Ref	Underground	3,300	0
BCPM	Underground	3,300	9485.95

BST2000-FI-Ref	Underground	3,600	0
BCPM	Underground	3,600	10348.31

BST2000-FI-Ref	Underground	4,200	0
BCPM	Underground	4,200	12073.03

BST2000-FI-Ref	Underground	4,800	0
BCPM	Underground	4,800	11792.26

BST2000-FI-Ref	Underground	5,400	0
BCPM	Underground	5,400	12969.69

BST2000-FI-Ref	Underground	7,200	0
BCPM	Underground	7,200	19429.33

Fiber Cable [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	Aerial	6	0.44
BCPM	Aerial	6	2.35

BST2000-FI-Ref	Aerial	12	0.53
BCPM	Aerial	12	2.83

BST2000-FI-Ref	Aerial	18	0.64
BCPM	Aerial	18	3.03

BST2000-FI-Ref	Aerial	24	0.72
BCPM	Aerial	24	3.22

BST2000-FI-Ref	Aerial	30	0.84
BCPM	Aerial	30	3.55

BST2000-FI-Ref	Aerial	32	0.88
BCPM	Aerial	32	3.79

BST2000-FI-Ref	Aerial	36	0.91
BCPM	Aerial	36	3.7

BST2000-FI-Ref	Aerial	44	1.08
BCPM	Aerial	44	4.16

BST2000-FI-Ref	Aerial	48	1.22
BCPM	Aerial	48	4.15

BST2000-FI-Ref	Aerial	60	1.35
BCPM	Aerial	60	4.68

BST2000-FI-Ref	Aerial	72	1.58
BCPM	Aerial	72	5.33

BST2000-FI-Ref	Aerial	84	1.75
BCPM	Aerial	84	5.72

BST2000-FI-Ref	Aerial	96	1.93
BCPM	Aerial	96	5.96

BST2000-FI-Ref	Aerial	108	2.15
BCPM	Aerial	108	6.29

BST2000-FI-Ref	Aerial	120	2.36
BCPM	Aerial	120	6.98

BST2000-FI-Ref	Aerial	132	2.56
BCPM	Aerial	132	7.68

BST2000-FI-Ref	Aerial	144	2.77
BCPM	Aerial	144	7.82

BST2000-FI-Ref	Aerial	156	2.96
BCPM	Aerial	156	8

BST2000-FI-Ref	Aerial	168	3.16
BCPM	Aerial	168	8.62

BST2000-FI-Ref	Aerial	216	3.97
BCPM	Aerial	216	11.08

BST2000-FI-Ref	Buried	6	0.44
BCPM	Buried	6	2.35

BST2000-FI-Ref	Buried	12	0.53
BCPM	Buried	12	2.68

BST2000-FI-Ref	Buried	18	0.64
BCPM	Buried	18	2.9

BST2000-FI-Ref	Buried	24	0.72
BCPM	Buried	24	3.06

BST2000-FI-Ref	Buried	30	0.84
BCPM	Buried	30	3.34

BST2000-FI-Ref	Buried	32	0.88
BCPM	Buried	32	3.56

BST2000-FI-Ref	Buried	36	0.91
BCPM	Buried	36	3.42

BST2000-FI-Ref	Buried	44	1.08
BCPM	Buried	44	3.96

BST2000-FI-Ref	Buried	48	1.22
BCPM	Buried	48	4.07

BST2000-FI-Ref	Buried	60	1.35
BCPM	Buried	60	4.64

BST2000-FI-Ref	Buried	72	1.58
BCPM	Buried	72	5.16

BST2000-FI-Ref	Buried	84	1.75
BCPM	Buried	84	5.74

BST2000-FI-Ref	Buried	96	1.93
BCPM	Buried	96	6.23

BST2000-FI-Ref	Buried	108	2.15
BCPM	Buried	108	6.61

BST2000-FI-Ref	Buried	120	2.36
BCPM	Buried	120	7.34

BST2000-FI-Ref	Buried	132	2.56
BCPM	Buried	132	8.08

BST2000-FI-Ref	Buried	144	2.77
BCPM	Buried	144	8.28

BST2000-FI-Ref	Buried	156	2.96
BCPM	Buried	156	8.35

BST2000-FI-Ref	Buried	168	3.16
BCPM	Buried	168	8.99

BST2000-FI-Ref	Buried	216	3.97
BCPM	Buried	216	11.56

BST2000-FI-Ref	Riser/Intrabuilding	6	0.57
BCPM	Riser/Intrabuilding	6	2.35
BST2000-FI-Ref	Riser/Intrabuilding	12	1.14
BCPM	Riser/Intrabuilding	12	2.83
BST2000-FI-Ref	Riser/Intrabuilding	18	1.19
BCPM	Riser/Intrabuilding	18	3.03
BST2000-FI-Ref	Riser/Intrabuilding	24	1.59
BCPM	Riser/Intrabuilding	24	3.22
BST2000-FI-Ref	Riser/Intrabuilding	30	1.66
BCPM	Riser/Intrabuilding	30	3.55
BST2000-FI-Ref	Riser/Intrabuilding	32	1.77
BCPM	Riser/Intrabuilding	32	3.79
BST2000-FI-Ref	Riser/Intrabuilding	36	1.99
BCPM	Riser/Intrabuilding	36	3.7
BST2000-FI-Ref	Riser/Intrabuilding	44	2.43
BCPM	Riser/Intrabuilding	44	4.16
BST2000-FI-Ref	Riser/Intrabuilding	48	2.68
BCPM	Riser/Intrabuilding	48	4.15
BST2000-FI-Ref	Riser/Intrabuilding	60	3.35
BCPM	Riser/Intrabuilding	60	4.68
BST2000-FI-Ref	Riser/Intrabuilding	72	3.63
BCPM	Riser/Intrabuilding	72	5.33
BST2000-FI-Ref	Riser/Intrabuilding	84	4.84
BCPM	Riser/Intrabuilding	84	5.72
BST2000-FI-Ref	Riser/Intrabuilding	96	5.45
BCPM	Riser/Intrabuilding	96	5.96
BST2000-FI-Ref	Riser/Intrabuilding	108	6.05
BCPM	Riser/Intrabuilding	108	6.29
BST2000-FI-Ref	Riser/Intrabuilding	120	6.66
BCPM	Riser/Intrabuilding	120	6.98
BST2000-FI-Ref	Riser/Intrabuilding	132	7.26
BCPM	Riser/Intrabuilding	132	7.68
BST2000-FI-Ref	Riser/Intrabuilding	144	8.5
BCPM	Riser/Intrabuilding	144	7.82
BST2000-FI-Ref	Riser/Intrabuilding	156	9.92
BCPM	Riser/Intrabuilding	156	8
BST2000-FI-Ref	Riser/Intrabuilding	168	12.75
BCPM	Riser/Intrabuilding	168	8.62
BST2000-FI-Ref	Riser/Intrabuilding	216	21.87
BCPM	Riser/Intrabuilding	216	11.08
BST2000-FI-Ref	Underground	6	0.44
BCPM	Underground	6	2.35
BST2000-FI-Ref	Underground	12	0.53
BCPM	Underground	12	4.23
BST2000-FI-Ref	Underground	18	0.64
BCPM	Underground	18	4.43
BST2000-FI-Ref	Underground	24	0.72
BCPM	Underground	24	4.58
BST2000-FI-Ref	Underground	30	0.84
BCPM	Underground	30	4.91
BST2000-FI-Ref	Underground	32	0.88
BCPM	Underground	32	5.24
BST2000-FI-Ref	Underground	36	0.91
BCPM	Underground	36	4.91
BST2000-FI-Ref	Underground	44	1.08
BCPM	Underground	44	5.53

BST2000-FI-Ref	Underground	48	1.22
BCPM	Underground	48	5.51
BST2000-FI-Ref	Underground	60	1.35
BCPM	Underground	60	6.07
BST2000-FI-Ref	Underground	72	1.58
BCPM	Underground	72	6.55
BST2000-FI-Ref	Underground	84	1.75
BCPM	Underground	84	7.11
BST2000-FI-Ref	Underground	96	1.93
BCPM	Underground	96	7.51
BST2000-FI-Ref	Underground	108	2.15
BCPM	Underground	108	7.75
BST2000-FI-Ref	Underground	120	2.36
BCPM	Underground	120	8.61
BST2000-FI-Ref	Underground	132	2.56
BCPM	Underground	132	9.48
BST2000-FI-Ref	Underground	144	2.77
BCPM	Underground	144	9.41
BST2000-FI-Ref	Underground	156	2.96
BCPM	Underground	156	9.16
BST2000-FI-Ref	Underground	168	3.16
BCPM	Underground	168	9.87
BST2000-FI-Ref	Underground	216	3.97
BCPM	Underground	216	12.69

Indoor FDI Terminals Primitives [Material]

Scenario	PlantType	Type	Item	Capacity	MtrlCost
BST2000-FI-Ref	Indoor FDI Terminals	FDI66Connector	66 -type Pu	50	5.46
BCPM	Indoor FDI Terminals	FDI66Connector	66 -type Pu	50	8.71
BST2000-FI-Ref	Indoor FDI Terminals	FDIBackboard	Backboard	200	8.87
BCPM	Indoor FDI Terminals	FDIBackboard	Backboard	200	14.15
BST2000-FI-Ref	Indoor FDI Terminals	FDI189Protector	189 type Pr	100	307.81
BCPM	Indoor FDI Terminals	FDI189Protector	189 type Pr	100	490.96

NID/NIU [Material]

Scenario	PlantType	TypeSz	MtrlCost
BST2000-FI-Ref	HDSLModem	1	144.34
BCPM	HDSLModem	1	50
BST2000-FI-Ref	NID	2	14.52
BCPM	NID	2	30
BST2000-FI-Ref	NID	6	18.06
BCPM	NID	6	50
BST2000-FI-Ref	NIDIntandProt	1	7.83
BCPM	NIDIntandProt	1	0
BST2000-FI-Ref	NIU	1	169.85
BCPM	NIU	1	50

Underground Material [Material]

Scenario	Structure	Item	TypeSz	MtrlCost
BST2000-FI-Ref	Manholes	SB 30"x12"	1	0
BCPM	Manholes	SB 30"x12"	1	475.82
BST2000-FI-Ref	Manholes	HH 3x5 or 4x6	2	0
BCPM	Manholes	HH 3x5 or 4x6	2	951.64
BST2000-FI-Ref	Manholes	PTS 65 (6x8x4)	3	0
BCPM	Manholes	PTS 65 (6x8x4)	3	6384
BST2000-FI-Ref	Manholes	38Y (6x12x7)	5	0
BCPM	Manholes	38Y (6x12x7)	5	9480.24

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BST2000-FI-Ref	Duct	1-PTS-77-4"	CU	0
BCPM	Duct	1-PTS-77-4"	CU	0.91
BST2000-FI-Ref	Duct	1-4" w/3 in-Du	FO	0
BCPM	Duct	1-4" w/3 in-Du	FO	0.91

Labor Rate [Labor Rates And Loadings]

Scenario	Type	RatePerHr	LaborRate
BST2000-FI-Ref	Placing	29	Placing (44) Plant Direct Labor Costs per Hour
BCPM	Placing	-	Placing (44) Plant Direct Labor Costs per Hour

Aerial Contract Labor [Contract Labor]

Scenario	PlantType	TypeSz	ContractLb	TelcoInspe	District
BST2000-FI-Ref	Poles	25	138.9297	0	
BCPM	Poles	25	161.81	0	
BST2000-FI-Ref	Poles	30	138.9297	0	
BCPM	Poles	30	161.81	0	
BST2000-FI-Ref	Poles	35	138.9297	0	
BCPM	Poles	35	161.81	0	
BST2000-FI-Ref	Poles	40	138.9297	0	
BCPM	Poles	40	161.81	0	
BST2000-FI-Ref	Poles	45	138.9297	0	
BCPM	Poles	45	161.81	0	
BST2000-FI-Ref	Poles	50	138.9297	0	
BCPM	Poles	50	161.81	0	
BST2000-FI-Ref	Poles	55	138.9297	0	
BCPM	Poles	55	161.81	0	
BST2000-FI-Ref	Poles	60	138.9297	0	
BCPM	Poles	60	161.81	0	
BST2000-FI-Ref	Anchor	NA	61.3249	0	
BCPM	Anchor	NA	180.56	0	

Excavation Contract Labor [Contract Labor]

Scenario	ExcvActivity	ContractLbrCost	ContractLb	District
BST2000-FI-Ref	Backhoe Trench	-	-	
BCPM	Backhoe Trench	2.89	7.05	
BST2000-FI-Ref	Bore Cable	-	-	
BCPM	Bore Cable	22.17	50.89	
BST2000-FI-Ref	Cut & Restore Asphalt	-	-	
BCPM	Cut & Restore Asphalt	5.67	10.35	
BST2000-FI-Ref	Cut & Restore Concrete	-	-	
BCPM	Cut & Restore Concrete	8.40	12.40	
BST2000-FI-Ref	Cut & Restore Sod	-	-	
BCPM	Cut & Restore Sod	4.53	7.81	
BST2000-FI-Ref	Free Trench (i.e. Developer)	-	-	
BCPM	Free Trench (i.e. Developer)	-	7.05	
BST2000-FI-Ref	Hand Dig Trench	-	-	
BCPM	Hand Dig Trench	2.89	7.05	
BST2000-FI-Ref	Plow	-	-	
BCPM	Plow	2.89	-	
BST2000-FI-Ref	Push Pipe & Pull Cable	-	-	
BCPM	Push Pipe & Pull Cable	25.44	7.05	
BST2000-FI-Ref	Rocky Plow	-	-	
BCPM	Rocky Plow	2.89	-	
BST2000-FI-Ref	Rocky Trench	-	-	
BCPM	Rocky Trench	2.89	-	
BST2000-FI-Ref	Trench & Backfill	-	-	
BCPM	Trench & Backfill	2.89	-	

Underground Contract Labor [Contract Labor]

Scenario	Structure	TypeSz	ContractLb District
BST2000-FI-Ref	Manholes	1	0
BCPM	Manholes	1	218.65

BST2000-FI-Ref	Manholes	2	0
BCPM	Manholes	2	437.3

Service Description [Lookup Tables]

Scenario	SvcType	Svc	SvcCatego	PreferredM	ExtendedR	PairEquiv	DSOEquiv	SvcClass	ChannelUn	Clustered
BST2000-FI-Ref	a	LOCAL POTS/PO	NSW	CU	14800	1	1	?	POTS	Yes
BCPM	a	LOCAL POTS/PO	NSW	CU	12000	1	1	?	POTS	Yes

BST2000-FI-Ref	b	PBX	NSW	CU	14800	1	1	Bus	PBX	Yes
BCPM	b	PBX	NSW	CU	12000	1	1	Bus	PBX	Yes

BST2000-FI-Ref	c	CENTREX	NSW	CU	14800	1	1	Bus	CENTREX	Yes
BCPM	c	CENTREX	NSW	CU	12000	1	1	Bus	CENTREX	Yes

BST2000-FI-Ref	d	COIN SMART LIN	NSW	CU	14800	1	1	Bus	COIN	Yes
BCPM	d	COIN SMART LIN	NSW	CU	12000	1	1	Bus	COIN	Yes

BST2000-FI-Ref	E	2WVG USL FEED	NSW	CU	14800	1	1	Bus	POTS	Yes
BCPM	E	2WVG USL FEED	NSW	CU	12000	1	1	Bus	POTS	Yes

BST2000-FI-Ref	e	COIN REGULAR	NSW	CU	14800	1	1	Bus	COIN	Yes
BCPM	e	COIN REGULAR	NSW	CU	12000	1	1	Bus	COIN	Yes

BST2000-FI-Ref	H	2WVG U LOCAL	NSW	CU	14800	1	1	Bus	POTS	No
BCPM	H	2WVG U LOCAL	NSW	CU	12000	1	1	Bus	POTS	No

BST2000-FI-Ref	j	SLV ANALOG 2W	NSW	CU	14800	1	1	Bus	POTS	Yes
BCPM	j	SLV ANALOG 2W	NSW	CU	12000	1	1	Bus	POTS	Yes

BST2000-FI-Ref	Q	UCL 2W	NSW	CU	14800	1	1	Bus	NSW-VGS	Yes
BCPM	Q	UCL 2W	NSW	CU	12000	1	1	Bus	NSW-VGS	Yes

Drop Placing Hours [Splicing And Placing Hours]

Scenario	Item	Placing	Travel
BST2000-FI-Ref	AerialCU	-	1.0392
BCPM	AerialCU	-	0

BST2000-FI-Ref	BuriedCU	-	1.4216
BCPM	BuriedCU	-	0

BST2000-FI-Ref	NIDCU	-	0.25
BCPM	NIDCU	-	0

Aerial Structure Spacing [Engineering Rules]

Scenario	PlantType	Size	Spacing
BST2000-FI-Ref	Poles	25	150
BCPM	Poles	25	175

BST2000-FI-Ref	Poles	30	150
BCPM	Poles	30	175

BST2000-FI-Ref	Poles	50	200
BCPM	Poles	50	175

BST2000-FI-Ref	Poles	55	200
BCPM	Poles	55	175

BST2000-FI-Ref	Poles	60	200
BCPM	Poles	60	175

Excavation Cost Density Adjustment [Engineering Rules]

Scenario	PlantType	DensityGrp	AdjFctr
BST2000-FI-Ref	Buried	Rural	0
BCPM	Buried	Rural	1

BST2000-FI-Ref	Underground	Rural	0
BCPM	Underground	Rural	1

BST2000-FI-Ref	Buried	Suburban	0
BCPM	Buried	Suburban	1

BST2000-FI-Ref	Underground	Suburban	0
BCPM	Underground	Suburban	1

BST2000-FI-Ref	Buried	Urban	0
BCPM	Buried	Urban	1

BST2000-FI-Ref	Underground	Urban	0
BCPM	Underground	Urban	1

GIS Rules [Engineering Rules]

Scenario	Rule	Value	UOM
BST2000-FI-Ref	AALineDesignLimit	1,800	Lines
BCPM	AALineDesignLimit	1,000	Lines

BST2000-FI-Ref	DLCLengthHardLimit	18,000	Feet
BCPM	DLCLengthHardLimit	15,000	Feet

BST2000-FI-Ref	DLCLineDesignLimit	1,800	Lines
BCPM	DLCLineDesignLimit	1,000	Lines

BST2000-FI-Ref	DTBTHHDesignLimit	6	HH
BCPM	DTBTHHDesignLimit	4	HH

BST2000-FI-Ref	FDILineDesignLimit	900	Lines
BCPM	FDILineDesignLimit	300	Lines

BST2000-FI-Ref	MaxDropLen	700	Feet
BCPM	MaxDropLen	500	Feet

Network Rules [Engineering Rules]

Scenario	Rule	Value	UOM
BST2000-FI-Ref	AA24/26GaugeXover	12,000	Feet
BCPM	AA24/26GaugeXover	11,100	Feet

BST2000-FI-Ref	CSA24/26GaugeXover	9,000	Feet
BCPM	CSA24/26GaugeXover	11,100	Feet

BST2000-FI-Ref	MinimumPairsPerBusiness	6	Pairs
BCPM	MinimumPairsPerBusiness	3	Pairs

Outside Contractor Use [Engineering Rules]

Scenario	NtwkSheet	UseContractor
BST2000-FI-Ref	Conduit	N
BCPM	Conduit	Y

BST2000-FI-Ref	Manhole	N
BCPM	Manhole	Y

BST2000-FI-Ref	Trench	N
BCPM	Trench	Y

Plant Mix [Engineering Rules]

Scenario	DensityLowerRange	DensityUpperRan	DensityGrp	CostFamily	WaterTable	BedrockDe	TerrainDiffi	CLLI	PctAer	PctBur	PctUG	OrderOfPro
BST2000-FI-Ref	0	100,000,000	Rural	Dist	1000	1000	*	*	0.25	0.75	0	2
BCPM	0	5	*	Dist	1000	1000	Normal	*	0.4	0.6	0	2

BST2000-FI-Ref	0	100,000,000	Suburban	Dist	1000	1000	*	*	0.15	0.85	0	3
BCPM	5	100	*	Dist	1000	1000	Normal	*	0.37	0.61	0.02	3

BST2000-FI-Ref	0	100,000,000	Urban	Dist	1000	1000	*	*	0.05	0.95	0	4
BCPM	100	200	*	Dist	1000	1000	Normal	*	0.33	0.62	0.05	4

BST2000-FI-Ref	0	100,000,000	Rural	Fdr	1000	1000	*	*	0.25	0.75	0	5
BCPM	200	650	*	Dist	1000	1000	Normal	*	0.3	0.62	0.08	5

BST2000-FI-Ref	0	100,000,000	Suburban	Fdr	1000	1000	*	*	0.15	0.5	0.35	6
BCPM	650	850	*	Dist	1000	1000	Normal	*	0.2	0.65	0.15	6

BST2000-FI-Ref	0	100,000,000	Urban	Fdr	1000	1000	*	*	0	0.25	0.75	7
BCPM	850	2,550	*	Dist	1000	1000	Normal	*	0.1	0.65	0.25	7

BST2000-FI-Ref	0	100,000,000	*	*	15	15	*	*	1	0	0	8
BCPM	2550	5,000	*	Dist	1000	1000	Normal	*	0.05	0.55	0.4	8

BST2000-FI-Ref	5000	10,000	*	*	1000	1000	*	*	0	0	1	9
BCPM	5000	10,000	*	Dist	1000	1000	Normal	*	0.05	0.35	0.6	9
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	ARCHFLM	8.86E-02	0.904902	6.54E-03	10
BCPM	10000	100,000,000	*	Dist	1000	1000	Normal	*	0	0.1	0.9	10
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BCRTFLBT	6.09E-02	0.718852	0.220242	11
BCPM	5	100	*	Dist	1000	1000	Softrock	*	0.37	0.61	0.02	11
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BCRTFLMA	0.16508	0.588953	0.245966	12
BCPM	100	200	*	Dist	1000	1000	Softrock	*	0.33	0.62	0.05	12
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BCRTFLSA	4.62E-02	0.792619	0.161222	13
BCPM	200	650	*	Dist	1000	1000	Softrock	*	0.3	0.62	0.08	13
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BGPIFLMA	0.805222	7.86E-02	0.116184	14
BCPM	650	850	*	Dist	1000	1000	Softrock	*	0.2	0.65	0.15	14
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BKVLFLJF	0.118981	0.847649	3.34E-02	15
BCPM	850	2,550	*	Dist	1000	1000	Softrock	*	0.1	0.65	0.25	15
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BLDWFLM	0.24333	0.749097	7.57E-03	16
BCPM	2550	5,000	*	Dist	1000	1000	Softrock	*	0.05	0.55	0.4	16
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BLGLFLMA	0.298757	0.659723	4.15E-02	17
BCPM	5000	10,000	*	Dist	1000	1000	Softrock	*	0.05	0.35	0.6	17
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BNNLFLMA	5.17E-02	0.941812	6.50E-03	18
BCPM	10000	100,000,000	*	Dist	1000	1000	Softrock	*	0	0.1	0.9	18
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BRSNFLMA	0.09632	0.897401	6.28E-03	19
BCPM	0	5	*	Dist	1000	1000	Softrock	*	0.4	0.6	0	19
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	BYBHFLMA	0.16786	0.680268	0.151872	20
BCPM	0	5	*	Dist	1000	1000	Hardrock	*	0.5	0.5	0	20
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	CCBHFLM	0.133174	0.469333	0.397493	21
BCPM	5	100	*	Dist	1000	1000	Hardrock	*	0.47	0.51	0.02	21
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	CDKYFLMA	7.86E-02	0.91116	1.02E-02	22
BCPM	100	200	*	Dist	1000	1000	Hardrock	*	0.43	0.52	0.05	22
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	CFLDFLMA	0.117578	0.872434	9.99E-03	23
BCPM	200	650	*	Dist	1000	1000	Hardrock	*	0.4	0.52	0.08	23
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	CHPLFLJA	0.165305	0.797861	3.68E-02	24
BCPM	650	850	*	Dist	1000	1000	Hardrock	*	0.25	0.6	0.15	24
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	CNTMFLLE	0.365209	0.606297	2.85E-02	25
BCPM	850	2,550	*	Dist	1000	1000	Hardrock	*	0.2	0.62	0.18	25
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	COCOFLM	0.275184	0.605687	0.11913	26
BCPM	2550	5,000	*	Dist	1000	1000	Hardrock	*	0.15	0.65	0.2	26
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	COCOFLM	0.273241	0.617521	0.109238	27
BCPM	5000	10,000	*	Dist	1000	1000	Hardrock	*	0.15	0.4	0.45	27
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	CSCYFLBA	0.124294	0.867975	7.73E-03	28
BCPM	10000	100,000,000	*	Dist	1000	1000	Hardrock	*	0.1	0	0.9	28
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DBRYFLDL	5.55E-02	0.904788	3.97E-02	29
BCPM	0	5	*	Fdr	1000	1000	Normal	*	0.4	0.5	0.1	29
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DBRYFLMA	0.101284	0.848604	0.050113	30
BCPM	5	100	*	Fdr	1000	1000	Normal	*	0.4	0.45	0.15	30
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DELDFLMA	0.143387	0.76024	9.64E-02	31
BCPM	100	200	*	Fdr	1000	1000	Normal	*	0.4	0.4	0.2	31
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DLBHFLKP	0.149334	0.719584	0.131082	32
BCPM	200	650	*	Fdr	1000	1000	Normal	*	0.4	0.35	0.25	32
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DLBHFLMA	0.240112	0.473271	0.286617	33
BCPM	650	850	*	Fdr	1000	1000	Normal	*	0.25	0.3	0.45	33
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DLSPFLMA	0.113924	0.885079	9.97E-04	34
BCPM	850	2,550	*	Fdr	1000	1000	Normal	*	0.1	0.25	0.65	34
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DNLNFLW	3.19E-02	0.954028	1.40E-02	35
BCPM	2550	5,000	*	Fdr	1000	1000	Normal	*	0	0.2	0.8	35
BST2000-FI-Ref	0	100,000,000	*	*	1000	1000	*	DRBHFLM	0.157337	0.623342	0.219322	36
BCPM	5000	10,000	*	Fdr	1000	1000	Normal	*	0	0.1	0.9	36

BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	DYBHFLFN	0.142406	0.653826	0.203768	37
BCPM		10000	100,000,000	*	Fdr	1000	1000	Normal	*	0	0.05	0.95	37
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	DYBHFLMA	0.204282	0.564491	0.231227	38
BCPM		0	5	*	Fdr	1000	1000	Softrock	*	0.4	0.5	0.1	38
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	DYBHFLOB	0.120489	0.778166	0.101345	39
BCPM		5	100	*	Fdr	1000	1000	Softrock	*	0.4	0.45	0.15	39
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	DYBHFLOS	0.307441	0.474863	0.217696	40
BCPM		100	200	*	Fdr	1000	1000	Softrock	*	0.4	0.4	0.2	40
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	DYBHFLPO	8.89E-02	0.756177	0.154915	41
BCPM		200	650	*	Fdr	1000	1000	Softrock	*	0.4	0.35	0.25	41
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	EGLLFLBG	0.16607	0.698229	0.135701	42
BCPM		650	850	*	Fdr	1000	1000	Softrock	*	0.25	0.3	0.45	42
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	EGLLFLIHD	0.212618	0.584092	0.20329	43
BCPM		850	2,550	*	Fdr	1000	1000	Softrock	*	0.1	0.25	0.65	43
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	EORNFLM	0.357638	0.623186	1.92E-02	44
BCPM		2550	5,000	*	Fdr	1000	1000	Softrock	*	0	0.2	0.8	44
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FLBHFLMA	8.48E-02	0.888644	2.65E-02	45
BCPM		5000	10,000	*	Fdr	1000	1000	Softrock	*	0	0.1	0.9	45
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FRBHFLFP	0.174905	0.742607	0.082489	46
BCPM		10000	100,000,000	*	Fdr	1000	1000	Softrock	*	0	0.05	0.95	46
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTGRFLMA	3.24E-02	0.963883	3.76E-03	47
BCPM		0	5	*	Fdr	1000	1000	Hardrock	*	0.5	0.45	0.05	47
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLAP	7.65E-02	0.328585	0.594938	48
BCPM		5	100	*	Fdr	1000	1000	Hardrock	*	0.5	0.4	0.1	48
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLCR	0.401337	0.194668	0.403995	49
BCPM		100	200	*	Fdr	1000	1000	Hardrock	*	0.5	0.35	0.15	49
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLCY	0.335384	0.236767	0.427849	50
BCPM		200	650	*	Fdr	1000	1000	Hardrock	*	0.5	0.25	0.25	50
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLJAD	0.124152	0.64616	0.229687	51
BCPM		650	850	*	Fdr	1000	1000	Hardrock	*	0.4	0.25	0.35	51
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLMR	0.315023	0.237898	0.447079	52
BCPM		850	2,550	*	Fdr	1000	1000	Hardrock	*	0.2	0.2	0.6	52
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLOA	0.19707	0.539016	0.263913	53
BCPM		2550	5,000	*	Fdr	1000	1000	Hardrock	*	0.1	0.1	0.8	53
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLPL	0.357551	0.35581	0.286639	54
BCPM		5000	10,000	*	Fdr	1000	1000	Hardrock	*	0.1	0.05	0.85	54
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLSG	5.32E-02	0.515759	0.43108	55
BCPM		10000	100,000,000	*	Fdr	1000	1000	Hardrock	*	0.05	0	0.95	55
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLSU	7.93E-02	0.7607	0.159994	56
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTLDFLWN	4.92E-02	0.742362	0.208434	57
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	FTPRFLMA	0.306625	0.547511	0.145863	58
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	GCSPFLCN	0.19871	0.762419	3.89E-02	59
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	GCVLFLMA	0.127741	0.862888	9.37E-03	60
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	GENVFLM	0.199755	0.7981	2.14E-03	61
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	GLBRFLMC	0.157537	0.703843	0.13862	62
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	GSVLFLMA	0.12537	0.659176	0.215453	63
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	GSVLFLNW	5.44E-02	0.814955	0.130631	64
BCPM	No More Data												

BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HAVNFLMA	0.185114	0.799697	1.52E-02	65
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HBSDFLMA	0.189797	0.695615	0.114589	66
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HLNVFLMA	0.329866	0.664047	6.09E-03	67
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HLWDFLH	0.258025	0.352357	0.389618	68
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HLWDFLM	0.330191	0.268425	0.401384	69
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HLWDFLP	0.151466	0.705851	0.142683	70
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HLWDFLW	0.323797	0.32489	0.351314	71
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HMSTFLAF	0.150576	0.666262	0.183161	72
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HMSTFLEA	0.419279	0.412082	0.168639	73
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HMSTFLHM	0.318165	0.450129	0.231706	74
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HTISFLMA	9.79E-02	0.714834	0.187299	75
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	HWTHFLM	0.215951	0.773182	1.09E-02	76
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	ISLMFLMA	0.727772	0.167289	0.104939	77
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JAY-FLMA	0.108345	0.872393	1.93E-02	78
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCBHFLAB	2.49E-02	0.978201	-3.14E-03	79
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCBHFLMA	5.18E-02	0.745513	0.202695	80
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCBHFLSP	0.061982	0.900953	3.71E-02	81
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLAR	0.1587	0.626491	0.214808	82
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLBW	7.54E-02	0.714861	0.209697	83
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLCL	0.24047	0.355123	0.404407	84
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLFC	0.148254	0.726908	0.124837	85
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLIAR	0.121716	0.545551	0.332733	86
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLJTR	1.92E-02	0.31812	0.662638	87
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLLFD	0.35364	0.464993	0.181367	88
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLNO	0.233029	0.623782	0.143189	89
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLOW	0.274777	0.587657	0.137566	90
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLRV	0.324978	0.405641	0.269381	91
BCPM	No More Data												
BST2000-FI-Ref		0	100,000,000	*	*	1000	1000	*	JCVLFLSJ	0.106659	0.585133	0.308208	92
BCPM	No More Data												

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	JCVLFLSM	0.154807	0.419385	0.425808	93
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	JCVLFLWC	0.144678	0.640065	0.215257	94
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	JPTRFLMA	0.363888	0.540516	9.56E-02	95
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	KYHGFLMA	0.250093	0.740442	9.47E-03	96
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	KYLRFLLS	0.6728	0.189898	0.137302	97
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	KYLRFLMA	0.580587	0.169929	0.249484	98
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	KYWSFLM	0.564621	0.110927	0.324453	99
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	LKCYFLMA	7.74E-02	0.874565	4.81E-02	100
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	LKMRFLMA	3.66E-02	0.748268	0.215089	101
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	LYHNFLOH	0.215385	0.759438	2.52E-02	102
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MCNPFLM	0.170749	0.816732	1.25E-02	103
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MDBGFLP	0.32298	0.650991	2.60E-02	104
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLAE	0.467372	0.129937	0.402691	105
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLAL	0.472077	0.108913	0.41901	106
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLAP	9.96E-02	0.171055	0.729374	107
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLBA	0.439677	0.170021	0.390302	108
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLBC	0.373512	0.146404	0.480084	109
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLBR	0.207744	0.142179	0.650077	110
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLCA	0.178447	0.464808	0.356745	111
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLDB	0.116565	0.155919	0.727516	112
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLFL	0.502017	0.123609	0.374374	113
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLGR	9.79E-02	6.21E-02	0.84006	114
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLHL	0.248386	0.498821	0.252793	115
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLICD	0.259152	0.204084	0.536764	116
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLKE	0.250551	0.460997	0.288452	117
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLME	0.337837	0.135711	0.526451	118
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLNM	0.354229	0.271518	0.374254	119
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLNS	0.501769	0.205577	0.292654	120
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLOL	0.456253	0.221824	0.321923	121
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLPB	0.458535	0.19123	0.350234	122
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLPL	0.180773	0.385471	0.433756	123
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLRR	0.406989	0.306996	0.286015	124
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLSH	0.426746	0.159162	0.414091	125
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLSO	0.240414	0.497537	0.26205	126
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLWD	1.98E-02	0.74966	0.230549	127
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MIAMFLWM	0.345339	0.199426	0.455235	128
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MICCFLBB	0.150889	0.798185	0.050926	129
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MLBRFLMA	0.113645	0.764696	0.121659	130
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MLTNFLRA	0.22659	0.725419	4.80E-02	131
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MNDRFLA	2.42E-02	0.601234	0.374578	132
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MNDRFLLO	0.073868	0.828398	0.097734	133
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MNDRFLLW	0.170614	0.766362	6.30E-02	134
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MNSNFLM	0.020777	0.977807	1.42E-03	135
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MRTHFLVE	0.607192	0.123576	0.269232	136
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	MXVLFLMA	0.226726	0.765233	8.04E-03	137
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NDADFLAC	0.294977	0.227332	0.477691	138
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NDADFLBR	0.30041	0.463534	0.236055	139
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NDADFLGG	0.311693	0.33718	0.351128	140
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NDADFLOL	0.217031	0.250473	0.532495	141
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NKLRFLMA	0.370053	0.462803	0.167144	142
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NSBHFLMA	0.124722	0.73686	0.138418	143
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	NWBYFLM	8.27E-02	0.906408	1.09E-02	144
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	OKHLFLMA	0.118411	0.86584	1.57E-02	145
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	OLTWFLLN	8.90E-02	0.907666	3.30E-03	146
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORLDFLAP	0.120164	0.709362	0.170474	147
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORLDFLCL	0.148341	0.599098	0.252561	148
BCPM	No More Data										

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BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORLDFLMA	0.114284	0.570384	0.315332	149
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORLDFLPC	6.72E-02	0.732868	0.199972	150
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORLDFLPH	6.24E-02	0.799116	0.138449	151
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORLDFLSA	6.32E-02	0.679268	0.257573	152
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORPKFLM	9.67E-02	0.732552	0.170724	153
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	ORPKFLRW	0.060678	0.758762	0.18056	154
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	OVIDFLCA	9.00E-02	0.851712	5.83E-02	155
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PACEFLPV	0.204991	0.738729	5.63E-02	156
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PAHKFLMA	0.147394	0.814119	0.038486	157
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PCBHFLNT	0.103631	0.775439	0.12093	158
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PLCSFLMA	7.83E-03	0.959266	3.29E-02	159
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PLTKFLMA	0.135221	0.795679	6.91E-02	160
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PMBHFLCS	6.42E-02	0.792628	0.143161	161
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PMBHFLFE	0.34874	0.316166	0.335094	162
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PMBHFLM	0.155338	0.54347	0.301192	163
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PMBHFLTA	3.76E-02	0.811218	0.151188	164
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PMPKFLM	8.48E-02	0.914018	1.15E-03	165
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNCYFLCA	0.171387	0.782399	4.62E-02	166
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNCYFLMA	0.237199	0.598702	0.1641	167
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNSCFLBL	0.305332	0.48214	0.212528	169
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNSCFLFP	0.19212	0.63138	0.1765	170
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNSCFLHC	0.31639	0.602289	8.13E-02	171
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNSCFLPB	0.148736	0.843934	7.33E-03	172
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNSCFLW	0.191642	0.640901	0.167458	173
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PNVDFLMA	1.72E-02	0.94871	3.41E-02	174
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PRRNFLM	0.241277	0.553163	0.20556	175
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PRSNFLFD	0.128524	0.867858	3.62E-03	176
BCPM	No More Data										
BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	PTSLFLMA	0.327913	0.606742	6.53E-02	177
BCPM	No More Data										

BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	PTSLFLSO	0.145804	0.727077	0.127119	178
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	SBSTFLFE	0.57704	0.419877	0.003082	179
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	SBSTFLMA	0.27011	0.645473	0.084417	180
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	SGKYFLMA	0.716827	0.131224	0.151949	181
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	SNFRFLMA	0.126823	0.758023	0.115154	182
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	STAGFLBS	3.14E-02	0.787262	0.181385	183
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	STAGFLMA	0.207244	0.65966	0.133097	184
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	STAGFLSH	0.102857	0.837998	5.91E-02	185
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	STAGFLW	0.151	0.7242	0.1248	186
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	STRTFLMA	0.169998	0.663204	0.166798	187
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	SYHSFLCC	0.132024	0.859675	8.30E-03	188
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	TRENFLMA	7.59E-02	0.914763	9.35E-03	189
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	TTVLFLMA	0.239212	0.642723	0.118065	190
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	VERNFLMA	0.144988	0.849916	0.005096	191
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	VRBHFLBE	8.72E-02	0.753489	0.159265	192
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	VRBHFLMA	0.261912	0.637597	0.100491	193
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WELKFLM	0.133616	0.865241	1.14E-03	194
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLA	0.347013	0.252098	0.40089	195
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLG	0.222622	0.615813	0.161565	196
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLG	0.20633	0.649874	0.143796	197
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLH	0.197202	0.572692	0.230106	198
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLL	0.270216	0.405163	0.324621	199
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLR	0.313467	0.410267	0.276267	200
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WPBHFLR	0.510264	0.452972	3.68E-02	201
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WWSPFLH	9.92E-02	0.874287	2.66E-02	202
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	WWSPFLS	0.036533	0.93031	3.32E-02	203
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	YNFNFLMA	0.189451	0.809784	7.65E-04	204
BCPM	No More Data										
BST2000-Fl-Ref		0	100,000,000 *	*	1000	1000 *	YNTWFLM	0.231111	0.760294	8.60E-03	205
BCPM	No More Data										

BST2000-FI-Ref		0	100,000,000 *	*	1000	1000 *	YULEFLMA	0.32399	0.667805	8.20E-03	206
BCPM	No More Data										

Underground Spacing [Engineering Rules]

Scenario	Structure	TypeSz	Spacing
BST2000-FI-Ref	Manholes	1	300
BCPM	Manholes	1	600
BST2000-FI-Ref	Manholes	3	900
BCPM	Manholes	3	600
BST2000-FI-Ref	Manholes	5	900
BCPM	Manholes	5	600

Buried Sharing [Plant Sharing]

Scenario	ExcvActivity	UrbanShared	SuburbSha	RuralShared
BST2000-FI-Ref	Backhoe Trench	-	0	0
BCPM	Backhoe Trench	0.96	0.96	0.96
BST2000-FI-Ref	Bore Cable	-	0	0
BCPM	Bore Cable	0.96	0.96	0.96
BST2000-FI-Ref	Cut & Restore Asphalt	-	0	0
BCPM	Cut & Restore Asphalt	0.96	0.96	0.96
BST2000-FI-Ref	Cut & Restore Concrete	-	0	0
BCPM	Cut & Restore Concrete	0.96	0.96	0.96
BST2000-FI-Ref	Cut & Restore Sod	-	0	0
BCPM	Cut & Restore Sod	0.96	0.96	0.96
BST2000-FI-Ref	Free Trench (i.e. Developer)	-	0	0
BCPM	Free Trench (i.e. Developer)	0.96	0.96	0.96
BST2000-FI-Ref	Hand Dig Trench	-	0	0
BCPM	Hand Dig Trench	0.96	0.96	0.96
BST2000-FI-Ref	Plow	-	0	0
BCPM	Plow	0.96	0.96	0.96
BST2000-FI-Ref	Push Pipe & Pull Cable	-	0	0
BCPM	Push Pipe & Pull Cable	0.96	0.96	0.96
BST2000-FI-Ref	Rocky Plow	-	0	0
BCPM	Rocky Plow	0.96	0.96	0.96
BST2000-FI-Ref	Rocky Trench	-	0	0
BCPM	Rocky Trench	0.96	0.96	0.96
BST2000-FI-Ref	Trench & Backfill	-	0	0
BCPM	Trench & Backfill	0.96	0.96	0.96

Underground Sharing [Plant Sharing]

Scenario	ExcvActivity	UrbanShared	SuburbSha	RuralShared
BST2000-FI-Ref	Backhoe Trench	-	0	0
BCPM	Backhoe Trench	0.99	0.99	0.99
BST2000-FI-Ref	Bore Cable	-	0	0
BCPM	Bore Cable	0.99	0.99	0.99
BST2000-FI-Ref	Cut & Restore Asphalt	-	0	0
BCPM	Cut & Restore Asphalt	0.99	0.99	0.99
BST2000-FI-Ref	Cut & Restore Concrete	-	0	0
BCPM	Cut & Restore Concrete	0.99	0.99	0.99
BST2000-FI-Ref	Cut & Restore Sod	-	0	0
BCPM	Cut & Restore Sod	0.99	0.99	0.99
BST2000-FI-Ref	Free Trench (i.e. Developer)	-	0	0
BCPM	Free Trench (i.e. Developer)	0.99	0.99	0.99
BST2000-FI-Ref	Hand Dig Trench	-	0	0
BCPM	Hand Dig Trench	0.99	0.99	0.99
BST2000-FI-Ref	Push Pipe & Pull Cable	-	0	0
BCPM	Push Pipe & Pull Cable	0.99	0.99	0.99

Buried Rural Excavation Activity [Excavation Activity]

Scenario	ExcvActivity	NormalPerc	SoftrockPe	HardrockPe	WaterPerc
BST2000-FI-Ref	Backhoe Trench	-	0	0	0
BCPM	Backhoe Trench	0.03	0.02	0.05	0
BST2000-FI-Ref	Bore Cable	-	0	0	0
BCPM	Bore Cable	-	0.01	0.01	0
BST2000-FI-Ref	Cut & Restore Asphalt	-	0	0	0
BCPM	Cut & Restore Asphalt	0.02	0.02	0.02	0
BST2000-FI-Ref	Cut & Restore Concrete	-	0	0	0
BCPM	Cut & Restore Concrete	0.02	0.02	0.02	0
BST2000-FI-Ref	Cut & Restore Sod	-	0	0	0
BCPM	Cut & Restore Sod	0.02	0.02	0.02	0
BST2000-FI-Ref	Hand Dig Trench	-	0	0	0
BCPM	Hand Dig Trench	-	0.03	0.01	0
BST2000-FI-Ref	Plow	-	0	0	0
BCPM	Plow	0.80	0.46	0	0
BST2000-FI-Ref	Push Pipe & Pull Cable	-	0	0	0
BCPM	Push Pipe & Pull Cable	-	0	0.01	0
BST2000-FI-Ref	Rocky Plow	-	0	0	0
BCPM	Rocky Plow	-	0.28	0.47	0
BST2000-FI-Ref	Rocky Trench	-	0	0	0
BCPM	Rocky Trench	-	0.04	0.29	0
BST2000-FI-Ref	Trench & Backfill	-	0	0	0
BCPM	Trench & Backfill	0.11	0.1	0.1	0

Buried Suburban Excavation Activity [Excavation Activity]

Scenario	ExcvActivity	NormalPerc	SoftrockPe	HardrockPe	WaterPerc
BST2000-FI-Ref	Backhoe Trench	-	0	0	0
BCPM	Backhoe Trench	0.02	0.08	0.12	0
BST2000-FI-Ref	Bore Cable	-	0	0	0
BCPM	Bore Cable	0.02	0.02	0.02	0
BST2000-FI-Ref	Cut & Restore Asphalt	-	0	0	0
BCPM	Cut & Restore Asphalt	0.13	0.13	0.13	0
BST2000-FI-Ref	Cut & Restore Concrete	-	0	0	0
BCPM	Cut & Restore Concrete	0.12	0.12	0.12	0
BST2000-FI-Ref	Cut & Restore Sod	-	0	0	0
BCPM	Cut & Restore Sod	0.20	0.2	0.2	0
BST2000-FI-Ref	Hand Dig Trench	-	0	0	0
BCPM	Hand Dig Trench	0.06	0.06	0.06	0
BST2000-FI-Ref	Plow	-	0	0	0
BCPM	Plow	0.20	0.02	0	0
BST2000-FI-Ref	Push Pipe & Pull Cable	-	0	0	0
BCPM	Push Pipe & Pull Cable	0.05	0.05	0.05	0
BST2000-FI-Ref	Rocky Plow	-	0	0	0
BCPM	Rocky Plow	-	0.02	0.03	0
BST2000-FI-Ref	Rocky Trench	-	0	0	0
BCPM	Rocky Trench	-	0.25	0.27	0
BST2000-FI-Ref	Trench & Backfill	-	0	0	0
BCPM	Trench & Backfill	0.20	0.05	0	0

Buried Urban Excavation Activity [Excavation Activity]

Scenario	ExcvActivity	NormalPerc	SoftrockPe	HardrockPe	WaterPerc
BST2000-FI-Ref	Backhoe Trench	-	0	0	0
BCPM	Backhoe Trench	0.19	0.17	0.1	0
BST2000-FI-Ref	Bore Cable	-	0	0	0
BCPM	Bore Cable	0.15	0.15	0.15	0

BST2000-Fl-Ref	Cut & Restore Asphalt	-	0	0	0
BCPM	Cut & Restore Asphalt	0.25	0.25	0.25	0

BST2000-Fl-Ref	Cut & Restore Concrete	-	0	0	0
BCPM	Cut & Restore Concrete	0.20	0.2	0.2	0

BST2000-Fl-Ref	Cut & Restore Sod	-	0	0	0
BCPM	Cut & Restore Sod	0.08	0.08	0.08	0

BST2000-Fl-Ref	Hand Dig Trench	-	0	0	0
BCPM	Hand Dig Trench	0.08	0.08	0.08	0

BST2000-Fl-Ref	Rocky Trench	-	0	0	0
BCPM	Rocky Trench	-	0.05	0.14	0

BST2000-Fl-Ref	Trench & Backfill	-	0	0	0
BCPM	Trench & Backfill	0.05	0.02	0	0

Underground Rural Excavation Activity [Excavation Activity]

Scenario	ExcvActivity	NormalTerrainPer	SoftrockTe	HardrockPe	WaterPerc
BST2000-Fl-Ref	Backhoe Trench	-	0	0	0
BCPM	Backhoe Trench	0.19	0.45	2.6151	0

BST2000-Fl-Ref	Bore Cable	-	0	0	0
BCPM	Bore Cable	0.02	0.03	0.03	0

BST2000-Fl-Ref	Cut & Restore Asphalt	-	0	0	0
BCPM	Cut & Restore Asphalt	0.02	0.02	0.1176	0

BST2000-Fl-Ref	Cut & Restore Concrete	-	0	0	0
BCPM	Cut & Restore Concrete	0.02	0.02	0.1014	0

BST2000-Fl-Ref	Cut & Restore Sod	-	0	0	0
BCPM	Cut & Restore Sod	0.02	0.02	0.1493	0

BST2000-Fl-Ref	Free Trench (i.e. Developer)	-	0	0	0
BCPM	Free Trench (i.e. Developer)	0.71	0.05	0	0

BST2000-Fl-Ref	Hand Dig Trench	-	0	0	0
BCPM	Hand Dig Trench	0.02	0.04	0.3264	0

BST2000-Fl-Ref	Push Pipe & Pull Cable	-	0	0	0
BCPM	Push Pipe & Pull Cable	-	0.37	4.4908	0

Underground Suburban Excavation Activity [Excavation Activity]

Scenario	ExcvActivity	NormalTerrainPer	SoftrockTe	HardrockPe	WaterPerc
BST2000-Fl-Ref	Backhoe Trench	-	0	0	0
BCPM	Backhoe Trench	0.30	0.2	0.9793	0

BST2000-Fl-Ref	Bore Cable	-	0	0	0
BCPM	Bore Cable	0.02	0.02	0.02	0

BST2000-Fl-Ref	Cut & Restore Asphalt	-	0	0	0
BCPM	Cut & Restore Asphalt	0.13	0.13	0.7641	0

BST2000-Fl-Ref	Cut & Restore Concrete	-	0	0	0
BCPM	Cut & Restore Concrete	0.12	0.12	0.6086	0

BST2000-Fl-Ref	Cut & Restore Sod	-	0	0	0
BCPM	Cut & Restore Sod	0.10	0.1	0.7464	0

BST2000-Fl-Ref	Free Trench (i.e. Developer)	-	0	0	0
BCPM	Free Trench (i.e. Developer)	0.27	0.09	0	0

BST2000-Fl-Ref	Hand Dig Trench	-	0	0	0
BCPM	Hand Dig Trench	0.06	0.06	0.4897	0

BST2000-Fl-Ref	Push Pipe & Pull Cable	-	0	0	0
BCPM	Push Pipe & Pull Cable	-	0.28	3.6743	0

Underground Urban Excavation Activity [Excavation Activity]

Scenario	ExcvActivity	NormalTerrainPer	SoftrockTe	HardrockPe	WaterPerc
BST2000-Fl-Ref	Backhoe Trench	-	0	0	0
BCPM	Backhoe Trench	0.20	0.18	0.8161	0

BST2000-Fl-Ref	Bore Cable	-	0	0	0
BCPM	Bore Cable	0.15	0.15	0.15	0

BST2000-FI-Ref	Cut & Restore Asphalt	-	0	0	0
BCPM	Cut & Restore Asphalt	0.25	0.25	1.4694	0
BST2000-FI-Ref	Cut & Restore Concrete	-	0	0	0
BCPM	Cut & Restore Concrete	0.20	0.2	1.0143	0
BST2000-FI-Ref	Cut & Restore Sod	-	0	0	0
BCPM	Cut & Restore Sod	0.07	0.07	0.5225	0
BST2000-FI-Ref	Free Trench (i.e. Developer)	-	0	0	0
BCPM	Free Trench (i.e. Developer)	0.05	0.02	0	0
BST2000-FI-Ref	Hand Dig Trench	-	0	0	0
BCPM	Hand Dig Trench	0.08	0.08	0.6529	0
BST2000-FI-Ref	Push Pipe & Pull Cable	-	0	0	0
BCPM	Push Pipe & Pull Cable	-	0.05	1.2248	0