

**CHAPTER 1**  
**INTRODUCTION AND SUMMARY OF RECOMMENDATIONS**

**I. INTRODUCTION**

1 This is DRA's report in response to Administrative Law Judge (ALJ) Wong's February 21, 1996 ruling requesting parties to address in prepared testimony specific issues embodied in thirteen questions. This testimony addresses issues raised in the ALJ Ruling which includes but is not limited to the following:

- o the appropriate proxy cost model to estimate the costs of universal service in high cost areas of the state
- o the subsidy requirements for the provision of universal service in California;
- o the appropriate offsets to the subsidy amounts for carriers providing basic services;
- o the appropriate application of implicit subsidies currently accumulated by the incumbent LECs; and
- o impacts of the Telecommunications Act of 1996.

This report also includes a discussion on pricing flexibility and geographic rate deaveraging of basic service for the incumbent LECs. Even though these particular issues were not explicitly raised in the ALJ Ruling, they are included for purposes of illustrating DRA's proposed subsidy mechanism.

**II. SUMMARY OF RECOMMENDATIONS**

2. The Commission determined that a proxy cost study be used to develop the cost of basic service throughout the state. The Commission intends to use the outputs of the proxy cost study to determine the level of subsidy support necessary to ensure universal service in California. As of this time, there are two computer models for the proxy cost study being sponsored by

parties in this proceeding. Pacific is sponsoring the Cost Proxy Model (CPM). AT&T Communications of California (AT&T) and MCI Telecommunications Corporation (MCI) are co-sponsoring the Hatfield Proxy Model (HPM). Because the CPM and the HPM are unique and independent, only one of these models should be adopted by the Commission.

3. DRA recommends that the Commission adopt the CPM, but modified it as follow:

- o Assumptions:
  - a. Design utilization factor instead of actual utilization factor should be used for feeder plant and pair gain systems;
  - b. Fiber cable should be used for feeder plant greater than 12,000 feet;
  - c. Switch costs should reflect the higher amount of manufacturers' discount available; and
  - d. Costs associated with 2 copper pairs per drop should be included.
- o Input Data:
  - a. Relevant cost from Pacific's and GTEC's OAND cost studies adopted by the Commission should be included;
  - b. Only rearrangement costs associated with serving the entire quantity of service and not costs associated with serving new customers should be included;
  - c. Non-recurring cost should be treated as a shared cost.

4. DRA envisions that subsidies would be available to all carriers of last resort, and that the subsidy amounts would vary by geographic areas of the state. DRA's subsidy mechanism proposal is summarized below:

- o Subsidy Mechanism:
  - a. Pacific's current rate for flat rate service (\$11.25) plus the end user common line charge

(\$3.50 should be used to identify high cost areas;

- b. Subsidies in high cost areas should be available to all carriers of last resort;
  - c. Applicable subsidies should be available to each residential line;
  - d. Basic services in high cost areas should be subsidized up to their total service long run incremental costs (TSLRICs) as estimated by the proxy cost model; and
  - e. Subsidies to carriers of last resort should be offset by revenues from the interstate Universal Service Fund (USF) and interstate carrier common line charge (CCLC).
- o Implicit subsidies:
- a. Revenues from Yellow Pages and other competitive and discretionary services should not be considered in the subsidy offset calculation; and
  - b. Yellow Pages revenues would essentially cover the reasonable portion of the LECs' total shared and common costs not recovered through rates for the unbundled basic network functions (BNF) services the LECs sell to competing carriers.

5. Furthermore, DRA recommends that subsidies be available to schools, libraries, and rural health care providers as mandated in the Telecommunications Act of 1996.<sup>1</sup>

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1. Act at Sec. 254 (h) (1) (A) and Sec. 254 (h) (1) (B).

CHAPTER 2  
PROXY COST MODELS

I. COMMISSION'S EXPECTATIONS OF A PROXY COST MODEL

1. In D.95-12-021, the Commission determined that a proxy cost study would be used to develop the cost of basic service throughout the state. The cost of basic service would be used to determine the level of subsidy support necessary for the high cost areas. The Commission did not require a company-by-company cost analysis, or specific cost studies for each LEC. Instead, the Commission preferred a proxy cost model that would be representative of all of California, and not just for the service areas of Pacific and GTEC.<sup>1</sup>

2. Though the Commission did not specify a particular model, the Commission did set certain expectations. For example, the Commission envisioned that the proxy model would "accommodate different geographic and cost factors that are representative of the entire state". Further, the "proxy cost model should closely reflect actual cost without having to develop all of the cost data necessary for cost studies of each individual LEC."<sup>3</sup> In addition, the proxy cost model should be able to account for the different kinds of service areas encountered in each LEC's territory in California. Basically, the proxy cost model should estimate the cost of providing basic service for a particular LEC area based on the characteristics of that particular area, such as "population density, distance to the nearest wire center and terrain, etc."<sup>4</sup> Furthermore, the Commission expects the proxy

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1. See D.95-12-021, pp. 5-7.

2. D.95-12-021, page 5.

3. Id., page 6.

4. Id., page 7.

cost model which has the advantage of being independent of a particular company's costs, to incorporate all costs including common and overhead costs.<sup>5</sup>

## II. MODELS PROPOSED BY PARTIES

3. As of this date, only two models are being proposed by parties in this proceeding.<sup>6</sup> Pacific is sponsoring the CPM, while AT&T/MCI are sponsoring the HPM. Both Pacific and AT&T/MCI believe that their respective models are appropriate for the proxy cost study to estimate the costs of basic service in California.

4. Both CPM and HPM were developed by independent companies. INDETEC International (INDETEC), along with Pacific, developed the CPM for Pacific while Hatfield Associates, Inc. (Hatfield) developed the HPM for AT&T/MCI. DRA believes that both INDETEC and Hatfield have considerable financial investments in their individual models which would be enhanced if their model is adopted by the Commission.

5. Initially, HPM was the only model that was able to estimate the cost of basic service throughout the state. However, about five weeks ago, Pacific modified its CPM to estimate costs of basic service throughout the state. HPM uses

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5. Ibid.

6. DRA asked GTE California (GTEC) whether the company intended to sponsor any model different from the CPM and HPM. GTEC indicated in its March 13, 1996 data response that the company is "... not planning to introduce a new proxy model to estimate the Universal funding requirements for California". Further, GTEC stated that "... an alternate model would not expedite the process of reaching a consensus."

the Excel Worksheet while CPM uses both Excel and SAS<sup>7</sup> for the various modules. Further, CPM was developed independent of any other model while HPM was developed as an extension of the Benchmark Cost Model (BCM).<sup>8</sup>

### III. DRA'S EVALUATION PROCEDURE

6. DRA performed the following tasks in its review of the CPM and the HPM:

- o Reviewed documentation received to date for each model.
- o Examined the module structure of each model.
- o Analyzed the validity of each model as to the assumptions, objectives, and input requirements.
- o Performed a sensitivity analysis for certain assumptions and inputs on each model.

#### A. Documentation Review

7. During the review of the documents provided by the sponsor of each model, DRA gained some understanding of the model and its uses. Further understanding of each model was obtained through individual meetings, all party meetings, workshops, and running the individual models. At this time, DRA is expecting additional information relating to each model. Throughout the information gathering process, DRA has requested documentation

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7. SAS is Statistical Analysis Software.

8. BCM is a model developed by MCI, NYNEX, Sprint, and US West in a response to Federal Communications Commission (FCC) issuance of a docket (CC Docket No. 80-286) addressing funding for universal service. This model was suppose to provide "benchmark" costs for the provision of basic telephone service. This model is not being sponsored by any party in this Commission universal service proceeding.

relating to the individual models. Although DRA eventually received most of the information (a few responses are still outstanding), one request required considerable effort to obtain the necessary data. This request was for the proprietary information from Pacific's vendors regarding costs of the central office switches and pair gain systems.

8. Besides the difficulties of obtaining proprietary information, DRA has some concerns relating to the completeness of the information. For example, one of the inputs for the HPM model is based upon a casual conversation by Hatfield with a switch vendor, as discussed in paragraph 5 of Chapter 3 of this report. Therefore, DRA has no way of validating the basis for this input.

9. For the HPM, DRA has obtained an instruction manual, block diagrams, BCM informational package (dated December 1, 1995) submitted to the FCC in CC Docket 80-286, discussion of input assumptions, and responses to other written and verbal data requests (some data requests are incomplete). For the CPM, DRA has similarly received a User's Manual, block diagrams, design overview, information on some input assumptions, and responses to other written and verbal data requests (several of which are still outstanding). To the extent that inputs to the CPM were based upon Pacific's cost studies done for OAND, DRA has performed a limited review.

## **B. Module Structure**

10. Both the CPM and HPM use a module structure to determine the cost of basic service. A block diagram for each model showing the different modules and a flow of data is attached to this chapter (Attachments # 2.1 & 2.2 for CPM and HPM, respectively). CPM has six input modules and one revenue module to perform the cost calculations. The output reports produced by CPM could be supplied on a statewide, or on a company-specific basis. In addition, CPM is able to produce

reports by density zones, wire centers, and census blocks, among others. HPM, on the other hand, has 2 modules which are taken directly from the BCM, and four "enhanced" modules relating exclusively to HPM. Like the CPM, the HPM can also produce output reports for the State, density zones, wire centers, and census blocks. DRA assumes that each sponsor will thoroughly discuss its model in its opening testimony to be filed on April 17, 1996.<sup>9</sup>

### C. Validity of Model

11. In validating the CPM and HPM models, DRA examined the model input data and assumptions. For each major model assumption/input, DRA reviewed the source for most of the input data, how realistic and applicable each assumption/input is to the LEC network in California. Part of the analysis will include sensitizing some of the assumptions/inputs that are in the models. By changing one or more inputs incrementally, DRA was able to determine the effect of each change in the model result. The results on various sensitivity runs will be provided in DRA's reply testimony.

### D. Sensitivity of Model

12. DRA will perform sensitivity runs on certain inputs to determine the effect on the results from the model. For example, Pacific assumed a specific utilization level for the feeder and pair gain system portions of the outside plant. DRA ran the model using the network design criteria for the utilization level for these two portions of the outside plant. This different utilization level is further discussed in paragraph 12 of Chapter 3 of this report. The sensitivity runs on utilization level and

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9. If the Commission adopts a particular model, there is a potential for the model owner(s) to market that model in other states and other countries.

other incremental input changes will be provided in DRA's reply testimony.

## VI. MODEL EVALUATION CRITERIA

13. There are many different criteria that can be used to evaluate a model, from conceptual design to external validation. DRA believes that the following criteria should be used in the evaluation of the two models:

- o Usefulness of the Model:

Does the model estimate the cost of basic service throughout the state? Further, can the model adequately account for the different kinds of service areas encountered in each LEC's service area? Finally, is the model relatively easy to use?

- o Conformance of the Model to Accuracy/Reality:

Does the model accurately reflect the various network components. For example, does the model include the different components (e.g. drop, SAI, etc.) of a telecommunications network in California? Further, does the model adequately represent the outside plant and switching cost investment of the LECs in California? In addition, does the model include factors that are closely match the forward looking technology that is being modeled? Finally, are the cost inputs to the model comparable to OAND costs for similar basic services.

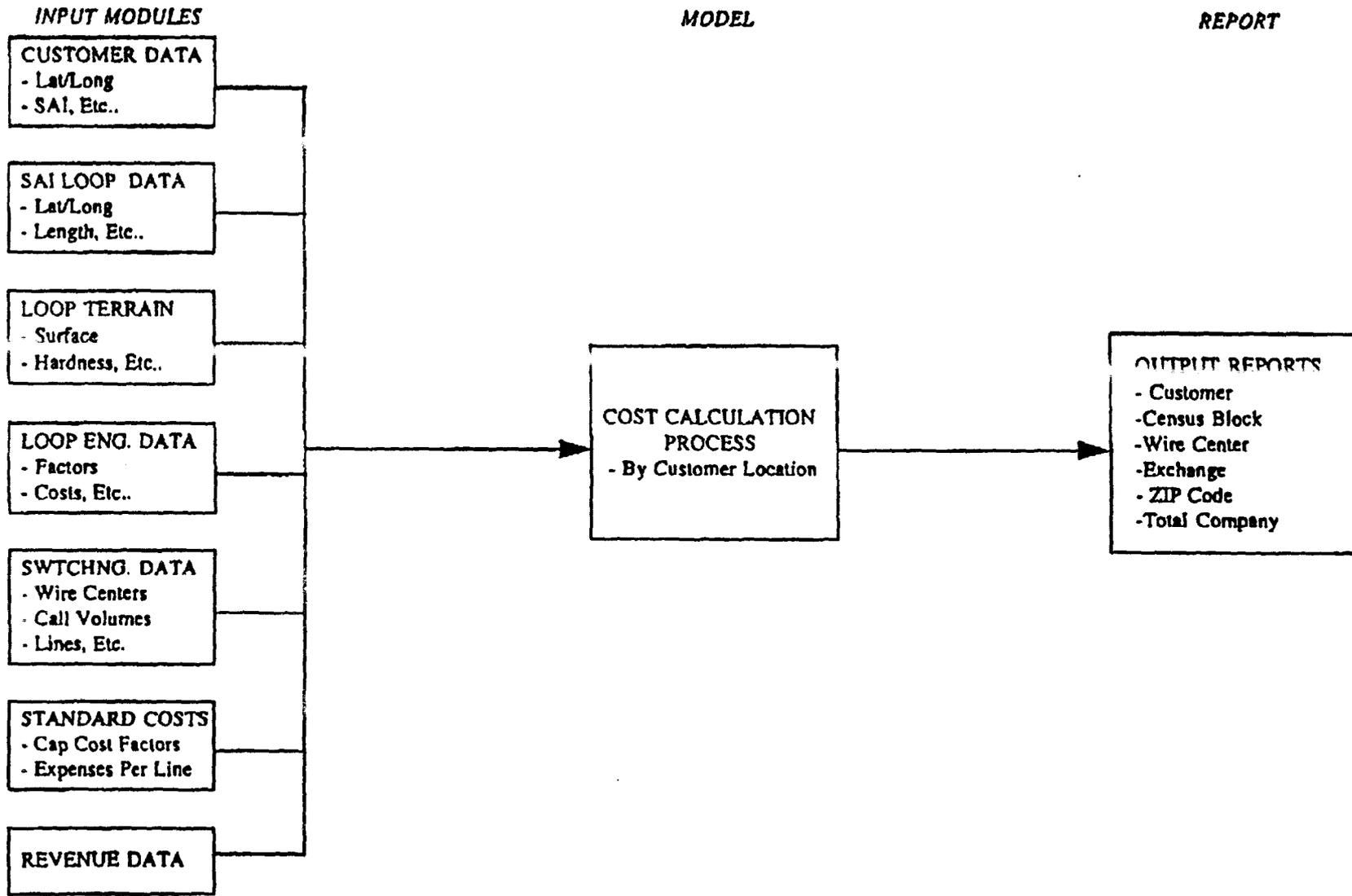
- o Availability of Model:

Is the model, along with inputs and assumptions constrained by proprietary or confidential concerns? Further, is the model ready and available at the Commission for the decision makers?

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**ATTACHMENTS  
TO  
CHAPTER 2**

# COST PROXY MODEL OVERVIEW

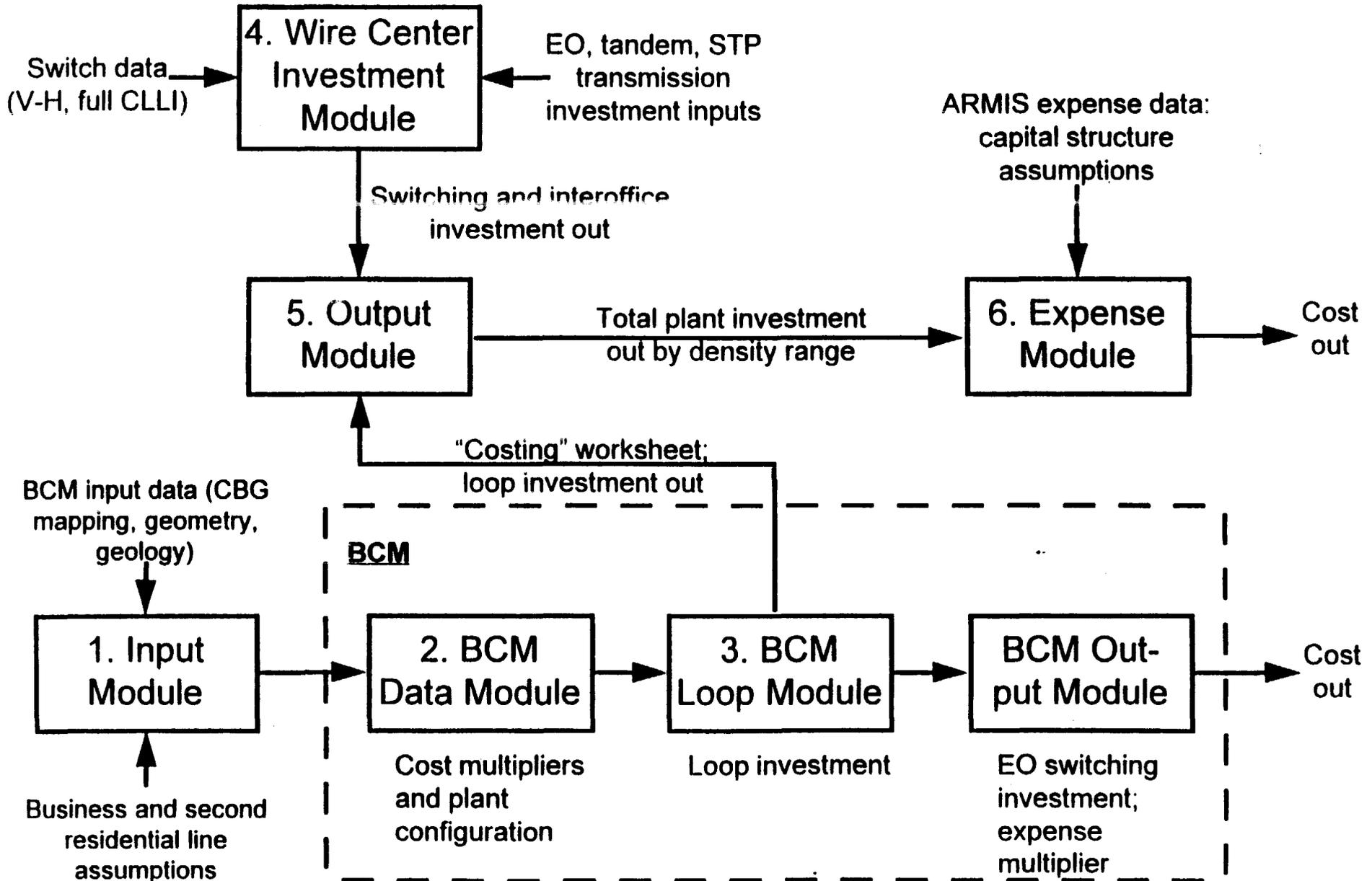


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ATTACHMENT 2.1

# Hatfield Proxy Model Functional Block Diagram



### CHAPTER 3

#### DRA'S POSITION AND RECOMMENDATIONS ON THE PROXY COST MODEL

1. On February 21, 1996, ALJ Wong issued a ruling listing 10 questions on the issue of proxy cost model and 3 questions on other universal service issues to be addressed in the evidentiary hearings in this proceeding. This ruling was issued after the first set of workshops in February 1996, which included presentations and discussions of HPM and CPM.<sup>1</sup> No agreement was reached on the model structure, inputs, assumptions, and cost components at these workshops. The ruling indicated the need to address the "... the structure and development of a proxy cost model in its entirety." In this chapter, DRA will discuss the ten issues, as listed in the February 21, 1996 ALJ's Ruling, relating to the proxy cost model. Furthermore, DRA will present its position and recommendations regarding the proxy cost model. DRA's responses to the ten issues are listed in the order of DRA's development of issues.

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1. First set of workshops were conducted from February 1 to February 8, 1996. One of the four objectives of these workshops was to have a consensus model that would provide an estimate of the costs to provide basic service to all areas in California. The second set of workshops was held on March 4 & 5, 1996. At this second set of workshop, Commissioner Knight expressed disappointment that parties in this proceeding were not able to reach any consensus. Subsequent to the second set, DRA notes that there were numerous other meetings/workshops held at Pacific's facility

1. [Q.1]<sup>2</sup> What proxy cost model, if any, does the party recommend the Commission adopt, and why should that model be chosen over competing models?

2. DRA recommends that the Commission adopt the CPM over the HPM for several reasons:

- o Ease of use and usefulness of CPM over HPM.
- o CPM model inputs and assumptions are more easily verified than HPM.
- o CPM uses more California-specific numbers than HPM.

**A. Ease of Use and Usefulness**

3. Even though both HPM and CPM have certain difficulties for a novice user of the model, the CPM is easier to use than the HPM. DRA had an easier time understanding the flow of inputs and assumptions through the various calculations of different modules of CPM versus the more complex module framework of HPM. Based upon meetings and workshops with sponsors of the two models, DRA understands that most of the inputs and assumptions can be changed in CPM while HPM has certain inputs that cannot be changed in the BCM portion of the HPM. DRA believes that these limitations make the CPM superior to the HPM. In addition, CPM is available at the Commission office while HPM is available at AT&T's facility. The Commission does not have the necessary computer resources to operate and utilize the HPM on Commission premises.<sup>3</sup>

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2. Q.1 refers to question 1 of the ALJ's Ruling, and Q.2 refers to question 2, etc.

3. DRA understands that HPM requires a Pentium Processor running at least 133 Megahertz with 128 megabytes RAM, 1 Gigabytes Hard Disk Drive, internal 4X CD-ROM Drive, and tape backup unit. A 133 Megahertz Pentium is needed to have reasonable processing run times. [Source: BCM review course material.]

## B. Verifiability of Inputs/Assumptions

4. DRA is, of course, concerned that both HPM and CPM have some inputs and assumptions that are proprietary in nature. DRA believes that this restriction limits the ability of parties (non-Commission, CACD, and DRA staff) to verify the total array of inputs and assumptions. However, DRA was afforded the opportunity to verify most inputs and assumptions of CPM while it was not able to verify certain inputs and assumptions from the HPM. For example, HPM assumed \$40 as a cost for the "drop" portion of the outside plant network. The source of this data was a New England Telephone cost study entitled "1993 New Hampshire Incremental Cost Study". DRA examined the source for the drop and was not able to determine how the \$40 drop cost used in the study was developed. DRA recognizes that HPM used the \$40 drop because it was "publicly available" but DRA requested the basis for using \$40 as the cost of the drop in California. Further, the original BCM did not consider the cost of the drop as part of the outside plant network. However, Hatfield incorporated this amount as part of the extension to BCM but did not explain why this amount is reasonable for California operations.

5. Another example is the switching cost data used in the HPM. DRA requested in a data request that Hatfield "provide all details (e.g. date of conversation, name of manufacturer, name of representative, telephone numbers, switch components ... under what terms and conditions, etc.) to this proposed purchase price" of about \$6 million. Hatfield responded that "[t]he switch investment estimate was in large part based on informal conversations with a person from a major switch manufacturer; however, because that person requested his name and company not be divulged, HAI [Hatfield] also relied upon conversations which occurred over the years with various vendors and local exchange carrier personnel who are involved in switching and end-office

operations and procurement." <sup>4</sup> Therefore, Hatfield has not provided any record to support these telephone conversations. On April 3, 1996, Hatfield informed the parties that it revised its switching costs. Nevertheless, Hatfield indicated that the new and latest switching cost inputs were to be used as a "place holder"; however, no further supporting details regarding this revision have been provided.

### C. California-Specific Numbers

6. DRA believes that CPM incorporates switching and loop costs that are more reflective of a telecommunications network in California than HPM. For example, HPM initially did not include all the components of a telecommunications network necessary to estimate proxy costs for basic service in California. The components of a telecommunications network not included are, among others, the costs for drop, SAI, and terminals. Recently, Hatfield included the costs for these three items as part of the "enhanced" portion of the HPM, and not part of the Loop Module of the BCM.<sup>5</sup> Further, as discussed in paragraph 4 above, drop cost, along with SAI and terminals, are not supported by factual documents nor were these subsequent changes reflective of costs which are representative of operations in California.

7. DRA understands that Pacific uses its own data for the majority of the inputs and assumptions since the specific data from other LECs in California was not readily available.<sup>6</sup>

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4. AT&T March 29, 1996 response, Answer #4.

5. The Loop Module calculates the loop investment adjusting for installation difficulty to terrain and cable sizes.

6. DRA understands that GTEC was suppose to provide data/concerns/corrections relating to the inputs and assumptions of the CPM and HPM to both Pacific and AT&T/MCI. As of April 12,

(Footnote continues on next page)

Nevertheless, Pacific's inputs and assumptions are still more reflective of a telecommunications network in California. However, DRA recommends that CPM can be adjusted, if necessary, to accurately reflect specific investment and costs for other LECs in California. DRA will comment in detail on this issue in section III in response to question # 3 from the ALJ's ruling.

II. [Q.2] Describe how the proxy cost model is structured, and the type of cost inputs it considers, and the reasons for including or excluding those cost inputs. Describe the number of copper pairs provided to each residence, and the rationale for subsidizing more than one pair.

A. Structure of Models

8. Both Pacific's CPM and AT&T/MCI's HPM attempt to estimate the cost of providing basic service in California. DRA believes that the sponsor of each model will discuss the structure of the model, its cost inputs, and assumptions in detail in its opening testimony, to be filed on April 17, 1996. Therefore, DRA will not repeat the descriptions of the structure of the two models, inputs, and assumptions.

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(Footnote continued from previous page)

1996, GTEC has not provided any information to either party. Further, DRA requested similar information from GTEC and such information was not provided to date. However, in a telephone conversation between DRA and GTEC on April 11, 1996, DRA understands that GTEC is completing its analysis of the two models and will present its findings and conclusions as part of its opening testimony.

## B. Number of Copper Pairs

9. Based upon a telephone discussion with Pacific's engineer, DRA understands that Pacific's standard engineering practice in Pacific's service territory is to have two copper pairs (two access lines capability) of drop in buried plant and one pair in aerial plant going to each residence subscriber. However, in newer expensive housing developments the number of copper pairs in buried plant to some subscribers may be as high as five, rather than two copper pairs. Nevertheless, Pacific assumed a single copper pair (one access line) in the CPM model for the buried drop to a residence subscriber.<sup>7</sup> DRA recommends that the costs associated with 2 copper pairs (two access lines) for drop in buried plant (along with underground plant) be changed to about half in the CPM model. This would spread the cost of the drop plant over 2 copper pairs for drop in buried plant per residence subscriber. In its reply testimony, DRA will provide the incremental cost difference of using two copper pairs versus one copper pair in buried drop for majority of residence subscribers.

III. [Q.3] What assumptions does the proxy cost model make, and does the model rely on company specific cost data or more generic cost data?

10. DRA expects that the sponsors will discuss all assumptions and inputs that were included in their models. DRA understands that Pacific's CPM relies primarily on its own company loop and switching costs, while HPM relies primarily on a New England Telephone cost study for its operations in New

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7. Pacific's mix of buried and aerial distribution cable is about a 3 to 2 ratio in lower density zones and a higher 9 to 1 ratio of buried (along with underground) to aerial distribution cable in higher density zones. Therefore, Pacific has more residence with two copper pairs for drop than a single copper pair.

Hampshire, undocumented conversations, and a McGraw-Hill publication entitled "U.S. Central Office Equipment Market--1994". DRA recognizes the difficulties that both INDETEC and Hatfield had in collecting data from LECs in California.<sup>8</sup> DRA also understands that both INDETEC and Hatfield are willing to update data to reflect California operations.<sup>9</sup> Since DRA is recommending that CPM be adopted, DRA believes that certain loop and switching cost inputs could be updated to reflect cost data that is representative of LECs in California to estimate the cost of basic service. At this time, DRA is not able to determine which investment and cost inputs, if any, have to be adjusted since no other LECs have provided any information to DRA. Therefore, DRA focuses its report on specific recommended changes of certain inputs that should be adopted by the Commission.

#### A. CPM's Assumptions

11. DRA recommends the following additional changes be considered by the Commission for the CPM model:

- o Use of design utilization factor for feeder plant and pair gain systems.
- o Use of fiber plant for feeder plant greater than 12,000 feet.
- o Use of switch costs that reflect higher discount

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8. In a March 1, 1996 response, Hatfield indicated that "they did not claim that the values in the HPM are necessarily the absolute best." Further, Hatfield stated "[t]hey are, however, the best available." DRA questioned whether data from a small LEC (New England Telephone), done for New Hampshire state, a state that is a small size of which has a different climate from California, is appropriate and comparable for California operations.

9. Not all data inputs can be changed in the BCM portion of the HPM.

a. Utilization Factor Recommendation

12. DRA recommends that Pacific use the design utilization factors for feeder and pair gain systems for several reasons. First, DRA believes that Pacific should use the same factors as being used in the OAND proceeding. Second, the proxy cost modeling is performed for "forward-looking" technology and reflects the total number of access lines in California. In other words, the proxy cost subsidies will be based on the total number of access lines in service as of the date of the modeling. Third, the LECs' present networks were mostly constructed prior to the introduction of toll and local competition, so that the LECs had less incentive to efficiently design and build their networks. Therefore the embedded network is based on an inefficient network resulting in a lower utilization. DRA will provide the incremental impact for this change by density zones in its reply testimony.

b. Fiber Plant Recommendation

13. DRA recommends that the fiber feeder length assumption in CPM be changed to reflect that fiber be considered only for feeder plant greater than 12,000 feet, not 9,000 feet. DRA recommends this fiber feeder length of 12,000 feet for two reasons. First, DRA examined Pacific's documents supporting a fiber cut-off at 9,000 feet. The reason stated in the various studies for the 9,000 feet cut-off was for "loop broadband planning."<sup>10</sup> DRA is concerned that the cost of basic service should not be used to subsidize the development of broadband services. Second, GTEC indicated in a meeting that it currently places fiber in feeder beyond 12,000 feet. Apparently, the BCM considers "digital loop technology whenever the total feeder

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10. In a April 11, 1996 telephone conversation, Pacific's engineer indicated that a 9,000 feet cut-off to install fiber for feeder plant is not feasible for Plain Old Telephone Service.  
may or may

length exceeds 12,000 feet."<sup>11</sup> The incremental impact for this change by density zones will provided in DRA's reply testimony.

### **c. Switch Costs Should Reflect A Higher Discount**

14. DRA recommends that Pacific use the lower switching costs for DMS-100 and 5-ESS switches. DRA examined the vendor's prices for these switches and the SCIS model's calculation for the various inputs used in the CPM.<sup>12</sup> Pacific did not utilize the maximum possible discounts available for the "forward-looking" technology for both switches. Instead, Pacific weighted the switch price for each switch by factoring a lower discount amount for additions due to growth. This procedure by Pacific is not appropriate since DMS-100 and 5-ESS capabilities are assumed to be available for all subscribers in California because of the introduction of competition and because growth in access lines in California assumed in the proxy model will be very little in the near term. In a normal replacement program, DRA agrees with Pacific's assumption that additions should be considered over time but for proxy cost purposes the assumption is that these switches will be available to provide the service as part of a "forward-looking" technology. DRA will provide the incremental impact for this change in its reply testimony.

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11. Hatfield's March 11, 1996 "A Discussion of Input Assumptions Used in the Hatfield Proxy Model". However, in a December 1, 1995 filing with FCC relating to CC Docket 80-286, loop technology is "[a]nalog copper technology for feeder plant, where the total loop length is less than 12,000 feet." Therefore, digital fiber technology is considered in BCM when total loop length is more than 12,000 feet.

12. SCIS is Switching Cost Information System developed by BellCore. SCIS calculates, among others factors, line termination investment using vendors' prices.

## B. CPM Cost Data

15. DRA recommends the following changes in cost data for the CPM model:

- o the CPM should be updated to include relevant Pacific and GTEC data as adopted in the OAND proceeding;
- o LECs' 1994 ARMIS should be used to develop other LECs' expense estimates;
- o the PI model should be used to develop the amount of shared and common costs allocated to basic services;
- o the model should include rearrangement costs that are associated with serving the entire quantity of basic service, not those associated with serving new customers and
- o the non-recurring costs should be treated as a shared cost.

### a. Operating Expenses

16. Pacific developed the operating expense estimates in its OAND cost studies (OAND-P) and applied the relevant data to its CPM. In the OAND-P, Pacific made two types of adjustments to its 1994 operating expenses. First, Pacific normalized those that do not represent average year expenses. Pacific also adjusted certain expenses in order to reflect expenses that are associated with the forward-looking technology. The adjusted 1994 operating expenses were then used as surrogates for the forward-looking expense estimates. DRA has reservations as to whether these adjusted 1994 expenses fairly reflect operating expenses for the forward-looking technology. DRA raised similar concerns in its opening comments submitted in the OAND proceeding on April 3, 1996.<sup>13</sup> DRA recommends that, to the extent that there is linkage between the CPM and the OAND cost studies, the

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13. Opening Comments of DRA on Round I & Round II Cost Studies, at page 18-20.

CPM should be updated to include relevant Pacific and GTEC data as adopted in the OAND proceeding.<sup>14</sup>

17. In estimating other LECs' operating expenses, Pacific obtained the ratios between its total operating expenses (net of depreciation) and those of other LECs' by using 1993 ARMIS reports that LECs filed with the Federal Communications Commission (FCC). Pacific, then, applied these ratios to its expense estimates to derive specific LEC expense estimates. The methodology Pacific developed uses information that is readily available. The simple ratio captures the cost differences due to different corporate structures and different economies of scale and scope of various LECs. DRA deems the methodology used by Pacific to develop other LECs' expense estimates reasonable except for GTE of California (GTEC). DRA will explain the applicability of GTEC's specific data in Section VI. DRA recommends that Pacific's methodology in developing other LECs' expense estimates be further improved. Instead of using 1993 ARMIS reports, DRA recommends that LECs' 1994 ARMIS reports be used in developing the expense ratios since the data are more current and comparable to those used by Pacific for its own expense estimates, and they are also readily available.

#### **b. Shared and Common Costs**

18. In the OAND-P, Pacific conducted an account-by-account analysis and allocated the shared costs into sixteen family buckets. Through this account-by-account analysis, the OAND-P also identified the total common costs to be recovered by all services. In allocating the shared and common costs to basic service Pacific initially used the allocation factors that were developed in its Profitability Information (PI) Model. The PI is

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14. Pursuant to the March 25, 1996, Assigned Commissioner's Ruling, the Commission intends to issue an interim decision resolving issues relating to Pacific's and GTEC's Round I and II OAND cost studies by May 22, 1996.

one of the computer models used by Pacific in the Implementation and Rate Design phase (IRD) of the New Regulatory Framework (NRF) proceeding. The PI is used by Pacific to identify the profitability of services. The PI uses objectives, such as investment, volumes, revenues, wages, head-counts, etc., to assign a proportionate amount of shared and common costs to various services. The PI recognizes costs by category and not by family. Therefore, irrespective of the shared costs that have been assigned to various families in the OAND-P, the PI re-allocates these shared costs. (Table 3.1, Attachments to Chapter 3)

19. In the updated CPM outputs, Pacific deviated from its PI application for two of the sixteen family buckets. Pacific asserts that assigning the costs of these two family buckets to only services in the families are more reflective of cost and causation. These two deviations result in an [...] increase of shared costs allocated to basic service. (Table 3.1) DRA finds it unreasonable that Pacific simply picked two family buckets and re-allocated their cost to services within the family without applying the same allocation objective to the remaining fourteen cost families. DRA recommends that Pacific's alternative allocation proposal be rejected. The PI has been used by Pacific for internal purposes and for generating monitoring reports to the Commission. Application of the PI to determine a proportionate amount of shared costs to be allocated to basic service for recovery is reasonable and sufficiently reliable.

#### **c. Rearrangement Cost**

20. The OAND-P identified rearrangement costs of [...] per access line per month. The [...] captures the costs for rearranging existing plant to serve new and existing customers to save capacity. The appropriate treatment of the rearrangement cost has not been determined in the OAND proceeding. The CPM includes the [...] rearrangement cost as part of repair and maintenance costs to reflect its stand-ready-to-serve obligation.

DRA disagrees with this treatment. The CPM estimates the cost of basic service using forward-looking technology for the entire quantity of the service. Therefore, the CPM should include rearrangement costs that are associated with serving the entire quantity of the service and not those associated with serving new customers. DRA recommends that the Commission require Pacific to segregate rearrangement costs between serving the entire quantity of basic service and serving new customers. DRA also recommends that the Commission include in the CPM rearrangement costs that are associated with serving the entire quantity of the service only.

#### d. Non-Recurring Cost

21. Using a [.....] location life, the OAND-P estimated [.....] per line per month for the non-recurring cost. The CPM uses this figure less the current non-recurring charge to derive a projected non-recurring cost of [.....] per line per month. The recovery of non-recurring costs can be considered either in the monthly recurring rate or in the one-time non-recurring charge. Therefore, DRA recommends that non-recurring costs be treated as shared costs for which recovery is a pricing issue and to be determined by the incumbent LECs. \*

#### IV. [Q.6] What are the fundamental differences between the HPM and CPM models, and can those differences be resolved or must a policy determination be made?

22. DRA believes that each sponsor of the individual models will provide testimony discussing the fundamental differences between the two models. However, besides recommendations mentioned for the CPM model in paragraph 11 in this chapter, the following will identify what DRA views as on the fundamental differences between the two models:

- o Pacific attempts to use a sampling method to determine loop length and therefore loop investment. A sample of 1200 loops was extracted from a data base to determine