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EXECUTIVE SECRETARY

August 10, 2001

VIA HAND DELIVERY

David Waddell, Executive Secretary
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37238

Re: *Docket to Establish Generic Performance Measurements, Benchmarks and Enforcement Mechanisms for BellSouth Telecommunications, Inc.*
Docket No. 01-00193

Dear Mr. Waddell:

Enclosed are the original and four paper copies along with CD Rom versions of Rebuttal Testimony on behalf of BellSouth from the following witnesses:

David Coon
Edward Mulrow
Ronald Pate
William Taylor

The testimony is being provided counsel of record by CD Rom.

Very truly yours,

Guy M. Hicks

GMH:ch
Enclosure

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8/10/01

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF EDWARD J. MULROW, PH.D.

BEFORE THE TENNESSEE REGULATORY AUTHORITY

DOCKET NO. 01-00193

AUGUST 10, 2001

Q. PLEASE STATE YOUR NAME, AND BUSINESS NAME AND ADDRESS.

A. My name is Edward J. Mulrow. I am employed by Ernst & Young LLP as a Senior Manager in the Quantitative Economics and Statistics Group. I have been retained by BellSouth as a statistical advisor. My business address is 1225 Connecticut Ave., NW, Washington, DC 20036.

Q. ARE YOU THE SAME EDWARD J. MULROW THAT FILED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes. I filed direct testimony in this docket on July 16, 2001.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to portions of the testimony of Dr. Robert M. Bell representing the CLEC Coalition. In responding to the testimony of this witnesses, I address the issues related to Dr. Bell's comments about the Truncated Z, and his impact analysis of the "delta" parameter.

Q. DR. BELL AND THE CLECS SUPPORT THE AUTHORITY'S CHOICE OF

THE TRUNCATED Z STATISTIC. IF THERE IS NO DISAGREEMENT ON THE TEST STATISTIC THAT SHOULD BE USED IN AN ENFORCEMENT PLAN, THEN WHAT, IF ANY, DIFFERENCES EXIST BETWEEN BELLSOUTH AND THE CLEC COALITION WITH RESPECT TO THE STATISTICAL PARTS OF THE PENALTY PLAN?

A. The differences that exist between BellSouth and the CLEC Coalition in the statistical parts of the penalty plan are not due to competing statistical methodologies. In previous proceedings in other states, Dr. Bell and I have agreed that if a performance plan does not call for aggregation, then the basic modified Z methodology is the appropriate technique to apply. On the other hand, if a performance plan calls for aggregation of comparison results, then the Truncated Z methodology is the appropriate technique to use.

The differences between the two sides lie in the important decisions that need to be made in order to carry out the statistical tests. In my direct testimony, I mention that the Truncated Z methodology needs to have performance data broken into like-to-like categories, which we refer to as cells. The CLEC Coalition's recommended performance plan (given in CLEC Coalition witness Ms. Bursh's testimony) also calls for a disaggregation into like-to-like categories, but the Coalition advocates a different disaggregation than that ordered by the Authority (and supported by BellSouth) in the ITC^DeltaCom arbitration.

Dr. Bell also cautions against the re-aggregation of like-to-like cells, via the Truncated Z, across heterogeneous cells. This leads me to believe that the Coalition questions the level of re-aggregation that the Authority has ordered in the

ITC^DeltaCom arbitration. BellSouth, on the other hand, believes that the Authority has ordered an aggregation over homogeneous, like-to-like cells.

Q. DO THE JUDGMENTS REGARDING DISAGGREGATION AND STATISTICAL RE-AGGREGATION REST IN THE HANDS OF THE STATISTICIANS?

A. No, decisions regarding the appropriate disaggregation of transactions, and the reasonable levels of re-aggregation should primarily be based on business judgment. This does not mean that statisticians have no role in the process. The impact of the many choices that can be made need to be understood by the decision makers. Statisticians play an important role in describing this impact, but in the end, the decisions are best left in the hands of telecommunications business experts.

Q. DO YOU HAVE ANY INDICATION AS TO WHETHER OR NOT DR. BELL AGREES WITH YOU ON THIS ISSUE?

A. Yes. If we review Dr. Bell's testimony in recent Florida and North Carolina hearings on performance measure issues, we see that he takes a similar position. (For example, see "Investigation Into The Establishment Of Operations Support Systems Permanent Performance Measures For Incumbent Local Exchange Telecommunications Companies." Florida Public Service Commission, Docket No. 000121-TP, volume 6, Cross examination of Dr. Robert Michael Bell, page 1097, lines 2 – 23.)

Q. IS BELLSOUTH THE ONLY COMPANY SUGGESTING THAT SOME

FORM OF STATISTICAL AGGREGATION BE DONE?

A. No. The six states where the FCC has granted an RBOC the right to market long distance services have performance comparison plans that aggregate the results of many comparisons into an overall result that determines parity/disparity.

In New York, Connecticut, and Massachusetts, Verizon uses a weighted average of performance scores to make parity judgments. In Texas, Oklahoma, and Kansas, Southwestern Bell uses the "K-value" method. This "K-value" methodology is described by AT&T's Dr. Mallows in the "Affidavit of Dr. Colin L. Mallows before the Federal Communications Commission" (sworn May 29, 1998). Thus, both of the methods of aggregation that AT&T's expert has suggested have been adopted by former Bell Companies for use in their performance plans. AT&T however, appears reluctant to accept either of these methodologies.

Q. THERE IS ANOTHER IMPORTANT INPUT PARAMETER THAT IS NEEDED FOR THE BALANCING METHODOLOGY THAT BOTH BELLSOUTH AND THE CLEC COALITION AGREE TO USE, NAMELY "DELTA." IS THE CHOICE OF "DELTA" ALSO BASED ON BUSINESS JUDGMENT?

A. Yes. As I stated in my direct testimony, while statistical science can be used to evaluate the impact of different choices of these parameters, there is not much that an appeal to statistical principles can offer in directing specific choices. Specific choices should be made based on economic/business judgment.

Q. IN HIS TESTIMONY, DR. BELL ARGUES THAT THE VALUE OF DELTA DEFINES MATERIALITY. DO YOU AGREE?

A. No. "Delta" is a factor that is used to identify whether a meaningful difference exists between the BellSouth and CLEC performance. The Louisiana "Statistician's Report" (attachment EJM-1 of my direct testimony), introduced the concept of error probability balancing using the alternative hypothesis parameter "delta." As one of the authors of that report, I can tell you that it was not our intention to make materiality synonymous with the value of "delta." Materiality is directly related to the parameter "delta." As I explained in my direct testimony, penalty payments apply when the observed disparity (the difference in the CLEC and BellSouth average performance on a standardized scale) is more than one-half "delta." So when one chooses "delta" for the alternative hypothesis, then you automatically set the materiality threshold to be one-half "delta." If "delta" were actually the materiality threshold, then the penalty plan set forth by the Authority calls for penalty payments to be made on service differences that are immaterial.

For example, let's consider Dr. Bell's example where the average BellSouth time to complete an order is 5 days with a 5-day standard deviation. If "delta" is set at 0.25, as in the ITC^DeltaCom order, then the Type II error probability used for balancing is evaluated assuming the CLEC average completion time is 6.25 days. This means that once the CLEC average completion time goes beyond 5.625 days (again, the penalties start when the observed disparity equals one-half "delta," a 15 hour difference between the BellSouth and CLEC average service times) then BellSouth will pay a penalty. If in fact the commission determined that 1.25 days (or 30 hours) constituted a material difference in the average service times, then why

should a penalty be paid for immaterial differences between 15 and 30 hours?

Q. IS THERE ANY INDICATION THAT THE CLEC COALITION BELIEVES THAT DIFFERENCES IN PERFORMANCE LESS THAN "DELTA" ARE MATERIAL?

If you carefully go through the suggested enhancements to the Authority's penalty plan proposed by the CLEC Coalition in Ms. Bursh's testimony, you find that an observed disparity of "delta" is labeled an intermediate failure for a Tier I comparison, and it is labeled market impacting for a Tier II comparison. Furthermore, Tier I penalties for observed disparities between one-half "delta" and "delta" range from $2,500 to $8,125. Tier II penalties range from $5,000 (when the observed disparity is five-sixths "delta" and the market penetration factor is one) up to $81,250 (when the observed disparity is "delta" and the market penetration factor is ten). These classifications and penalty amounts indicate that either the CLEC Coalition disagrees with Dr. Bell's position that disparities less than "delta" are immaterial, or the CLEC Coalition is making an unjustified attempt to penalize BellSouth for disparities that they consider immaterial.

Q. WOULD YOU PROVIDE A MORE CONCRETE EXAMPLE OF HOW THESE CALCULATIONS WORK?

A. Certainly. Again, let's consider the case where BellSouth completes provisioning orders to its own customers in an average of 5 days with a 5-day standard deviation. Using the Authority's "delta" value of 0.25, error probability balancing is done assuming the CLEC average completion time is 6.25 days, and BellSouth pays a

penalties when the CLEC average completion time goes beyond 5.625 days. Let's suppose that the actual observed CLEC average completion time is 6 days. The observed disparity is the 6-day CLEC average minus the 5-day BellSouth average (6 – 5 = 1 day) divided by the BellSouth standard deviation of 5 days. This is an observed disparity of 1/5 = 0.2. Note that this is less than the "delta" value of 0.25, but it is larger than the penalty trigger of one-half delta or 0.125.

According to the plan set forth in Ms. Bursh's testimony in Table 1 on page 15, the penalty amount that should be paid is calculated by taking the ratio of the z score to the balancing critical value (z* in Ms. Bursh's notation), and plugging this into the quadratic function given in the table. For the simple situation we are considering, the ratio of z/z* is equivalent to the ratio of the observed disparity to one-half delta, or 0.2/0.125 = 1.6. Plugging 1.6 into Ms. Bursh's quadratic function gives a penalty amount of $4,525. If the observed CLEC average was slightly larger, say 6.1 days, then a similar calculation gives a penalty of $5,749. A CLEC average completion time of 6.2 days produces a penalty of $7,261.

My point here is that, according to Dr. Bell, all of these observed average completion times do not constitute "material impact" on competition. Only completion times larger than that used for the alternative hypothesis are material. If this is true, then why does the CLEC Coalition recommend such large penalties for immaterial differences?

Q. WOULD YOU DISCUSS MATERIALITY AGAIN IN THE CONTEXT THAT WE ARE USING THE TERM IN THIS PROCEEDING?

A. Certainly. Recall from my direct testimony that as long as the average time taken to provide the relevant service to a CLEC does not exceed the BellSouth mean plus one-half "delta" times the BellSouth standard deviation, then the apparent difference in mean service times would not be material. That is, we would not conclude that BellSouth is providing discriminatory service. To state this another way, one-half delta, where delta is the parameter that defines the alternative hypothesis for balancing, is a materiality threshold for the disparity in the service system when a balancing method is used for a mean measure test.

Q. IN ORDER TO SHOW THE IMPACT OF DIFFERENT "DELTA" VALUES, DR. BELL PROVIDES A TABLE SHOWING THE PERCENTAGE OF CLEC CUSTOMERS RECEIVING BAD SERVICE, BY BELLSOUTH PERCENT AND DELTA. CAN YOU COMMENT ON THIS TABLE?

A. The table you are referring to is Table 2 on page 13 of Dr. Bell's testimony. This table is based on a proportion measure, and BellSouth does not use "delta" to define the alternative hypothesis for proportion measures.

Q. DOES DR. BELL UNDERSTAND THAT BELLSOUTH DOES NOT USE "DELTA" FOR PROPORTION MEASURES?

A. Yes, I believe he does. At a Florida hearing, in response to a question of whether or not a table very similar to Table 2 represents what BellSouth is proposing for proportion measures, Dr. Bell said, "It does not represent what they are proposing for proportion measures." (See "Investigation Into The Establishment Of Operations Support Systems Permanent Performance Measures For Incumbent Local Exchange

Telecommunications Companies." Florida Public Service Commission, Docket No. 000121-TP, volume 6, Cross examination of Dr. Robert Michael Bell, page 1103, lines 15 - 24.)

Q. WHAT METHOD DOES BELLSOUTH USE FOR BALANCING A PROPORTION MEASURE?

A. BellSouth's uses a concept called the "odds" ratio to set the alternative hypothesis for balancing a proportion measure.

Q. WHAT IS AN "ODDS" RATIO?

A. The "odds" ratio is what BellSouth has used when the information in the "cells" involves proportions, which I have been discussing, rather than "means." The "odds" methodology is relatively straightforward. First we need to define the odds of an event such as a missed installation occurring. Odds are the ratio of the probability of an event occurring to the probability that the event won't occur. So, if BellSouth "missed" 21.6 percent of the installations to their own customers, then the odds of a customer experiencing a "miss" is found by dividing the probability of a "miss," 0.216, by the probability of an "on-time" installation, 0.784 (= 1 – 0.216). This gives the odds of a "miss" as 0.276. In odds terminology, we might say that the odds of a BellSouth customer experiencing a "miss" are approximately 1 to 3.6.

The odds ratio for "missed" provisioning installations is the CLEC customer's odds of a "miss" divided by the BellSouth customer's odds of a "miss." When this odds ratio is one or less, BellSouth is delivering parity or better service to the CLEC's

customers. When this odds ratio is greater than one, then BellSouth is not necessarily delivering parity service. Under a balancing approach, we need to determine an odds ratio greater than one to use for the balancing alternative hypothesis.

Q. IS THE ODDS RATIO EASY TO INTERPRET?

A. Not necessarily. Many people have trouble interpreting odds, and relating the value back to the probability of an event occurring. However, the interpretation in terms of odds is straightforward. If the odds ratio for "missed' installations is set at 3, then we know that a CLEC customer's odds of a "miss" is three times greater than that of a BellSouth customer. We would still need a table, such as Dr. Bell's Table 2, to interpret the actual difference in the performance.

Q. CAN YOU PROVIDE US WITH SUCH A TABLE?

A. Certainly. Figure 1 below will help one interpret the actual difference between the BellSouth proportion and the CLEC proportion for a given "odds" ratio. The table shows the percentage of the time a CLEC customer will experience a miss by the BellSouth percentage "missed," for two values of the odds ratio: 2 and 3.

Figure 1
CLEC Percentage of "Missed" Installations
By BST Percentage and
The Odds Ratio of the Alternative Hypothesis

BST PERCENTAGE MISSED	Odds Ratio 2	3
1	2	3
5	10	14
10	18	25
20	33	43

We see from the first row of this table that for an alternative hypothesis with an odds ratio of 3, the CLEC percentage of "missed" installations is about 3 percent when the BST percentage is 1 percent. However, the CLEC percentage is about 43 percent when the BST percentage is 20 percent. So when the BST percentage is close to 0, the CLEC percentage is about 3 times larger at the balancing alternative hypothesis. As the BST percentage get larger, the ratio of the CLEC percentage to the BST percentage gets smaller; converging to 1 as the BST percentage approaches 100 percent.

Q. THIS SEEMS TO SUGGEST THAT IF BELLSOUTH HAS A MISS OF 20 PERCENT, THAT A MISS OF UP TO 43 PERCENT WOULD BE ACCEPTABLE FOR THE CLECS. IS THIS CORRECT?

A. No, that misses the point completely. With numbers like that, with a very small sample size, the methodology would show BellSouth out of parity almost 60 percent of the time and as the sample size approached a thousand transactions for BellSouth and only fifty for the CLEC, the probability that parity will not be concluded approaches 100 percent (see Figure 3 below). I realize this is not intuitive, and I will

discuss it more below, but it would be a mistake to conclude that the odds ratio balancing test allows the CLECs to experience significantly worse performance than BellSouth without detecting a failure to provide parity on BellSouth's part. I would also note that the same holds true for Dr. Bell's calculations using the arcsine square root method where he shows a similar disparity. Once the sample size gets to the levels that I have just mentioned, the probability of finding a disparity at those levels approaches 100 percent.

Q. IF THE ODDS RATIO METHOD IS USED FOR DEFINING THE BALANCING CRITICAL VALUE, HOW DOES THAT EFFECT THE FORMULA THAT IS USED TO CALCULATE THE CRITICAL VALUE?

A. The balancing critical value for a proportion measure is based on a different formula than that of a mean measure when an odds ratio approach is used. The formula is more complicated than the mean measure formula, and it is given in Appendix C of the Louisiana "Statistician's Report."

Q. DR. BELL SUGGESTS IN HIS TESTIMONY THAT THERE IS A PROBLEM THAT CAN ARISE WHEN THE DELTA VALUE IS SET TOO LARGE. PLEASE RESPOND.

A. Dr. Bell's arguments are based on the concept that "delta" represents the minimum value that represents material impact on competition. His statement that "CLECs will face greater risk of a Type II error in the face of a disparity constituting material impact" (page 14, line 13 of his testimony) ignores the fact that a balanced test has sufficient power to detect truly discriminatory performance. Once "delta" is chosen,

it should be understood that BellSouth would be found out of parity any time the observed difference in mean performance is larger than one-half "delta" standard deviations. This creates a test that has a lot of power to detect disparities beyond one-half "delta," but almost no power to detect disparities less than one-half "delta." If one considers this when choosing "delta" then there should be no reason to protect against a situation where "delta" is set too large.

Q. YOU SAID THAT A TEST BASED ON BALANCING HAS A LOT OF POWER TO DETECT DISPARITIES BEYOUND ONE-HALF DELTA. WOULD YOU PROVIDE US AN EXAMPLE OF THIS?

A. Yes. Figure 2 shows the probability that a mean measure statistical test will detect a difference in the mean performance of BellSouth and a CLEC when the balancing alternative hypothesis uses a "delta" of 1. To calculate these we assume that the true disparity is 0, 0.2, 0.45, etc. For the purpose of this example I am defining the "true disparity" as the numbers indicated across the top of the chart. This is not an observable figure; I am assuming the disparity to exist to illustrate what I am talking about. If we have used a delta of 1, this chart would tell us that any "true discrepancy" below 0.5 is immaterial and any "true discrepancy" above 0.5 is material. The chart shows the probability of detecting this condition. Using an example from the chart, assume a very small sample size, which is always going to be problematic. In the first line, even if the "true disparity" was zero, that is there was no disparity, the statistical analysis is going to show that there is disparity 32 percent of the time. On the other end of the scale, at 1, the analysis is only going to show a material difference 68 percent of the time, when we know that the disparity actually exists and is material. These are essentially examples of Type I and Type II errors,

where the Type II error (the complement of the probability of detection) is 32 percent when the disparity level equals 1. Importantly, as the sample size increases, the analysis rapidly approaches an accuracy level of 100 percent, meaning that the Type I and Type II errors are essentially eliminated.

Figure 2: The Probability of Detecting Disparity
Mean Measure Test with Delta = 1

BST Sample Size	CLEC Sample Size	Balancing Critical Value	True Disparity Level						
			0	0.2	0.45	0.5	.55	0.8	1
10	1	-0.477	0.317	0.387	0.481	0.5	0.519	0.613	0.683
100	5	-1.091	0.138	0.256	0.457	0.5	0.543	0.744	0.862
1000	50	-3.45	0	0.019	0.365	0.5	0.635	0.981	1
12000	800	-13.693	0	0	0.085	0.5	0.915	1	1
100000	2500	-24.693	0	0	0.007	0.5	0.993	1	1

Q. IT SEEMS THEN THAT A MEAN MEASURE TEST BASED ON A BALANCING METHODOLOGY DOES MAKE IT POSSIBLE TO DETECT DISCRIMINATION AS LONG AS THE TRUE DISPARITY IS BEYOND THE MATERIALITY THRESHOLD. IS THAT TRUE?

A. Yes, a mean measure test based on balancing and large sample sizes has a high likelihood of detecting disparity beyond the one-half "delta" materiality threshold, but a low probability of detecting disparity that falls under the threshold.

Q. ISN'T IT TRUE THAT THESE CONDITIONS ARE THE SAME ONES THAT LEAD TO BALANCING CRITICAL VALUES THAT ARE FURTHER FROM ZERO THAN THOSE THAT ARE CONVENTIONALLY USED?

A. Yes. Large sample sizes lead to critical values that are further from zero than those that are used in many applications. Such critical values, in turn, lead to small significance levels. But, as I have shown, those small significance levels (which are the probabilities corresponding to a true disparity of 0 in Figure 2) do not imply that BellSouth will get away with any amount of discrimination. Those levels of disparity that are lower than the penalty payment (or materiality) threshold of one-half delta will not be considered discriminatory. However, levels of disparity beyond the materiality threshold will be detected as discriminatory with a high likelihood.

Q. IS THE SAME THING TRUE FOR PROPORTION MEASURES?

A. A similar statement can be made for a proportion measure test. When using an odds ratio approach to balancing, the materiality threshold is not one-half of the odds ratio used in the balancing alternative hypothesis, but the threshold is at a point close to this. Figure 3 below illustrates this by showing the probability that the testing procedure will determine disparity (reject the null hypothesis), for a range of disparity levels and BST/CLEC sample sizes when the BellSouth proportion of missed installations is 0.20 and balancing is done for the alternative hypothesis with an odds ratio of 3.

Notice that for a balancing alternative with odds ratio of 3 (BST proportion of 0.20 and CLEC proportion of 0.43), there is a significant probability of determining disparity for odds ratio levels less than 3. For example, with a CLEC proportion of misses of 0.30 there is at least a 50% chance, regardless of sample size, that disparity will be determined and a remedy paid. Here we have an odds ratio of 1.75, much less than the balancing alternative of 3.

Figure 3: The Probability Of Determining Disparity When the BellSouth Proportion of Missed Installations is 0.20 and the Balancing Critical Value is Determined at an Odds Ratio of 3

Number of Transactions		Level of Disparity in Terms of Odds Ratio *Level of Disparity in Terms of CLEC Proportion*						
		1*	**1.25**	**1.75**	**2**	**2.25**	**2.75**	**3****
BST	CLEC	*0.20*	*0.24*	*0.30*	*0.33*	*0.36*	*0.41*	*0.43*
10	1	0.4110	0.4440	0.5000	0.5220	0.5410	0.5750	0.5890
100	5	0.2920	0.3730	0.5040	0.5570	0.6030	0.6790	0.7080
1000	50	0.0410	0.1530	0.5130	0.6750	0.7960	0.9300	0.9590
12000	800	0.0000	0.0000	0.5520	0.9640	0.9990	1.0000	1.0000
100000	2500	0.0000	0.0000	0.5930	0.9990	1.0000	1.0000	1.0000

Q. WOULD YOU SUMMARIZE THE KEY ISSUES THAT THE AUTHORITY NEEDS TO CONSIDER IN ADOPTING THE METHODOLOGY YOU ARE RECOMMENDING?

A. Yes. In order to carry out the Truncated Z with Error Probability Balancing, the Authority needs to evaluate two key aspects of any proposed plan: 1) the level of aggregation at which parity decisions will be made, and 2) the "delta" value used to determine the balancing critical value. Neither of these input parameters is something that should be decided upon solely by statisticians. Input from subject matter experts is needed.

The statistician's job is to point out the impact of specific choices for the aggregation level or "delta." With respect to the choice of "delta," the impact is that BellSouth will pay penalties when the observed difference of the ILEC and CLEC average performance is greater that one-half "delta" standard deviations. As described in the

* An odds ratio of one assumes that there is parity. Thus, the probability of determining disparity in this situation is the probability of a Type I error.

** The probability of determining disparity increases as the level of disparity goes beyond an odds ration of three.

examples I have given, the "delta" value of 0.25 that the Authority has chosen in the ITC^DeltaCom arbitration order, implies that BellSouth will begin to pay penalties when the observed difference in average performance is larger than one-eighth of a standard deviation.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

AFFIDAVIT

STATE OF:
COUNTY OF:

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Edward J. Mulrow –Senior Director – Quantitative Economics and Statistics Group, Ernest & Young, LLP, who, being by me first duly sworn deposed and said that:

He is appearing as a witness before the Tennessee Regulatory Authority in Docket No. 01-00193 on behalf of BellSouth Telecommunications, Inc., and if present before the Authority and duly sworn, his testimony would be set forth in the annexed testimony consisting of 17 pages and 0 exhibit(s).

Edward J. Mulrow

Sworn to and subscribed
before me on 8/10/01

NOTARY PUBLIC

MICHEALE F. HOLCOMB
Notary Public, Douglas County, Georgia
My Commission Expires November 3, 2001