C. Billing (BLG)

This section provides a summary of the Billing domain testing activities. For more information on planned testing, refer to Section VI: *Billing Test Section* of the *Master Test Plan.* For more detailed information on the test design, analysis, and results from the execution of the tests, refer to Section VI: *Billing Domain Results and Analysis* in this document.

1.0 BLG-1: CRIS/CABS Invoicing Functional Test

This section provides a summary for the BLG-1: CRIS/CABS Invoicing Functional Test.

1.1 Objective

The objective of this test was to validate the completeness and accuracy of the CRIS/CABS carrier invoicing process in accordance with BellSouth's published specifications.

1.2 Evaluation Methods

In order to accomplish this objective, KCI executed order transactions against test bed lines established for testing purposes. Test case scenarios were developed and utilized to create Local Service Requests for products and activities included in the *Master Test Plan.* Expected results were developed for each test scenario based on the policies and rate structure specified in BellSouth documentation and procedures. These expected results were compared to billing invoices produced by BellSouth to verify that charges were appropriately and accurately billed and delivered within the expected time interval.

For the process evaluation component of the CRIS/CABS Invoicing Functional Test (BLG-1), KCI conducted interviews with BellSouth subject matter experts, observed BellSouth work operations, and reviewed BellSouth documentation pertaining to the production and distribution of CLEC bills. Using the information gathered, KCI evaluated the processes which support the timely and accurate production and distribution of CLEC bills.

1.3 Analysis Methods

The CRIS/CABS Invoicing Functional Billing Test (BLG-1) included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth – Georgia OSS Evaluation. These evaluation criteria provided the framework of norms, standards and guidelines for the CRIS/CABS Invoicing Functional Billing Test (BLG-1).

1.4   Summary Results

The following tables present the summary results for the evaluation criteria. Definitions of evaluation criteria and possible results (Satisfied, Not Complete, or Not Satisfied) are provided in Section II.

Table III-C.1: BLG-1: CRIS/CABS Invoicing Functional Test – Summary Results

Evaluation Criteria – Satisfied	
BLG-1-1-1	The appropriate major bill sections appear on the bills per BLS's documentation.
BLG-1-1-2	The appropriate data appears on the page headers per BLS's documentation.
BLG-1-1-3	The appropriate data appears on the Remittance page per BLS's documentation.
BLG-1-1-4	The appropriate data appear in the Summary Billing section per BLS's documentation.
BLG-1-1-5	Appropriate details appear in the Summary Billing section per BLS's documentation.
BLG-1-1-6	The appropriate details appear in the Current Charges section per BLS's documentation.
BLG-1-1-7	The appropriate details appear in the Other Charges and Credits section per BLS's documentation.
BLG-1-1-8	Summary Page calculations correspond with the calculation definition.
BLG-1-1-9	Balance Due calculations cross total as appropriate.
BLG-1-1-10	Late Payment Charge calculations correspond with the calculation definition in the BLS documentation.
BLG-1-1-11	Non-recurring and pro-rated monthly charge calculations correspond appropriately with the BLS tariffs or Interconnection Agreement.
BLG-1-1-12	Usage rates correspond with those defined in the BLS tariffs or Interconnection Agreement.
BLG-1-1-13	Summary Charge calculations correspond with the calculation definition contained in the BLS tariffs or Interconnection Agreement.
BLG-1-1-14	Detailed Charge calculations correspond with the calculation definition contained in the BLS tariffs or Interconnection Agreement.
BLG-1-1-15	Remittance totals cross-total appropriately
BLG-1-1-16	Summary sections/page correspond with appropriate totals elsewhere in the bills.
BLG-1-1-17	Other Charges & Credits (OC&C) detail matches expected results.
BLG-1-1-18	Monthly Recurring Charge detail matches expected results.
BLG-1-1-19	Usage charge(s) match expected results.
BLG-1-1-20	Bill delivery timeliness corresponds with the BLS standard.
BLG-1-1-21	Scope and objectives of the bill delivery services cover all key customer requirements.

Evaluation Criteria – Satisfied	
BLG-1-1-22	Bill delivery responsibilities and activities are clearly defined.
BLG-1-1-23	Customer can readily obtain assistance in the event of problems with bill delivery.
BLG-1-1-24	Process includes procedures to ensure creation of customer bills on appropriate medium.
BLG-1-1-25	Process includes procedures to ensure bills are shipped or transmitted to the correct location according to the established schedule.
BLG-1-1-26	Process includes complete and consistent procedures for status tracking, management reporting, and management intervention for bill delivery.
BLG-1-1-27	Process performance measures are defined, measured, and reviewed for bill delivery.
BLG-1-1-28	Process improvement responsibilities are assigned for bill delivery.
BLG-1-1-29	Scope and objectives of the bill cycle balancing services cover all key customer requirements.
BLG-1-1-30	Bill balancing responsibilities and activities are clearly defined.
BLG-1-1-31	Customer can readily obtain assistance in the event of problems with bill content.
BLG-1-1-32	Internal change management procedures are in place to correct implementation of billing system changes (e.g., code and tables).
BLG-1-1-33	Process includes procedures to ensure all customer data (e.g., service orders, address changes) has been properly introduced and applied.
BLG-1-1-34	Process includes procedures to ensure all customer usage has been accounted for and correctly applied.
BLG-1-1-35	Process includes procedures to ensure all payments and adjustments have been properly introduced and applied.
BLG-1-1-36	Process includes procedures to ensure customer data has been rolled forward from previous cycle.
BLG-1-1-37	Process includes adequate error detection and correction procedures, and reasonability checks to catch errors not susceptible to pre-determined balancing procedures.
BLG-1-1-38	Process provides for visual quality check of bills.
BLG-1-1-39	Process includes complete and consistent procedures for status tracking, management reporting and management intervention for cycle balancing.
BLG-1-1-40	Process performance measures are defined, measured and reviewed for cycle balancing.
BLG-1-1-41	Process improvement responsibilities are assigned and executed for cycle balancing.
BLG-1-1-42	Scope and objectives of the historical bill management services cover all key customer requirements.
BLG-1-1-43	Bill delivery responsibilities and activities are clearly defined.

Evaluation Criteria – Satisfied	
BLG-1-1-44	Customers are provided with instruction on how to request, track, expedite and obtain assistance for billing resends.
BLG-1-1-45	Process includes procedures to ensure bill history retention requirements are operationally satisfied.
BLG-1-1-46	Process includes procedures to retrieve and transmit customer requested billing information.
BLG-1-1-47	Process includes complete and consistent procedures for status tracking, management reporting and management intervention for the maintenance of historical bill information.
BLG-1-1-48	Process performance measures are defined, measured and reviewed for the maintenance of historical bill information.
BLG-1-1-49	Process improvement responsibilities are assigned and executed for the maintenance of historical billing information.

2.0   BLG-2: ODUF/ADUF Usage Functional Evaluation

This section provides a summary of the BLG-2: ODUF/ADUF Usage Functional Evaluation.

2.1   Objective

The objective of this test was to assess the accuracy, completeness and timeliness of the usage file message processing capability as described in BellSouth's published specifications.

2.2   Evaluation Methods

In order to accomplish this objective, KCI placed test calls that originated and terminated in five central office locations using three switch types. Calls were made to and from locations within and outside of the BellSouth service area. Call records compiled by the testers and the DUF records generated by BellSouth were used to evaluate the completeness, accuracy, and timeliness of DUF processing. Process evaluations were based on interviews with BellSouth subject matter experts, inspections of work center operations, and a review of BellSouth documentation.

2.3   Analysis Methods

The ODUF/ADUF Functional Evaluation included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth-Georgia OSS Evaluation. These evaluation criteria provided the framework of norms, standards, and guidelines for this test.

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2.4 Summary Results

The following tables present the summary results for the evaluation criteria. Definitions of evaluation criteria and possible results (Satisfied, Not Complete or Not Satisfied) are provided in Section II.

Table III-C.2: BLG-2: ODUF/ADUF Usage Functional Evaluation – Summary Results

Evaluation Criteria – Satisfied	
BLG-2-1-1	For all scripted and completed test calls that should generate a DUF record, appropriate DUF records are contained in the electronically delivered Daily Usage Files.
BLG-2-1-2	For all scripted and completed test calls that should generate a DUF record, all expected DUF records are contained in the electronically delivered Daily Usage Files.
BLG-2-1-3	For all scripted and completed test calls that should generate a DUF record, 95% are delivered within 6 business days.
BLG-2-1-4	DUF records transmitted to KCI pseudo-CLEC contained billable information
BLG-2-1-5	Scope and objectives of the DUF production and distribution services covers all key customer requirements.
BLG-2-1-6	DUF production and distribution responsibilities and activities are clearly defined.
BLG-2-1--7	Customer is provided sufficient understanding of the DUF production and processes.
BLG-2-1-8	Customer has ready and convenient access to assistance with DUF production and distribution problems.
BLG-2-1-9	Internal change management procedures are in place to document and manage process changes (e.g., code, tables).
BLG-2-1-10	Process includes procedures to ensure all relevant usage is received, validated and processed.
BLG-2-1-11	Process includes procedures to ensure all usage is correctly rated and routed.
BLG-2-1-12	Process includes adequate error detection procedures and reasonability checks to catch errors not susceptible to pre-determined balancing procedures.
BLG-2-1-13	Process includes procedures to ensure accurate preparation and timely delivery of DUF data.
BLG-2-1-14	Process includes procedures for retaining, archiving and accessing prior period data.
BLG-2-1-15	Process includes complete and consistent procedures for status tracking, management reporting and management intervention.
BLG-2-1-16	Process performance measures are defined, measured and reviewed.
BLG-2-1-17	Process improvement responsibilities are assigned and executed.

3.0 BLG-3: Billing Systems Capacity Management Evaluation

This section provides a summary for the BLG-3: Billing Systems Capacity Management Evaluation.

3.1   Objective

The objective of this test was to assess the extent to which procedures to accommodate increases in CRIS/CABS/ADUF/ODUF billing transaction volumes and users were being actively managed.

3.2   Evaluation Methods

In order to accomplish this objective, systems documentation and process flows for billing were reviewed. Interviews were conducted with key business process owners and system administration personnel responsible for the operation of CRIS/CABS/ADUF/ODUF billing systems. These interviews were supplemented with an analysis of BellSouth capacity management procedures as well as evidence of related activities such as periodic capacity management reviews, system reconfiguration/load balancing, load increase induced upgrades, resource utilization reporting, and performance management reporting.

3.3   Analysis Methods

The Billing Systems Capacity Management Evaluation included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth - Georgia OSS Evaluation. These evaluation criteria provided the framework of norms, standards, and guidelines for this test.

3.4   Summary Results

The following tables present the summary results for the evaluation criteria. Definitions of evaluation criteria and possible results (Satisfied, Not Complete or Not Satisfied) are provided in Section II.

Table III-C.3: BLG-3: Billing Systems Capacity Management Evaluation– Summary Results

Evaluation Criteria – Satisfied	
BLG-3-1-1	There is an established process for capturing business and transaction volumes.
BLG-3-1-2	There is an established process for capturing resource utilization.
BLG-3-1-3	Resource utilization is monitored for system components and elements.
BLG-3-1-4	Instrumentation and other tools are used to collect resource utilization data.
BLG-3-1-5	Performance is monitored at all applicable levels (e.g. network, database server, application server, client, etc.).
BLG-3-1-6	Instrumentation and other tools are used to monitor performance.
BLG-3-1-7	There is an established process for forecasting business volumes and transactions.
BLG-3-1-8	The business volume tracking and forecasting data is at an appropriate level of detail to use for capacity management.

Evaluation Criteria – Satisfied	
BLG-3-1-9	There is an established process for reviewing the performance of the business and transaction volume forecasting process.
BLG-3-1-10	There is an established process for verification and validation of performance data.
BLG-3-1-11	Performance monitoring results are compared to service level agreements and other metrics.
BLG-3-1-12	Capacity Management process is defined and documented.
BLG-3-1-13	Resource usage and capacity is considered in the planning process for capacity management.
BLG-3-1-14	Performance monitoring results are considered in the planning process for capacity management.
BLG-3-1-15	Capacity Management procedures define performance metrics to trigger the addition of capacity, load re-balancing or system tuning.

4.0   BLG-4: Billing Performance Results Comparison

This section provides a summary for the BLG-4: Billing Performance Results Comparison.

4.1   Objective

One objective of this test was to assess the accuracy and completeness of the Billing Service Quality Measurements (SQMs) calculated and reported by BellSouth for the KCI test CLEC. The other objective was to assess the accuracy of the raw data used by BellSouth to perform these calculations.

4.2   Evaluation Methods

In order to accomplish the first objective, KCI calculated the SQMs based on calculation instructions provided by BellSouth. KCI used the raw data provided by BellSouth to perform its calculations and then compared its results to the reported SQM values, using the pre-established evaluation criteria. To accomplish the second objective, KCI collected data on its test transactions and compared the values in the collected data to the raw data values to determine whether they agreed according to the evaluation criteria.

4.3   Analysis Methods

Using the calculation instructions, KCI developed its own computer programs to perform independent calculations of SQMs. To prepare for the data comparisons, KCI mapped its test data elements to the corresponding elements in BellSouth's raw data for Billing SQMs.

4.4   Summary Results

The following table presents the summary results for the evaluation criteria. Definitions of evaluation criteria and possible results (Satisfied, Not Complete or Not Satisfied) are provided in Section II.

Table III-C.4: BLG-4: Billing Performance Results Comparison Evaluation– Summary Results

Evaluation Criteria – Satisfied	
BLG-4-1-1	BLS reports are correctly disaggregated and complete - Invoice Accuracy.
BLG-4-1-2	KCI-calculated SQM values agree with BLS-reported SQM values – Invoice Accuracy.
BLG-4-2-1	BLS reports are correctly disaggregated and complete – Mean Time to Deliver Invoices.
BLG-4-2-2	KCI-calculated SQM values agree with BLS-reported SQM values – Mean Time to Deliver Invoices.
BLG-4-2-3	Test data collected by KCI agrees with BLS raw data - Mean Time to Deliver Invoices.
BLG-4-3-1	BLS reports are correctly disaggregated and complete - Usage Data Delivery Accuracy.
BLG-4-3-2	KCI-calculated SQM values agree with BLS-reported SQM values – Usage Data Delivery Accuracy.
BLG-4-4-1	BLS reports are correctly disaggregated and complete - Usage Data Delivery Completeness.
BLG-4-4-2	KCI-calculated SQM values agree with BLS-reported SQM values – Usage Data Delivery Completeness.
BLG-4-4-3	Test data collected by KCI agrees with BLS raw data - Usage Data Delivery Completeness.
BLG-4-5-1	BLS reports are correctly disaggregated and complete - Usage Data Delivery Timeliness.
BLG-4-5-2	KCI-calculated SQM values agree with BLS-reported SQM values – Usage Data Delivery Timeliness.
BLG-4-5-3	Test data collected by KCI agrees with BLS raw data - Usage Data Delivery Timeliness.
BLG-4-6-1	BLS reports are correctly disaggregated and complete - Mean Time to Deliver Usage.
BLG-4-6-2	KCI-calculated SQM values agree with BLS-reported SQM values – Mean Time to Deliver Usage.
BLG-4-6-3	Test data collected by KCI agrees with BLS raw data - Mean Time to Deliver Usage.

5.0   BLG-5: CRIS/CABS Invoicing Documentation Evaluation

This section provides a summary for the BLG-5: CRIS/CABS Invoicing Documentation Evaluation.

5.1   Objective

The objective of this test was to assess whether the documentation provided by BellSouth adequately assists CLECS in understanding how to interact with BellSouth's billing function.

5.2 Evaluation Methods

In order to accomplish this objective, KCI reviewed and assessed documentation produced by BellSouth and made available to CLECs. KCI examined five key areas including document production and distribution, document structure and format, document content, document accuracy, and document change management. The evaluation of BellSouth documentation and production procedures was based on interviews with the responsible BellSouth parties and reviews of supporting internal documentation provided by BellSouth.

5.3 Analysis Methods

The BLG-5 CRIS/CABS Invoicing Documentation Evaluation included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth - Georgia OSS Evaluation. These evaluation criteria provided the framework of norms, standards, and guidelines for the BLG-5 CRIS/CABS Invoicing Documentation Test.

5.4 Summary Results

The following tables present the summary results for the evaluation criteria. Definitions of evaluation criteria and possible results (Satisfied, Not Complete or Not Satisfied) are provided in Section II.

Table III-C.5: BLG-5: CRIS/CABS Invoicing Documentation Evaluation – Summary Results

	Evaluation Criteria – Satisfied
BLG-5-1-1	Organization and flow of the documents facilitate ready understanding and access to needed information.
BLG-5-1-2	References are provided to facilitate efficient usage of the documentation.
BLG-5-1-3	Style elements that facilitate document use are defined and consistently and effectively implemented.
BLG-5-2-1	The BLS-provided billing documentation provides CLECs with an adequate understanding of BLS billing policy and practice, and of billing alternatives.
BLG-5-2-2	The BLS-provided billing documentation provides CLECs with an adequate understanding of how to receive and process wholesale bills.
BLG-5-2-3	The BLS-provided billing documentation provides CLECs with an adequate understanding of steps necessary to validate wholesale bills.
BLG-5-2-4	The BLS-provided billing documentation provides CLECs with an adequate understanding of how to request and follow-up on credit or adjustment requests for wholesale bills.
BLG-5-2-5	The BLS-provided billing documentation provides CLECs with an adequate understanding of how to request and follow-up on BLS assistance with wholesale billing issues and questions.
BLG-5-3-1	Responsibilities and procedures for developing, updating, and correcting documentation are clearly defined.

	Evaluation Criteria – Satisfied
BLG-5-3-2	Responsibilities and procedures for maintaining distribution lists and distributing documentation are clearly defined.
BLG-5-3-3	Distribution procedure allows latest document version to be made available to interested parties in electronic and paper versions in a timely manner.
BLG-5-3-4	Process includes procedures for accepting change requirements from all stakeholders.
BLG-5-3-5	The document development and production process includes procedures for change, version, and effective date management
BLG-5-3-6	The process includes procedures to define documentation coverage (breadth and depth) requirements.
BLG-5-3-7	The process includes style (organization, format, etc.) guidance.
BLG-5-3-8	The process provides for independent Quality Assurance (QA) of coverage and style.
BLG-5-3-9	The process provides independent validation of correctness.
BLG-5-3-10	The procedure provides for independent evaluation of usability.
BLG-5-3-11	Procedures are carried out in compliance with documentation.
BLG-5-4-1	BLS-provided billing documentation contains no errors that significantly impact a CLEC's ability to receive and process wholesale bills.

6.0   BLG-6: ODUF/ADUF Documentation Evaluation

This section provides a summary for the BLG-6: ODUF/ADUF Documentation Evaluation.

6.1   Objective

The objective of this test was to assess whether the documentation provided by BellSouth adequately assists CLECS in understanding how to implement and use all of the ODUF/ADUF functions available to them.

6.2   Evaluation Methods

In order to accomplish this objective, KCI reviewed and assessed documentation produced by BellSouth and made available to CLECs. KCI examined five key areas including document production and distribution, document structure and format, document content, document accuracy, and document change management. The evaluation of BellSouth documentation and production procedures was based on interviews with the responsible BellSouth parties and reviews of supporting internal documentation provided by BellSouth.

6.3   Analysis Methods

The BLG-6 ODUF/ADUF Documentation Evaluation included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth - Georgia OSS Evaluation. These evaluation criteria provided the framework of norms, standards, and guidelines for the BLG-6 ODUF/ADUF Documentation Evaluation.

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6.4 Summary Results

The following tables present the summary results for the evaluation criteria. Definitions of evaluation criteria and possible results (Satisfied or Not Complete) are provided in Section II.

Table III-C.6: BLG-6: ODUF/ADUF Documentation Evaluation – Summary Results

	Evaluation Criteria – Satisfied
BLG-6-1-1	Organization and flow of the documents facilitate ready understanding and access to needed information.
BLG-6-1-2	References are provided to facilitate efficient usage of the documentation.
BLG-6-1-3	Style elements that facilitate document use are defined and consistently and effectively implemented.
BLG-6-2-1	The BLS-provided billing documentation provides CLECs with an adequate understanding of BLS DUF policies, practices and customer options.
BLG-6-2-2	The BLS-provided billing documentation provides CLECs with an adequate understanding of how to prepare and test for receipt of DUF files.
BLG-6-2-3	The BLS-provided billing documentation provides CLECs with an adequate understanding of steps necessary to receive and process the DUF.
BLG-6-2-4	The BLS-provided billing documentation provides CLECs with an adequate understanding of how to validate BLS provided DUF data.
BLG-6-2-5	The BLS-provided billing documentation provides CLECs with an adequate understanding of how to request and follow-up on BLS assistance with DUF issues and questions.
BLG-6-3-1	Responsibilities and procedures for developing, updating, and correcting documentation are clearly defined.
BLG-6-3-2	Responsibilities and procedures for maintaining distribution lists and distributing documentation are clearly defined.
BLG-6-3-3	Distribution procedure allows latest document version to be made available to interested parties in electronic and paper versions in a timely manner.
BLG-6-3-4	Process includes procedures for accepting change requirements from all stakeholders.
BLG-6-3-5	The process includes procedures for change, version, and effective date management.
BLG-6-3-6	The process includes procedures to define documentation topical coverage (breadth and depth) requirements.
BLG-6-3-7	The process includes style (organization, format, etc.) guidance.
BLG-6-3-8	The process provides for independent Quality Assurance (QA) of coverage and style.
BLG-6-3-9	The process provides independent validation of correctness.
BLG-6-3-10	The procedure provides for independent evaluation of usability.

	Evaluation Criteria – Satisfied
BLG-6-3-11	DUF document production and distribution procedures are carried out in compliance with BLS documentation.
BLG-6-4-1	BLS-provided DUF documentation contains no errors that significantly impact a CLEC's ability to receive and process daily usage files.