ATTACHMENT C

BellSouth Telecommunications, Inc.
FPSC Docket No. 990649-TP
Request for Confidential Classification

7/26/00

REQUEST FOR CONFIDENTIAL CLASSIFICATION OF BELLSOUTH'S RESPONSE TO STAFF'S SEVENTH REQUEST FOR PRODUCTION OF DOCUMENTS (POD NOs. 31and 38) FILED JULY 5, 2000 IN FLORIDA DOCKET NO. 990649-TP

One Highlighted Copy

BELLSOUTH TELECOMMUNICATIONS, INC.

FPSC DKT. NO. 990649-TP

STAFF'S SEVENTH REQUEST FOR PRODUCTION OF DOCUMENTS

POD NO. 31

PROPRIETARY

BELLSOUTH

file code: 204.0100

subject: Dense Wavelength Division Multiplexer Deployment Directives

type: Regional Deployment Directive

date: March 26, 1999

related letters: RL 97-12-013 BT, "DWDM Deployment Directives"
RL 99-04-002 BT, "DWDM Product Announcement Letter"
BSP: 855-355-101 BT, "DWDM Transmission Engineering Practices"

other:

to: Attached Distribution List

entities: BellSouth Telecommunications, Inc.

from: D. A. Kettler, Executive Director/NVP – Science & Technology

description: Provides current deployment directives for the CIENA MultiWave 1600 DWDM system in the interoffice network.

* * *

The evaluation and approval of a dense wavelength division multiplexer (DWDM) product will soon be complete for the initial product and supplier in BellSouth. With the introduction of this initial long-haul DWDM product, new deployment strategies have been developed to support planning efforts when considering DWDM alternatives to fiber cable construction. This Regional Letter replaces previous directives issued regarding placement of DWDM in the interoffice network.

The initial supplier for long haul DWDM products will be CIENA Corporation. Their MultiWave 1600 (MW 1600) product is a 16 channel (wavelength) system configured in a point-to-point architecture, transporting up to 16 individual optical inputs over two fibers. This system has finished the first office application field trial and product evaluation has been completed. Methods and procedures for operations acceptance testing are planned to be available in April. A general product announcement and approval letter will be issued at that time. However, one-time approvals will now be supported to insure that we do not miss any opportunities to capture the substantial capital savings through deployment of DWDM in a route.

If deployed in accordance with the situations documented in these directives, DWDM technology can offer an economical alternative to placement of long fiber cable routes to provide capacity relief for exhausting fiber spans. This fiber relief alternative will produce significant capital savings over fiber cable construction, as well as provisioning the capacity relief timing within weeks of fiber exhaust identification.

The following deployment directives are provided supporting the placement of the DWDM technology, including some directives specific to the CIENA product.

1. With placement of this point-to-point DWDM system, only fully diversified transport rings, or diversely routed point-to-point systems, are to be deployed over the DWDM channels. Protection switching at the SONET ring or asynchronous system level is required to insure network reliability. Planners must continue to take proactive steps to ensure we continue to focus on the overall reliability of the BST network.

2. The economical deployment of this initial system will generally be spans where the construction of a fiber cable relief alternative is 15 miles or greater, **OR** in a span where the equivalent cost to construct a shorter fiber facility exceeds that of a 15 mile cable placement. Using a typical regional estimate for fiber construction costs developed by Technology Directives, this cable in-plant construction cost approximates $480,000.

3. Initial deployment of a DWDM system is recommended to be equipped with 2 channels. Channel 1 will be a "hot" spare while the 2 channel will be the first "working" channel. As growth of additional channels occurs, the hot spare channel will be used to move traffic to in the event a channel interface remodulator fails.

4. An optical add/drop multiplexer (OADM) terminal is also available for the MultiWave 1600 system. It can add/drop from 1 to 4 channels in each direction, east to west and west to east utilizing various filters. It is recommended to deploy either the 2 channel or 4 channel add/drop filter depending upon planning requirements. (Note, at this time the OADM has not been in field trial. Therefore, the initial application for add/drop of optical channels will need to allow for the time to include field trial activities of the OADM.)

5. The deployment of an OADM is currently economical where the fiber construction alternative costs exceed the equivalent of 30 miles. Generally, express ring systems will be deployed over the DWDM system, while local rings needing to add/drop at intermediate nodes would remain on local fiber facilities.

6. When an OADM is deployed at an office, a ring terminal serving as the only transport node in that office may not be routed over both east to west and west to east directions of the DWDM system. There are some unit failure scenarios identified by CIENA that could isolate both directions of the DWDM path at the OADM. We must insure that we do not allow DWDM to introduce single points of failure in the network.

7. Optical line amplifiers may be deployed to extend the DWDM system to a maximum distance of 150 dB loss between two terminal end points. Assuming good fiber conditions exist, this can equate to a distance of nearly 600 Km, or 350 miles. BellSouth will standardize on the 30 dB amplifiers in the MultiWave 1600 system. A single span without line amplifiers may have a maximum reach of 34 dB. Configurations may have up to 4 amplifiers and 5 segments between terminals. Refer to details in Section 2.0 of Attachment 1.

8. The CIENA MultiWave 1600 can support optical interfaces from 50Mb/s to 2.4Gb/s, including SONET, Asynchronous systems, LAN, ATM or other optical input in this range. There are two remodulator interfaces to deploy, one for OC-48 only and one for all other bit rates. BellSouth has evaluated both remodulators. However, testing has not occurred for some of the non-SONET rate systems at this time, planning to do so as test systems become available in the Technical Analysis Lab.

9. Transmission Engineering support documentation may be found in BSP: 855-355-101 BT.

Details of these directives and recommendations are found in Attachment 1. Planners should begin to consider the MultiWave 1600 system as an alternative to placing longer fiber routes to capture the significant capital expenditure savings through deployment of optical networking technology. In addition, optical networking components have a very high level of variable cost structure while fiber cable placements are nearly all fixed costs in nature. This supports the network migration strategies toward a more variable cost infrastructure in the IOF networks. Attachment 1 provides details of the deployment recommendations and strategies.

With this introduction of a long-haul DWDM system, it is also recognized that there is a similar need for a metropolitan DWDM product that addresses exhausting fiber spans less than 15 miles. While metro DWDM products were not economical at the time we began evaluation of this technology and the CIENA product, we are actively reviewing short-haul products through a recent Request For Information from suppliers. In addition, meetings are currently being held with metro suppliers leading toward the development of a Request for Proposal and possible product selection in the second half of 1999.

Should you have questions concerning these recommendations, please call me at (404) 529-8821. Questions from your organization may be directed to Jim Jackson at (205) 977-5032, or Ken Cook at (205) 977-7153.

Original signed by D. A. Kettler

D. A. Kettler
Executive Director/ NVP – Science & Technology

Attachments

Long-Haul DWDM IOF Deployment Strategies

FIGURE 1
General Deployment Criteria
(Refer to Attachment 1, Section 2)

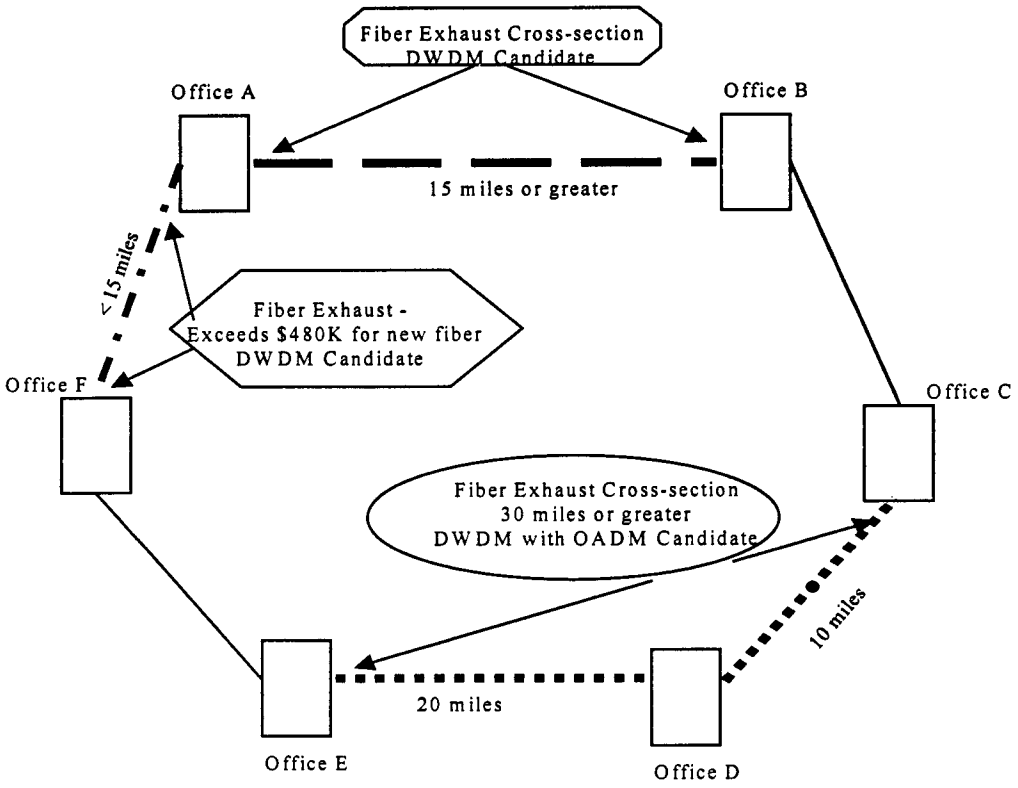


FIGURE 2
Using DWDM to Expand Relief Beyond Fiber Exhaust Section At NO Additional Costs
(Refer to Attachment 1, Section 2.1)

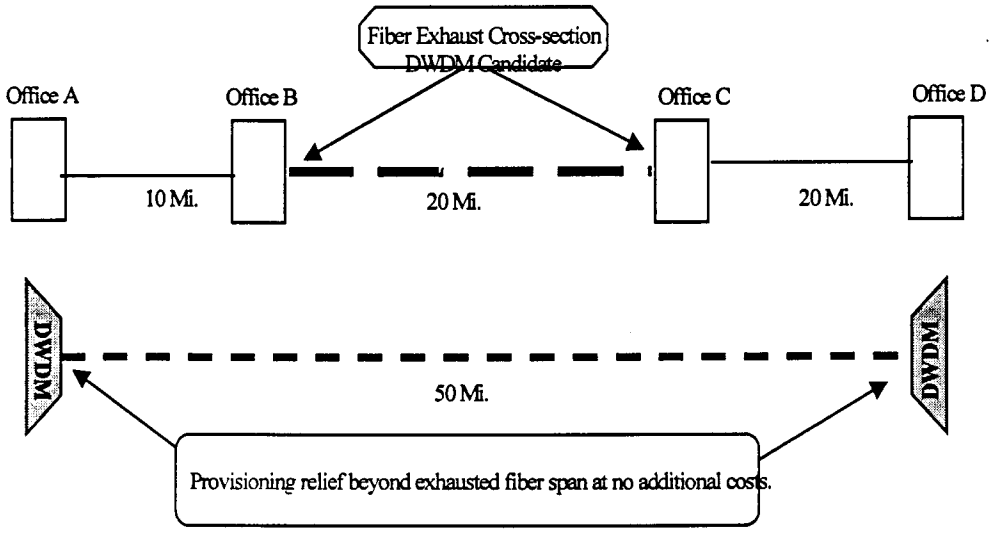
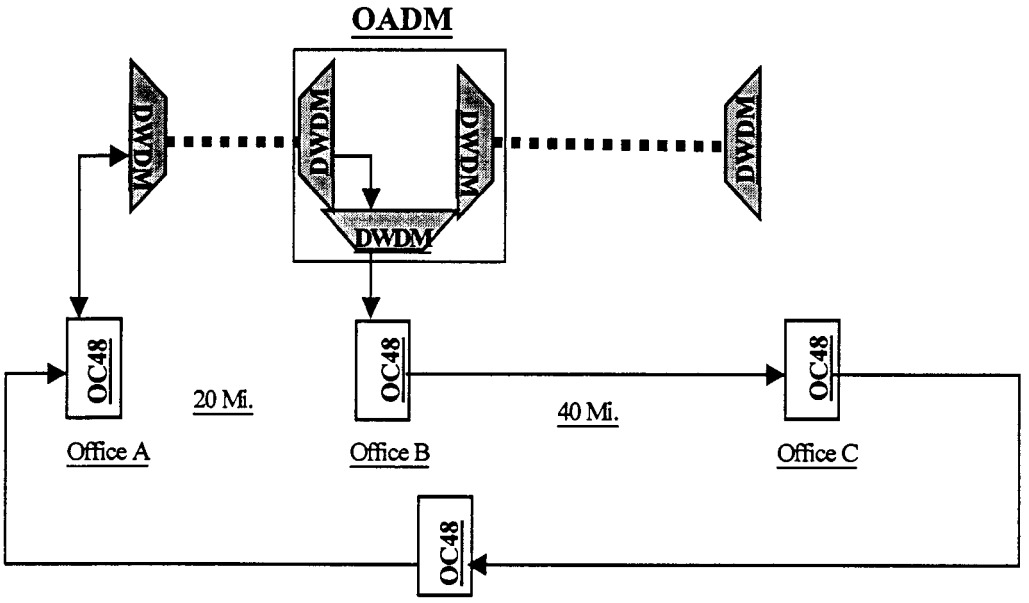
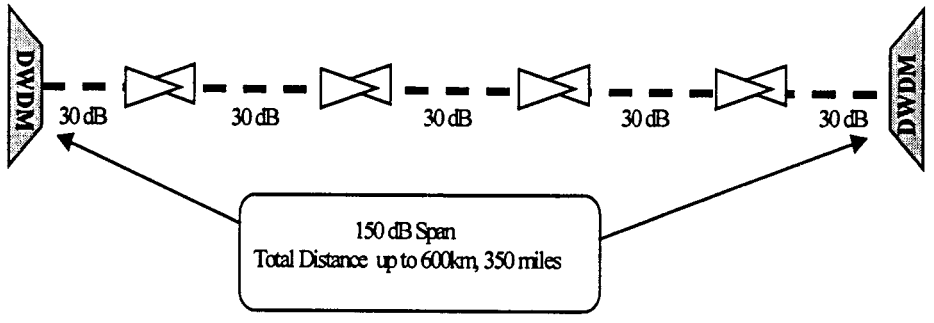


FIGURE 3
Application Using Optical ADM Reliability Requirement
(Refer to Attachment 1, Section 2.3)



Requirement: If the OC48 at Node B is the only IOF transport node in that office, both sides of the OC48 ring path cannot route over the DWDM segments A-B and B-C.

FIGURE 4
Maximum System Configuration
(Refer to Attachment 1, Section 1.0)



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Documentation (2 copies)

1.0 Introduction

In 1997, BellSouth introduced dense wavelength division multiplexing (DWDM) technology into the interoffice network through a network technology trial. The success of this trial reinforced previous studies that indicated DWDM could be supported by the imbedded planning and operations systems to provide an alternative to the construction of new fiber cables where existing fiber facilities had exhausted their spare fiber capacity. Long distance carriers have been deploying this technology over 3 years, but the implementation of DWDM in the local IOF networks needed to have operations support systems support in addition to being an economical alternative to fiber placement.

In 1998, a Request for Proposal was issued to several suppliers for product offerings of DWDM technology. As a result of the analyses of the RFP responses, the CIENA MultiWave 1600 DWDM product was selected to be the initial product for deployment in BellSouth. In November of 1998, a first office application field trial began in Montgomery, Al., to further evaluate the MultiWave 1600 system. This trial has been completed, providing the first optical networking product alternative for IOF fiber cable expansion.

Several benefits of DWDM are expected to be realized as these systems become a principal choice for capacity relief of longer interoffice fiber cable spans. One of these benefits will be potentially large capital cost savings, as much as $900,000 in one route forecasted to exhaust in 1999 alone. An additional benefit will be faster provisioning of capacity relief to meet short term demands. Where new fiber construction may take as much as 12-18 months for very long fiber routes, the DWDM alternative can be provisioned in less than 60 days if required. Also, lower maintenance costs are to be realized through fewer cable sheaths deployed that can be damaged over long routes in rural and independent company areas. Maintenance savings will also be derived from fewer remote SONET or asynchronous regenerators placed along fiber routes. A single optical line amplifier can replace 16 SONET regenerators at a site and up to 40 regenerators in the near future.

The deployment of DWDM in the interoffice routes will be a key alternative to building additional fiber cable facilities over very long routes. Significant capital cost savings will be realized in all applications meeting requirements provided in this region letter. Future product offerings will address shorter fiber exhaust routes through metro DWDM technology opportunities.

Purpose

This region letter introduces the CIENA MultiWave 1600 DWDM product and provides deployment directives for implementing this optical networking technology into the BellSouth interoffice networks. DWDM is an alternative tool to provide relief for exhausted longer fiber routes without construction of new fiber cable facilities. Included in this region letter are economical deployment parameters, architecture configurations and transmission engineering criterion to support this technology placements in the IOF networks.

1.2 Audience

Network Operations - Provisioning & Maintenance
Network Operations - Circuit Capacity Management
Network Operations - Common Systems Capacity Management
Infrastructure Planning - Site Specific Interoffice Planning

1.3 Target Area
All state interoffice networks where long fiber cable routes are approaching exhaust.

1.4 Time Frames
Deployment of DWDM technology is already underway with one-time approvals. This region letter supports the initial applications of DWDM technology until future metro products and price decreases are available that alter the economics for deployment

1.5 Capital/Expense Dollars
The recommendations in this deployment directive provide capacity relief at a capital cost that is less than the current present method of operation, placing additional fiber cable. Thus, there are no additional funding requirements to implement this new technology in the recommended routes.

1.6 Contacts
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Ken Cook, Member Technical Staff - Science & Technology (205) 977-7153
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2.0 Implementation Plan

2.1 Study Methodology
Analyses between the present method of operation placing new fiber cable versus deployment of DWDM involved first costs comparisons to provision new capacity in a route. In addition, long term studies were made using the Bellcore Economic Module Evaluator tool to include the impact of growth channel costs for adding client interface cards to the DWDM terminals. Recommendations are supported where the initial costs of the DWDM alternatives are significantly lower than the first cost of the fiber PMO alternatives.

2.2 Deployment Recommendations
As a result of the studies made for the deployment of DWDM technology, along with the selection of the CIENA MultiWave 1600 product as the initial system to deploy in BellSouth, the following deployment directives and recommendations are provided for planners evaluating interoffice fiber exhaust situations.

2.2.1
With placement of the CIENA point-to-point DWDM system, only fully diversified transport rings, or diversely routed point-to-point systems, are to be deployed over the DWDM channels. Protection switching at the SONET ring or asynchronous system level is required to insure network reliability. It is a necessity that we continue to insure the reliability of the network by maintaining the alternate routing architectures that the SONET and asynchronous fiber ring systems provide through self-healing capabilities.

2.2.2
The economical deployment of this initial DWDM system will generally be spans where the construction of a fiber cable relief alternative is 15 miles or greater, **OR** in a span where the equivalent cost to construct a shorter fiber facility exceeds that of a 15 mile cable placement. Using a regional factor for fiber construction developed by Technology Directives, this cable construction alternative cost approximates $480,000. An example may be shorter fiber exhaust spans that require major costs for new structures, such as underground conduit construction.

2.2.3
Initial deployment of a DWDM system is recommended to be equipped with 2 channels. Channel 1 will be a "hot" spare while the 2nd channel will be the first "working" channel. Future growth channels will also be supported by the first spare channel in the event a channel remodulator card fails. The input signal to the remodulator may be moved to the spare Channel 1 until a replacement remodulator unit is provided for the failed unit.

2.2.4
An optical add/drop multiplexer (OADM) terminal is also available for the MultiWave 1600 system. It can add/drop from 1 to 4 channels in each direction, east to west and west to east utilizing various filters. It is recommended to deploy either the 2-channel or 4-channel add/drop filter depending upon planning requirements. (Note, the OADM was deployed in the Technology Trial in Mississippi, but was not evaluated in the field trial. Therefore, the initial application for add/drop of optical channels will need to allow for the time to include field trial activities of the OADM. Please contact Ken Cook should this application be needed to initiate the support for an OADM trial site.)

2.2.5
The deployment of an OADM is economical where the fiber construction alternative costs exceed the equivalent of 30 miles. This is due to the OADM terminal cost being nearly twice the cost of an end terminal. Generally, express ring systems will be deployed over the DWDM system, while local rings needing to add/drop at intermediate nodes would remain on local fiber facilities.

2.2.6
When an OADM is deployed at an office, a ring terminal serving as the only interoffice transport node in that office may not be routed over both east to west and west to east directions of the DWDM system. There are some unit failure scenarios that could isolate both directions of the DWDM path at the OADM, thus taking out of service any working ring terminal that is dropped then added back onto the same DWDM system. In order to insure network reliability, planners must be sure that placement of an add/drop node will not be the only access that an office has for transporting its traffic to the remainder of the network.

2.2.7
Optical line amplifiers may be deployed to extend the DWDM system to a maximum distance of 150 dB loss between two terminal end points. BellSouth will standardize on the 30 dB amplifiers in the MultiWave 1600 system. A single span without line amplifiers may have a maximum reach of 34 dB. Refer to details in Section 2.2 in Attachment 1.

2.2.8

The CIENA MultiWave 1600 interface units, called remodulators, support optical inputs from 50Mb/s to 2.4Gb/s, including SONET, Asynchronous systems, LAN, ATM or other optical inputs in this range. There are two remodulator interfaces to deploy, one for OC-48 only and one for all other bit rates. The "hot spare" unit in the first channel slot should be the remodulator that will support the majority of the optical inputs planned to be transported over the DWDM span.

2.2.9
Transmission Engineering support documentation may be found in BSP: 855-355-101 BT. These are planned for release in March upon final system testing for NMA and synchronization impacts.

2.3 Critical Success Factors

The primary factors affecting the long term success of this technology being deployed in our networks have been successfully evaluated in the FOA trial application. Methods and procedures for BST technicians for turn-up, test, acceptance testing and ongoing provisioning of the CIENA systems are largely complete at this time, and are expected to be issued by the end of May. CIENA also provides full system turn-up and testing support as needed for near-term applications until internal M&Ps are provided. In addition, availability of the core CO-WAN transport facility for alarming and network element communications is needed to provide the enhanced capabilities that insure the operations groups gain maximum efficiencies offered by the products. CO-WAN applications for DWDM deployment is fully supported by the Information Technology groups to meet requirements of the systems expected to be deployed in the states.

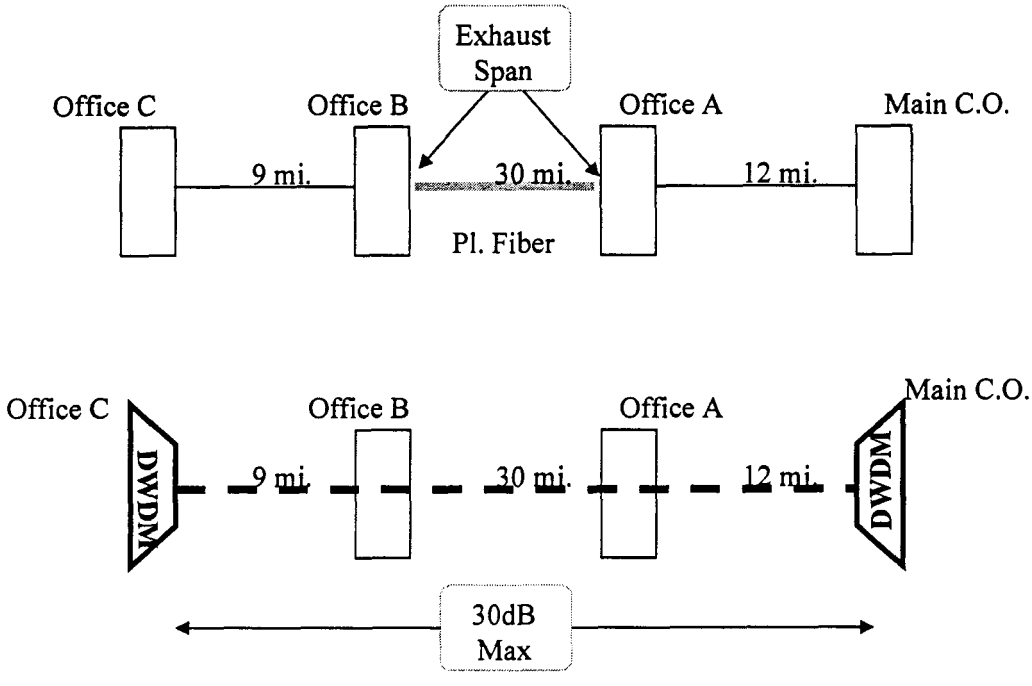
3.0 Contingency Plan

Deployment of DWDM systems is an alternative to the construction of fiber cable routes to provide relief in exhausting IOF fiber networks. In the event that this new technology cannot be deployed in a cross-section, planners have the current alternative of fiber cable construction. This contingency will require a longer time frame for provisioning of the relief capacity. For customer service demands, such as SMARTRings®, that often require fiber relief over a short period of time, the cable placement solution may not be feasible. Thus, Marketing will have to continue to negotiate service dates with the planning groups to insure adequate time is allowed for new cable construction.

DWDM technology is not generally an economical alternative for shorter IOF fiber routes, those less than 15 miles. Planners should continue to forecast fiber exhausts in these sections and issue planning documents that will support building the replacement fiber cable facilities in a timely manner.

up to 120 Km (about 70 miles) under certain fiber quality conditions. Transmission designs will establish the limits for each fiber span planned for DWDM.

FIGURE 1
DWDM Extension Beyond Exhausted Fiber Cross-section



(Note: In a single span application, the distance may be increased to 34dB reach using the 30dB amplifier. Over good fiber quality sections, this distance may be up to 120Km, or about 75 miles.)

When planners are considering the locations for the DWDM terminal equipment, they must also evaluate the relief objectives to be achieved. For example, in Figure 1 the actual requirement may be for fiber strands in the Office A to Office B segment. If the DWDM system is placed at Main and Office C, there would have to be "express" rings with nodes in these offices that can be rolled off of the physical fibers onto a DWDM channel in order to provide spare fibers between Office A and B. Therefore, the state planning teams will have to examine their overall fiber demands for each cross-section to determine the best location for the DWDM end terminals.

2.2 Impact of DWDM on joint IOF/Loop planning

When planning for IOF fiber cable relief, planners consult with their loop planning counterparts to evaluate the need for construction of a joint IOF/Loop fiber facility for some portions of the planned placement route. Many new fiber construction undertakings have provided significant savings by adding incremental Loop fibers to a planned IOF sheath, eliminating the need for a second sheath plus placing costs that would be incurred otherwise to provision loop facilities in a route. However, with the DWDM alternative available to an IOF

planner, the consideration for loop fiber relief, or initial trigger for fiber in a feeder route, should not be ignored when finalizing a relief plan.

For example, suppose an interoffice fiber route has exhausted in a 25 mile cross-section except for a single fiber pair. At an average placement cost of $33,000 per mile, cost of a new fiber facility would approximate $825,000. Assume an additional cost of $100,000 for incremental loop feeder fibers over a portion of the IOF route, giving a total undertaking cost of $925,000. An alternative placing DWDM for IOF relief would cost about $400,000, a clear economic alternative over additional IOF fiber cable construction.

Consideration must also be made for the requirement to place loop fibers in the route, including full placement costs. Assume that over a period of 2 years the loop fiber spans are required at a total cost of $300,000 for the sheath, placing costs and structure costs as required. A study of the DWDM alternative for IOF, plus the cost to place the loop fibers in subsequent years, finds that the total cost for additional capacity is actually $700,000. Based on total network requirements, the DWDM alternative may not be the best or most economical alternative in this case.

Interoffice facility planners should take proactive steps to design an overall relief strategy, including "all" network relief costs for both Loop and IOF when planning for DWDM deployment in a fiber route. It is also recognized that providing capacity relief in a short time frame to support service demands may be an over-riding factor in many cases, driving the placement of the faster DWDM relief alternative.

2.3 Optical add/drop multiplexer deployment

Deployment of the OADM should only be considered where the equivalent fiber placement is near 30 miles. This is based on the higher cost of the OADM versus an end terminal. Infrastructure Planning should perform local studies to determine the impact of placing an OADM at an intermediate node in a DWDM span. A number of planning issues arise when considering use of OADM nodes.

First, the cost of the OADM is nearly double that of the end terminal. To offset this economic startup penalty, the first cost of a fiber cable construction alternative will need to approximate that of a 30 mile cross-section. If a span is long enough to require an optical line amplifier, then the incremental cost of the OADM impacts the first cost much less. An OADM offers an expensive "access" to the SONET or asynchronous fiber system being transported over an optical channel.

Depending upon the drop demands at an intermediate node, the OADM may offer an efficient alternative for access to optical channels, or it may be too limiting for long term demands for a node. The MultiWave 1600 OADM can add or drop from 1 to 4 channels in each direction, east to west and west to east. These channels available for add/drop are 7, 8, 15 and 16. Channels are "filtered" out of the high speed optical path to drop at an OADM. There are 16 different filtering units available to allow complete flexibility of combining any or all of the 4 channels for add/drop demand. One consequence of the multiple filters is that if a change is needed from one filter type to a second, it requires that all working channels be switched to protect routes since the OADM filters are changed on an out of service condition.

Another add/drop planning issue is that any channel being filtered at an OADM is not available to be utilized as a through channel. That is, if a 2-channel filter is used at an add/drop site, the 7 and 8 channels are not usable for an express ring system between the DWDM end terminals. Although the MultiWave 1600 OADM offers expanded add/drop flexibility, maintaining simplicity seems to be in order for these high capacity transport systems. Therefore, it **is recommended that only the 2-channel or the 4-channel filters be utilized as standard configurations** to limit sparing and PICS requirements for inventory of multiple A/D plug-in units as well as simplifying overall planning alternatives. These configurations are modeled in the MBOS product inventories.

Finally, using an OADM will impact some add/drop alternatives. There are some failure conditions identified by CIENA in their multiplexer that could isolate both amplified directions of the OADM. Thus, a SONET ring carrying all of the traffic and signaling links to an office would be isolated from the remaining ring nodes if it rides over the DWDM system, dropping and adding in both directions at an OADM. **Therefore, any ring system serving as the sole transport delivery node for a wire center cannot be routed over both east to west and the west to east directions of the DWDM system. One direction of the ring path must be on direct fibers leaving the office.**

2.4 Initial MultiWave 1600 configuration

For the initial deployment of a MultiWave 1600 system, it is recommended that the first 2 channels be equipped in the following manner: Channel 1 is reserved as a "hot spare," Channel 2 is the first working channel. As systems are deployed, operations will need to have spare remodulator interface cards available in the event of a unit failure. Since there are 16 different remodulator units, the sparing costs may become quite expensive to keep such an inventory. Therefore, the recommendation of maintaining Channel 1 as a hot spare will provide a tested spare channel to which a working ring system may be moved should its own channel remodulator card fail. Thus, the first working channel will be Channel 2. Provisioning in this way will reduce sparing costs, reduce PICS inventory volumes, have a pre-tested channel available for immediate use and may reduce channel downtime in the event that a specific channel remodulator is not immediately available in the office.

2.5 Optical line interface rates supported

The MultiWave 1600 system supports interfaces of optical line rates from 50 Mb/s to 2.4 Gb/s. These rates include SONET, asynchronous, ATM, LAN, Fast Ethernet and other optical inputs in the range. (BellSouth has not evaluated most of the non-SONET systems over the lab DWDM system. Should these interfaces be needed, planners should contact TAS-T/A prior to initiating this service.) There are two remodulator unit configurations, one for OC-48 and one for all other optical rates. Both remodulators have been tested in the BellSouth lab. The physical cards are basically the same except for some varied strapping options that are to be factory set. (The strapping changes can be field altered, but this is not recommended in BST.) This also impacts the "hot spare" provisioning with potentially two client interfaces that must be supported. It is recommended to deploy the hot spare unit that supports the majority of the remodulators working in the system, expected to be the OC-48 module in most IOF routes.

SONET systems used by BellSouth use both 1310nm and 1550nm transmitters, depending upon the transmission characteristics of the fiber span. The MultiWave 1600 Remodulator

interface card supports both 1310nm and 1550nm inputs for all bit-rates. Therefore, no changing out of transmitter cards is required when connecting to the DWDM terminal. On the output side of the DWDM terminal, there is a 1550nm signal that interfaces with the SONET receiver on the ring terminal. Generally, the SONET receivers have a wideband characteristic, able to accept inputs of 1310 and 1550 nm wavelengths with one exception that has been identified. The Fujitsu FLM-600 has both a 1310 and a 1550 nm receiver. It has been determined that if the FLM-600 is deployed over a DWDM channel, it must have the 1550nm receiver in place to accept the output signal of the MW 1600 terminal.

2.6 Operations impacts

There are a number of operations benefits as well as process changes that are driven by DWDM technology deployments. One of the most significant will be the decrease in number of fiber optic ring regenerators to be maintained in the network. These regens are often located at very remote central office locations or standalone repeater huts located in rural sites and independent company service areas. For some long routes deployed with DWDM, rolling of the ring systems onto an optical virtual fiber may allow for some remote huts to be abandoned for interoffice requirements. Another benefit will be fewer fiber cable sheaths in plant that are subject to damage and cable cuts requiring contractor excavations and operations repair expenses. This is especially critical for those routes that traverse non-BST service areas where the time to locate and repair a damaged fiber cable may be quite long due to the rural nature of extremely long routes, making it very difficult for locating the damaged site to quickly make repairs.

A change in the operations area of NE communication to NMA will be to utilize the Central Office Wide Area Network (CO-WAN) offering Direct Telnet Connection - TL1 via TCP/IP. Each DWDM terminal and OADM will be cabled to the office CO-WAN hub/router. Optical line amplifiers do not require connectivity to a router since their network management will be via the Nodal Control Processor and the system Optical Service Channel (OSC) to an end terminal node. If a DWDM terminal is placed into an office that is not already equipped with a hub/router, the router is to be placed in conjunction with the DWDM node. The CCM Manager should coordinate with the state Network Telemetry Manager and the IT Packet Datakit Network Planner to have a hub/router deployed in the office. The capital savings associated with deployment of DWDM over fiber cable will more than offset the expense of the hub/router elements at both end terminal locations.

Other operations features available in the CIENA system Software Release 3.2.0 include:

1. Span Management - Includes automatic adjustment of amplifier power, selector drift containment and detection of duplicate channel sources.
2. Dynamic Amplifier Power Control - Identifies the number of channels in a span and adjusts amplifier output levels.
3. Duplicate Channel Source Avoidance - Prevents two identical wavelengths from being active in the same direction on a fiber.
4. Distribution of Circuit Pack Software Via Profile Maintenance - Enables the coordinated loading of all circuit pack software in a single operation.

As we move into optical networking technologies, there are some new test set units that are needed to fully support the installation turn-up and ongoing maintenance of these DWDM systems. Three new test sets are recommended for use in these procedures. First is the Optical Spectrum Analyzer, which provides a full view of all channels across the DWDM span to insure flat gain on all wavelengths. Secondly, an OC-48 Bit Error Rate Test (BERT) set is needed to verify quality of the OC-48 signals being transported over a wavelength (channel). Up until this time, the OC-48 has never been the low-speed input to a higher speed transport system. With DWDM, the OC-48 level signal test will need to be made over the equipped channel to verify no errors are being generated on the ring system. The third test set is the Optical Scope, which allows for close inspection of the fiber end points prior to connection of the DWDM system. Further description and references to these new test sets may be found in BSP: 855-355-101 BT for engineering guidelines, and in RL 99-04-002 BT, the product announcement letter. Also, Operations M&Ps being developed will address some of these system turn-up and testing requirements. (Contact Bob Todd for further details.)

Initially, methods and procedures are being developed for acceptance testing of the MultiWave 1600 system. Due to this being a new technology, the initial systems being deployed may benefit from having CIENA Technical Support personnel perform the turn-up and testing of the spans. This will provide local technicians an opportunity for on site turn-up assistance with the supplier experts in preparation for ongoing maintenance support after service activation. Contract pricing for the supplier turn-up/test support is currently $5,000 per node. Utilizing the CIENA turn-up support may also reduce the initial need for the new test sets as these will be provided by CIENA for their own procedures. The acceptance testing M&Ps are planned for release in April.

BELLSOUTH TELECOMMUNICATIONS, INC.

FPSC DKT NO. 990649-TP

STAFF'S SEVENTH REQUEST FOR PRODUCTION OF DOCUMENTS

POD NO. 38

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BELLSOUTH TELECOMMUNICATIONS, INC.

FPSC DKT NO. 990649-TP

AT&T'S FOURTH REQUEST FOR PRODUCTION OF DOCUMENTS

POD NO. 57

PROPRIETARY

Item No. 57
Attachment No. 1
Installation and Maintenance (I&M)
Special Services Installation & Maintenance (SSIM)

INSTALLATION AND MAINTENANCE (I&M)
SPECIAL SERVICES INSTALLATION AND MAINTENANCE (SSIM)

APPLIES TO SL1, ISDN, ADSL, HDSL, UCL
NOT APPLICABLE TO ULM, LQSI

I&M

3/21/00 Conversation with re: Disconnect Worktimes

For SL1 and SL2 whole loops, there is no disconnect times for C&T or Travel.

For SL1 and SL2 subloops, there is time as follows:

20 minutes to process order
8 minutes to remove the cross-connect
19 minutes for order completion.

For add'l disconnect, there is only 8 minutes for the cross-connect removal.

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #2

TECHNICIAN TO X BOX AND/OR BCT OR LST LOCATION

Item Description: Travel time to Cross box and/or BCT or LST Location.

ACTIVITY PROFILE

Begins:

- When technician is ready to begin travel to cross box, pair change or BCT location

May Include:

- Checking vehicle for materials
- Actual driving time to cross box, pair change or BCT location

DOES NOT INCLUDE:

- Time spent on vehicle breakdowns
- Time spent resolving parts discrepancies
- Break or restroom time

Ends:

- When technician arrives at cross box, pair change or BCT location

NOTE: Often procedures dictate that the technician visit the customer's premises before performing these work operations. However, so that the study will be consistent across the region, please make estimates for this work operation as it is described above.

AVERAGE TIME PER OCCURRENCE
(Minutes)

	Item Number	Work Time
Travel from work ctr to the PXJ, BCT, RXJ, LST location (first order of the day)	2.01	27.00
Travel time from last job to the PXJ, RXJ, BCT, LST location	2.02	20.00

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #4

PLACE AND/OR PERFORM WORK PXJ, RXJ, BCT, LST AS REQUIRED

Item Description: Actual placement and/or removal of cross connect jumpers, performance of line and station transfer work, or breaking of connect through.

ACTIVITY PROFILE

Begins:

- On arrival at PXJ, RXJ, BCT or LST location

May Include:

- Set up time at job site preparing for work operation:
  - Tools, equipment
  - Ladder, placing
  - "Suiting up"
  - Opening/closing cross box, ped., terminal, etc.
- Performance of cross connect, LST or BCT work
- Coordination time
- "Dead time" waiting for assignments, frame, etc. while unable to do other work

DOES NOT INCLUDE:

- Vehicle breakdowns
- Initial travel to work location or trip to customer's premises
- Break or restroom time

AVG. TIME FOR THIS TASK = 32.00 Minutes

Ends:

- With PXJ, RXJ, BCT or LST being completed

AVERAGE TIME PER OCCURRENCE

(Minutes)

	Item Number	Work Time
PXJ	4.01	16.00
BCT/RXJ	4.02	28.00
LST	4.03	60.00

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #5

CHECK CONTINUITY AND/OR DIAL TONE

Item Description: Check loop pair(s) for continuity and/or dial tone before leaving cross box, LST, PXJ, RXJ, BCT location

ACTIVITY PROFILE

Begins:

- At completion of PXJ, RXJ, BCT, LST operation

May Include:

- Checking for loop continuity to serving central office
- Checking for dial tone and/or ring back as required

Ends:

- With continuity established and dial tone verified, or with failure to achieve the above results

DOES NOT INCLUDE:

- Trouble resolution time
- Break or restroom time

AVERAGE TIME PER OCCURRENCE
(Minutes)

Item Number	Work Time
5.00	15.00

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #6

TROUBLE RESOLUTION

Item Description: Attempt to resolve problems with continuity of the loop or lack of dial tone

ACTIVITY PROFILE

Begins:

- With failure to establish circuit continuity or get dial tone

May Include:

- Time spent testing through CAT or using test equipment
- Time spent on line with IMC or Central Office trying to resolve problem
- Time spent by technician to obtain new pair
- "Dead time" spent waiting for new assignments and not doing any other office work
- Time spent making repairs or making changes in facilities to resolve problem

DOES NOT INCLUDE:

- Break or restroom time
- Time spent on other activity while waiting for new pair assignments

Ends:

- With resolution of loop problems or decision to refer resolution of problem to other group and complete the order at another time

---

AVERAGE TIME PER OCCURRENCE

(Minutes)

Item Number	Work Time
6.00	45.00

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #11

ESTABLISH AND CONDUCT TEST FROM THE NI

Item Description: Time spent "hooking up" test equipment and performing operational test from the network interface

ACTIVITY PROFILE

Begins:

- With arrival of technician at customer premises or completion of drop and/or NI work if applicable

May Include:

- Time for "set up"
- Time to perform all necessary tests with CAT or test equipment
- Time spent storing test gear after use

DOES NOT INCLUDE:

- Time for trouble resolution
- Break or restroom time

Ends:

- With successful completion of tests or the need for trouble resolution

---

AVERAGE TIME PER OCCURRENCE

(Minutes)

Item Number	Work Time
11.00	20.00

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #12

TROUBLE RESOLUTION

Item Description: Time spent in trouble resolution following failure of test performed at the network interface

ACTIVITY PROFILE

Begins:

- With need to resolve problems which caused tests performed at the network interface to fail

May Include:

- All time spent resolving problems in:
  - Cable facilities
  - Drop, protector and/or NI
  - Network terminating wire
- Time spent testing with, or securing additional information from IMC or other centers in resolving problems or making corrections to records
- Travel time associated with trouble resolution

DOES NOT INCLUDE:

- Break or restroom time

Ends:

- With successful resolution of problem or decision to refer trouble to another group and to complete order later

---

AVERAGE TIME PER OCCURRENCE
(Minutes)

Item Number	Work Time
12.00	56.00

NETWORK INSTALLATION OUTSIDE WORK GROUP - BUSINESS (NIOWGB)

Item #16

TECHNICIAN COMPLETES SERVICE ORDER

Item Description: Technician closes out service order on CAT and/or on phone with the IMC

ACTIVITY PROFILE

Begins:

- When technician completes all physical work on order and is ready to begin close out procedure on CAT or with IMC

May Include:

- Placing call on CAT or to the IMC
- Entering close out information into CAT or relating that information to the IMC
- Calling IMC or other centers to correct records in connection with order
- Packing of gear, tools, etc.

DOES NOT INCLUDE:

- Time spent on CAT or on phone with IMC obtaining data on next job *

Ends:

- When the technician returns to truck and is ready to proceed with next job

* While the time the technician spends securing information on the next job is right in the middle of the time interval associated with this Item, it should not be considered part of this interval. It should be considered part of Item #1.

AVERAGE TIME PER OCCURRENCE

(Minutes)

Item Number	Work Time
16.00	19.00

D: [illegible]
Subject: SSIM Work Times
Creator:

Dated: [illegible]
Contents: 2

Item 1

TO:
BCC:

Item 2

when gathering concurrences for SSIM worktimes, the subloop elements had not been fully developed. Adjustments were necessary due to the division of labor between feeder and distribution. For SSIM, we had received worktimes from , which lumped everything together for Connect & Test.

Using the TOC Study (the only documented reference I had), I came up with the following times. Please review and advise if any corrections are needed or if I have missed something:

FOR FEEDER, First & Addl Install:
Travel to crossbox: 20 min.
Service Order: Order receipt and analysis: 20 min.
Place cross-connect: 16 min.
Check continuity and dial tone: 15 min.
Trouble Resolution: 13.50 min. (45 min. 30% of the time)
Completion of Service Order: 19

First & Addl Disconnect:
Remove cross-connect: ~~16 min.?~~ 8 min
Completion of Service Order: 19 min.

FOR DISTRIBUTION, First & Addl Install:

Travel to cross-box (beginning of distribution): 20 min.
Travel from cross-box to premises (captured in Drop/NID)
Service Order: Order receipt and analysis: 20 min.
Connect & Test: Test from NID: 20 min.
Trouble Resolution: 11.76 min. (56 min 21% of the time)
Completion of Order: 19 min

Disconnect 1st and Addl: ~~Please advise~~.

For 4-wire elements, I have multiplied by 1.5 to capture the extra time necessary for 4-wire as opposed to 2-wire. Do you agree? Yes

What happens at the crossbox? Another "Place cross-connect" at 16 min? Yes
Where is continuity and dialtone checked?

I need a response ASAP.

Thx,

Item No. 57
Attachment No. 15
Supporting Data for CNAM & LNP

CNAM
LNP

Calling Name Database
Local Number Portability

Access to other CNAM Databases:

1999 (data for Jan. thru Nov., from Sharon Partain)		Adjusted to include BellAtlantic and SBC*	Annualized Costs (Incl'd. BA & SBC)
Total Queries to other dbs	789,087,789	937,095,663	1,022,286,178
Total Charges for Queries	$ 11,196,710.35	$ 13,884,836.65	$ 15,147,094.53
Total Transport Charges	$ 886,368.28	$ 1,256,985.65	$ 1,370,166.16
Total Charges	$ 12,083,078.63	$ 15,140,822.30	$ 16,517,260.69
Total Cost Per Query	$ 0.0157109228	$ 0.0161571789	$ 0.0161571789

* BellAtlantic and SBC assumed to be equal to Ameritech for calculations.

Service Establishment Costs:

Implementation Work (per initial order)

Implementation Manager's Time:			
Up-front coodination	30 minutes	JFC 0440	
CNARG Update	15 minutes	JFC 0440	
SMS Support Activity:			
Up-front coodination	10 minutes		
INSAC Time:			
Up-front coodination	Per Mary Edwards the numbers used in the last study for initial activities to set up a new customer are still valid.		
Est. Initial POs -Cust. STP			
Est. Initial POs - GTW STP			
Est. Initial POs - SCP STP			
Gateway Screening			
RSAG Time:			
Set-up in SMS/per OCN	30 minutes	JFC3D33*	
Andersen Time:			
New Connect:Direct	50 hours		
CNAM to existing Connect: Direct	35 hours		
CNAM to existing FTS	35 hours		

Service Order Activity (per order)

Initial order (<9 point codes)	20 minutes	JFC 2300	(includes resaving order to correct errors if needed)
Initial order (9-100 point codes)	60 minutes	JFC 2300	(includes resaving order to correct errors if needed)
Initial order (>100 point codes)	480 minutes	JFC 2300	(includes resaving order to correct errors if needed)
Subsqt. order(<10 point codes)	20 minutes	JFC 2300	(includes resaving order to correct errors if needed)
Subsqt. order(10-100 point codes)	60 minutes	JFC 2300	(includes resaving order to correct errors if needed)
Subsqt. order(>100 point codes)	480 minutes	JFC 2300	(includes resaving order to correct errors if needed)
Supervisor's time	1%	JFC 4ATA	
(Note: Each rep in this group receives three weeks training on these type orders)			

Initial Billing Activity

Entering contact info sys.	180 minutes	JFC 1200	
BBI Mgr. (Harold Alexander)	470 hrs/yr	JFC 1200	

Name Input Activity - Initial Establishment

CHUI:			
Implementation Mgr.	15 minutes	JFC 0440	
RSAG	30 minutes	JFC3D33	

Trouble Handling/Customer Instruction

Implementation Mgr.	600 hrs/yr	JFC 0440	(this number is for CLEC accounts only. Avg per call 60 minutes, 50 calls per month.)
RSAG	2000 hrs/yr	JFC3D33	(this number represents total troubles for all types of CNAM customers. CLECs represent approx. 35% of total customers)
SMS Support	900 hrs/yr		(pay grade 58)
INSAC	120 hrs/yr	JFC 4324	
INSAC	360 hrs/yr	JFC 4320	
Billing Service Rep	192 hrs/yr		

Miscellaneous

CNARG Administration	21 hrs/yr	JFC 0440	
Product Support	120 hrs/yr		(pay grade 59)
CHUI DIALS Purge-Card Renewal	$100 every three years		(this does not include initial setup of DIALS)
GT Changes/Additions	60 hrs/yr	JFC 4324	(this number represents time spent by INSAC making CNARG driven changes to GTTs not associated with new customers - Manager)
GT Changes/Additions	1320 hrs/yr	JFC 4320	(this number represents time spent by INSAC making CNARG driven changes to GTTs not associated with new customers)

Comment

In response to your request for information, I have attempted to define the required work activities and times for implementation of CNAM. All of the work is assigned to a Specialist, JFC 4320. However, all of the Global Title Translations work is currently being done by the Engineering Assistants. They receive a differential for the time spent on this activity.

I am also including some time for my coordination activities, JFC 4324, associated with the implementation of new service. I'm not sure that information has ever been included in previous attempts to define costs for this service. Use your best judgment on including this in your response.

I am splitting the work requirements up according to the interconnection status of the customer. Today we have several different types of CNAM interconnections. The most common are:

- ITCs and CLECs with small networks (small STPs or SSP only interconnection on our LSTPs)
- Large Interconnections with other RBOCs / Independents
- MTP routing for an ITC / CLEC with names in another provider's database*

* Thus far, these have been relatively small customers - 1-10 offices.

Small Networks - BST Database

Activity	Time Required	JFC
Up-front coordination activities	2 hr.	4324
Up-front coordination activities	5 hr.	4320
Establishment of initial point codes) (STP hosting CNAM SCPs)	1 hr.	4320
Establishment of additional point codes (STPs hosting CNAM SCPs)	7 hr. ***	4320
Establishment of initial point code (CNAM SCPs)	4.5 hr.	4320
Establishment of additional point codes (CNAM SCPs)	None (provided cluster is the same)	4320
Global title additions/changes	1.5 hr.**	4320
Gateway screening to allow queries	1 hr.	4320
SMS Changes - NPANXX definitions	30 - 60 min.	4320

*Based on the current # of STPs hosting CNAM SCPs
**Based on the current # of Gateway STPs
***Based on the current # of CNAM SCPs. This number is expected to increase over time.

Large Customers - BST Database (average based on previous interconnections)

Activity	Time Required	JFC
Up-front coordination activities	10 hr.	4324
Up-front coordination activities	10-20 hr.	4320
Establishment of initial point codes (RSTP) including gateway screening	16-24 hrs.	4320
Establishment of additional routing (STPs hosting CNAM SCPs)	28 hrs.*	4320
Establishment of point code (CNAM SCPs)	40 hrs. per SCP pair	4320
Global title additions/changes	40 hrs.	4320
SMS Changes - NPANXX definitions	5 hrs.	4320

*Based on the current # of STPs hosting CNAM SCPs
*Based on the current # of Gateway STPs

**Based on the current # of CNAM SCPs. This number is expected to increase over time.

MTP routing for ITC/ CLECs with names in another provider's database

Activity	Time Required	JFC
Up-front coordination activities	5 - 10 hr.	4324
Up-front coordination activities	5 hrs.	4320
Establishment of initial point codes (STP hosting the customers). Gateway screening	1 - 2 hr.	4320
Establishment of additional point codes (STPs hosting CNAM SCPs)	1-2 hrs.*	4320
Establishment of point code(s) (CNAM SCPs)	4.5 hrs.***	4320
Global title additions/changes (chgs. Made at Regional / Gateway STPs)	1.5 - 3 hrs. (depending on the number of GTTs)**	4320
Gateway screening to allow queries (RSTP) to allow response messages	1 hr.	4320
SMS Changes - NPANXX definitions	15-30 min (average)	4320

*Based on the current # of STPs hosting CNAM SCPs
**Based on the current # of Gateway STPs
***Based on the current # of CNAM SCPs. This number is expected to increase over time.

Additional point codes for existing customers:

Although the coordination time is not necessarily as long, the addition of new point codes for existing customers is along the same lines as adding a new point code for a small network. This can turn into a huge work effort all it's own. There have been many difficulties getting these customers working without a major troubleshooting effort. This is especially true with MTP routing arrangements since multiple companies are involved.

Maintenance of GTT Tables:

This is an ongoing effort in INSAC. The GTT tables must be updated monthly to account for new NPA-NXXs. This effort takes about **6-10 hours a month** to keep up with NPA-NXX changes and additions. This work effort will increase as BellSouth interconnects with additional customers and database providers.

As we discussed on the phone, there are several scenarios that might be considered a "disconnect" of CNAM service with BellSouth, but it is doubtful that a customer would actually terminate CNAM service altogether. In most cases, the "disconnect" will actually be a change in routing for a customer. The only circumstances that might warrant the term "disconnect" would be the retirement of a central office. Even in that situation, the NPA-NXXs would continue to exist and require some type of routing treatment.

It is unlikely that large customers, who have their own databases, would initiate changes of this nature, so I will primarily address small ITCs and CLECs. The only situation that comes to mind regarding large customers involves massive routing and screening changes. This could happen if a CNAM provider/customer changes HUB providers or decides to install, or remove, direct links into BellSouth. The scope of this project is impossible too difficult to define. Since it is unlikely, I would suggest that time requirements would need to be calculated on a case by case basis.

Small ITC / CLEC Behind BST's Network Changing CNAM Providers

This would require a coordinated cutover of the customer's existing service to the new CNAM provider. The customer may elect for BST to continue launching their CNAM queries, but direct their NPA-NXXs to the new database. However, it is also a possibility that the customer may choose to have the new CNAM provider launch their queries. Either situation requires changes to the routing and screening of the customer's queries and responses.

If the ITC/CLEC elects to have BST continue to launch their queries, the NPA-NXXs would be directed to the new provider's database. Assuming that BST is already connected to the new provider, this scenario is not a lot of work on our part. It requires that INSAC redirect the global titles to the new provider's database. The coordination required is minimal if the new provider has already been receiving some queries from the ITC/CLEC as part of the current interconnection agreement. This whole process shouldn't take more than **5-6 hours, per office (4-8 NXXs each)** once the paperwork is received from the new provider. That includes some up-front coordination with the customer and the new provider.

Things get more complicated if the ITC/CLEC wants the new CNAM provider to launch all of their queries. Changes would be required in the following locations:

ITC/CLEC switch(es) to start querying the new provider
BST STP pair connecting the customer to our network
Gateway STP pair connecting BST to the new CNAM provider
The new database provider to allow the ITC/CLEC to address their capability code.

The actual cutover would need to be coordinated between the ITC/CLEC, BST and the new CNAM provider. Past experience with arrangements of this type indicates that at least some time would be required for troubleshooting the new arrangement. It would be rare if all the pieces of the puzzle were actually in place at the time of the cutover. Here's my best guess on the time requirements:

Activity	Time Required	JFC
Up-front coordination activities	1 hr.	4324
Up-front coordination activities	2 hr.	4320
Screening and routing changes in associated BST STPs to allow queries to the new provider	1 hr.	4320
Global title changes	1.5 hr.**	4320

Gateway screening to allow queries and responses from the new provider for the customer. (Gateway STPs w/ connection to new provider)	1 hr.	4320
SMS Changes - NPANXX definitions	30 - 60 min.	4320
Cutover and troubleshooting	2 hrs.	4320

**Based on the current # of Gateway STPs

Item No. 57
Attachment No. 17
Supporting Data for Interoffice Facilities, Local Channel, Loop Concentration, Various Local Loops, and Feature Activation

INPUTS

Interoffice Facility @ OC-3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First isconnec Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqui	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	8.0000	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				

Maximum of 25 entries per Cost Element #

N
W

INPUTS

Interoffice Facility @ DS3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Disconnec Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqui	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
7	Network	NETWORK & ENGINEERING PLANNING (FG2Q)	Engineering	31XX	✓ 2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5968	3.7300	1.5968
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				

Maximum of 25 entries per Cost Element #

INPUTS

Interoffice Facility @ OC-12

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Isconnec Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqui	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	12.0000	0.0000	0.0000	0.0000
6	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =		42				
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				

Maximum of 25 entries per Cost Element #

INPUTS

Local Channel & Local Loop @ OC-48

I OF

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First isconnec Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqui	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1116	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
6	Network	OUTSIDE PLANT ENGINEERING (FG30)	Engineering	32XX	2.0833	0.0000	2.0833	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	12.0000	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =		42				
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				

Maximum of 25 entries per Cost Element #

UNBUNDLED LOOP CONCENTRATION

INPUTS

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1	Network	CCM (System A)	Engineering	3AXX	12.0000	0.0000	0.0000	0.0000
2	Network	CCM (System B)	Engineering	3AXX	5.0000	0.0000	0.0000	0.0000
3	Network	Network Plug-In Admin (PICS)---(Feat Activation)	Service Order	3A2X	0.0333	0.0167	0.0333	0.0167
4	Network	C.O. Install & Mtce Field - Cld & Fac---(Feat Activation)	Connect & Test	431X	0.4417	0.1784	0.4392	0.1772
5	Network	Customer Point of Contact (LCSC)	Service Order	2300	1.5000	0.7500	0.0000	0.0000
6	Network	Circuit Provisioning Center (CPG)	Service Order	470X	0.1333	0.0333	0.0000	0.0000
7	Network	Network Engineering (PICS)	Service Order	341X	0.0333	0.0000	0.0000	0.0000
8	Network	Work Management Center (WMC)	Service Order	4WXX	0.7333	0.2500	0.0000	0.0000
9	Network	Access Customer Advocate Center (ACAC)	Service Order	471X	0.0633	0.0633	0.0633	0.0633
10	Network	Circuit Provisioning Center (CPG)	Engineering	470X	0.4917	0.0250	0.4917	0.0250
11	Network	CO Install & Mtce Field Circuit & Fac	Connect & Test	431X	0.4167	0.3330	0.1667	0.0633
12	Network	Access Customer Advocate Center (ACAC)	Connect & Test	471X	1.7900	10.8000	1.5400	1.8000
13								
14								
15								
16								
17								
18								
19								
20								
21								
					Maximum of 25 entries per Cost Element #			

Write C.O.

L2

ulc.xls

7/6/98 9:23 AM

Nonrecurring Labor

VOICE GRADE - 2 WIRE INTEROFFICE

D2.1 + 2.2

TELRIC INPUT FORM - NONRECURRING LABOR TIMES

Instructions:

1. Use this worksheet to record nonrecurring labor times to be input into the TELRIC calculations.
2. All amounts shown are per unit (e.g., per call, per loop, per MDU).
3. Input data, by Cost Element, leaving no blank lines. On next row after last line of data, type END in Cost Element Column.
4. All data on this form should be cut-referenced to study workpapers.
5. Do NOT change columns, headings, sheet name.
6. Use columns F & G when cost element has a single nonrecurring cost; use columns H, I, J, & K for elements with a first and additional nonrecurring cost; use columns L, M, N & O for elements with an initial and subsequent nonrecurring cost.
7. Study midpoint date is set at 6/99.
8. Input Cost Element Life (in months) on first row of data for each cost element. It is not necessary to repeat on each line.

Study Mid-Point Date (6/xx.) Jun-99

State	Cost Element #	Cost Element Life (Mos)	Labor Expense Description (Limited to 28 characters)	JPC/ (Optional)	(For use of one NRI) Installation Time (Hours)	(For use of one NRI) Disconnect Time Hours	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours	Initial Installation Time (Hours)	Initial Disconnect Time Hours	Subsequent Installation Time (Hours)
TN	D.2.2	42	Service Order	2380			0.0500	0.0500	0.0500	0.0500			
TN	D.2.2	42	Service Order	471X			0.0000	0.0000	0.0000	0.0000			
TN	D.2.2	42	Service Order	470X			0.1000	0.1200	0.0000	0.0000			
TN	D.2.2	42	Service Order	4W0X			0.7330	0.2500	0.0000	0.0000			
TN	D.2.2	42	Engineering	341X			0.0330	0.0000	0.0000	0.0000			
TN	D.2.2	42	Connect & Test	431X			0.4100	0.3330	0.1000	0.0830			
TN	D.2.2	42	Connect & Test	471X			0.0000	0.0000	0.0000	0.0000			
TN	D.2.3	42	Service Order	2380			0.4500	0.2000	0.4500	0.2000			
	END												

Maximum of 25 entries per Cost Element #

D3.2

D3.2

INPUTS

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1	Network	CUSTOMER POINT OF CONTACT (ICSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	[illegible]	0.0000	[illegible]	[illegible]
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1900	0.1280	0.0000	0.0000
4	Network	WORK MANAGEMENT CENTER (WMC)	Service Order	4W0X	0.7330	0.2500	0.0000	0.0000
5	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0330	0.0000	0.0000	0.0000
6	Network	CO INSTALL & MTCE CKT & FAC (INTEL)	Connect & Test	431X	0.4160	0.3330	0.1660	0.0830
7	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Connect & Test	471X	[illegible]	0.0000	[illegible]	0.0000
8	Network	CUSTOMER POINT OF CONTACT (ICSC)	Service Order	2300	0.4500	0.2000	0.4500	0.2000
9								
10								
11								
12								
13								
14								
15		Cost element Life (Months) =	42					
16								
17								
18					For LCSC work times different than the standard half hour the manual work times below apply			
19								
20				.5 - .05 =	0.45			
21				.25 - .05 =	0.20			
				.5 - .05 =	0.45			
				.25 - .05 =	0.20			

Maximum of 25 entries per Cost Element #

D50

52

D4.2

INPUTS

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	SFC/ Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1	Network	CUSTOMER POINT OF CONTACT (ICSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Service Order	431X	0.0417	0.0417	0.0000	0.0000
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1333	0.0333	0.0000	0.0000
4	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	.06 ~~0.0000~~	.18 0.0000	.06 ~~0.0000~~	.18 0.0000
5	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.7333	0.0250	0.0000	0.0000
6	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0000	0.0000	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (PG20)	Engineering	31XX	0.5000	0.0000	0.5000	0.0000
8	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	0.4917	0.0250	0.4917	0.0250
9	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Connect & Test	471X	1.9 ~~0.8333~~	~~0.0000~~	1.9 ~~0.8333~~	~~0.0000~~
10	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	0.8333	0.3333	0.8333	0.3333
11	Network	CUSTOMER POINT OF CONTACT (ICSC) (Man-Add)	Service Order	2300	0.4500	0.2000	0.4500	0.2000
12								
13								
14								
15	Network	Cost element Life (Months) =		42				
16					For LCSC work times different than the standard half hour the manual work times below apply			
17								
18				.5 - .05 =	0.45			
19				.25 - .05 =	0.20			
20				.5 - .05 =	0.45			
21				.25 - .05 =	0.20			

Maximum of 25 entries per Cost Element #

D51

W0

lo_dsl 3.xls

7/17/98 2:18 PM

CO-CP

	A	B	C	D	E	F
99	NONRECURRING LABOR					
100	4-WIRE DS1 DIGITAL LOOP					
101			FIRST		ADDITIONAL	
102		JFC/	WORKTIMES (HRS)		WORKTIMES (HRS)	
103	DESCRIPTION	Payband	INSTALL	DISCONNECT	INSTALL	DISCONNECT
104	SERVICE ORDER					
105	CUSTOMER POINT OF CONTACT (ICSC)	2300	SEE BELOW			
106	CIRCUIT PROVISIONING CENTER (CPG)	470X	0.1333	0.0333	0	0
107	NETWORK PLUG-IN ADMINISTRATION (PICS)	341X	0.0333	0	0	0
108	WORK MANAGEMENT CENTER (WMC)	4WXX	0.7333	0.25	0	0
109	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	471X	.016 0.0833	.18 0.0833	.016 0.0833	.18 0.0833
110	INSTALL & MTCE-SPEC SVCS (SSIM)	411X	0.25	0.1667	0.1667	0.0833
111	WORK MANAGEMENT CENTER (WMC)	4WXX	0.1667	0	0	0
112	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	471X	0.3333	0	0	0
113	CUST PT OF CONT (ICSC)(MANUAL VS ELECT.)	2300				
114	WORK MANAGEMENT CENTER (WMC)*	4WXX	0.1667	0	0	0
115	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)*	471X	0.3333	0	0	0
116	ENGINEERING					
117	ADDRESS & FACILITY INVENTORY (AFIG)	400X	0.0167	0.0167	0.0167	0.0167
118	CIRCUIT PROVISIONING CENTER (CPG)	470X	0.4917	0.025	0.4917	0.025
119	OUTSIDE PLANT ENGINEERING (FG30)	32XX	3	0 0.0	3	0 0.0
120	CONNECT & TEST					
121	CO INSTALL & MTCE FIELD-CIRCUIT & FAC	431X	0.4167	0.333	0.1667	0.0833
122	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	471X	1.9 0.0833	0	1.9 0.0833	0
123	INSTALL & MTCE-SPEC SVCS (SSIM)	411X	3.667	0.5	1.25	0.0833
124	TRAVEL					
125	INSTALL & MTCE-SPEC SVCS (SSIM)	411X	0.3	0.3	0	0
126	[redacted]	431X	0.375	0	0	0
127						
128	CUST PT OF CONT (ICSC) TOTAL TIME	2300	0.5	0.3333	0.25	0
129	WORK TIME ELECTRONIC INTERFACE		0.0500	0.0500	0.0500	0.0500
130	MANUAL ADDITIVE		0.4500	0.2833	0.2000	0.0000
131						
132						
133	*Order Coordination - Specified Conversion Time					
134	Assumes incremental manual order coordination required when an OLEC specifies a particular conversion time.					
135	Assumes 75% of central offices are not manned every day and 50% of the time the OLEC will specify conversion					
136	at a time when the central office is not manned.					
137	Loop will be ordered via an electronic interface.					
138						
139	COST ELEMENT LIFE IN MONTHS	42				

CO - POP

NONRECURRING LABOR					
LOCAL CHANNEL - DEDICATED 2 WIRE & 4 WIRE VOICE GRADE					
		FIRST		ADDITIONAL	
	JFC/	WORKTIMES (HRS)		WORKTIMES (HRS)	
DESCRIPTION	PAYBAND	INSTALL	DISCONNECT	INSTALL	DISCONNECT
SERVICE ORDER					
CUST PT OF CONT (ICSC)	2300	SEE BELOW			
NTWK PLUG-IN ADMIN (PICS)	341X	0.0333	0.0333	0.0000	0.0000
CUST PT OF CONT (ICSC)(MANUAL VS ELECT.)	2300	SEE BELOW			
ENGINEERING ACAC		.06	.18	.06	.18
CKT PROV GRP (CPG)	470X	0.9566	0.1233	0.0000	0.0000
CONNECT & TEST					
NTWK SVS CLERICAL	2700	0.4605	0.1765	0.0000	0.0000
CO INSTALL & MTCE FIELD	431X	2.4335	0.0980	0.5468	0.0980
CO INSTALL MTC & ADMIN SW	4322	0.3833	0.0000	0.0000	0.0000
NTWK SVS CLERICAL	2700	0.2668	106 0.0000	0.0000	0.0000
ACC CUST ADV CTR (ACAC)	471X	0.2668	0.0000	0.0000 1.06	0.0000
INST & MTCE-SP SVC (SSIM)	411X	3.1835	0.8930	0.8678	0.0153
TRAVEL					
INST & MTCE-SP SVC (SSIM)	411X	0.3000	0.0000	0.0000	0.0000
CUST PT OF CONT (ICSC) TOTAL TIME	2300	0.5000	0.3330	0.2500	0.0000
WORK TIME ELECTRONIC INTERFACE		0.0500	0.0500	0.0500	0.0500
MANUAL ADDITIVE		0.4500	0.2830	0.2000	0.0000
COST ELEMENT LIFE IN MONTHS	42				

- Switched dedicated Trunk
from LTR

CO-POP

NONRECURRING LABOR LOCAL CHANNEL - DEDICATED DS1					
		INSTALL		DISCONNECT	
	JFC/	WORKTIMES (HRS)		WORKTIMES (HRS	
DESCRIPTION	PAYBAND	FIRST	ADDTL	FIRST	ADDTL
SERVICE ORDER					
CUST PT OF CONT (ICSC)	2300	SEE BELOW			
CO INSTALL & MTCE FIELD	431X	0.0417	0.0000	0.0417	0.0000
ACC CUST ADV CTR (ACAC)	471X	0.0833	0.0000	0.0000	0.0000
CKT PROV GRP (CPG)	470X	0.1333	0.0000	0.0333	0.0000
WORK MGT CTR (WMC)	4WXX	0.3577	0.1720	0.0000	0.0000
INST & MTCE-SP SVC (SSIM)	411X	0.3072	0.0000	0.1667	0.0000
CUST PT OF CONT (ICSC)(MANUAL VS ELECT.)	2300	SEE BELOW			
ENGINEERING					
OSP ENG (FG30)	32XX	3.0000	3.0000	0.0000	0.0000
CKT PROV GRP (CPG)	470X	0.4917	0.4917	0.0250	0.0250
ADD & FAC INVENT (AFIG)	400X	0.0163	0.0165	0.0000	0.0000
NTWK PLUG-IN ADMIN (PICS)	341X	0.0500	0.0000	0.0000	0.0000
CONNECT & TEST					
CO INSTALL & MTCE FIELD	431X	0.4167	0.4167	0.1667	0.1667
INST & MTCE-SP SVC (SSIM)	411X	2.1333	2.1333	0.3333	0.3333
ACC CUST ADV CTR (ACAC)	471X	0.0000	0.0000	0.0000	0.0000
TRAVEL					
INST & MTCE-SP SVC (SSIM)	411X	0.3000	0.0000	0.0000	0.0000
CUST PT OF CONT (ICSC) TOTAL TIME	2300	1.1007	0.0417	0.5333	0.0417
WORK TIME ELECTRONIC INTERFACE		0.0500	0.0500	0.0500	0.0500
MANUAL ADDITIVE		1.0507	0.0000	0.4833	0.0000
COST ELEMENT LIFE IN MONTHS	42				

.18 / .18

INPUTS

Local Channel & Local Loop @ DS3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First isconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqu	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC) E	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
6	Network	OUTSIDE PLANT ENGINEERING (FG30)	Engineering	32XX	2.0833	0.0000	2.0833	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

Local Channel & Local Loop @ DS3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqu	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
6	Network	OUTSIDE PLANT ENGINEERING (FG30)	Engineering	32XX	2.0833	0.0000	2.0833	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

Local Channel & Local Loop @ OC-3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqu	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1116	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
6	Network	OUTSIDE PLANT ENGINEERING (FG30)	Engineering	32XX	2.0833	0.0000	2.0833	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

Local Channel & Local Loop @ OC-12

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First isconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqu	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
6	Network	OUTSIDE PLANT ENGINEERING (FG30)	Engineering	32XX	2.0833	0.0000	2.0833	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

Local Channel & Local Loop @ OC-48

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFCI Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1A	Network	CUSTOMER POINT OF CONTACT (LCSC)Service Inqu	Service Order	2300	4.0000	0.0000	0.0000	0.0000
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
6	Network	OUTSIDE PLANT ENGINEERING (FG30)	Engineering	32XX	2.0833	0.0000	2.0833	0.0000
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

FEATURE ACTIVATION @ DS3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Isconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

FEATURE ACTIVATION @ OC-3

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Payband	First Installation Time (Hours)	First Disconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1118	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			

INPUTS

FEATURE ACTIVATION @ OC-12

	Source	Work Group	Labor Expense Description (Limited to 25 characters)	JFC/ Percent	First Installation Time (Hours)	First Isconnect Time Hours	Additional Installation Time (Hours)	Additional Disconnect Time Hours
1	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	0.0500	0.0500	0.0500	0.0500
2	Network	ACCESS CUSTOMER ADVOCATE CENTER (ACAC)	Service Order	471X	0.0600	0.1800	0.0600	0.1800
3	Network	CIRCUIT PROVISIONING GROUP (CPG)	Service Order	470X	0.1116	0.0412	0.0000	0.0000
4	Network	INSTALLATION & MTCE CENTER (IMC)	Service Order	401X	0.2666	0.2666	0.2666	0.2666
5	Network	CO INSTALL & MTCE-SWITCH EQUIP	Service Order	430X	0.1333	0.1166	0.0833	0.1166
7	Network	NETWORK & ENGINEERING PLANNING (FG20)	Engineering	31XX	2.2500	0.0000	0.0000	0.0000
8	Network	NETWORK PLANNING & ENGINEERING (PICS)	Engineering	341X	0.0333	0.0333	0.0000	0.0000
9	Network	CO INSTALL & MTCE CKT & FAC (NTEL)	Connect & Test	431X	3.7300	1.5966	3.7300	1.5966
10	Network	CIRCUIT PROVISIONING GROUP (CPG)	Connect & Test	470X	1.6640	0.2626	1.6640	0.2626
11	Network	ACCESS CUSTOMER ADVOCATE CENTER (UNE)	Connect & Test	471X	1.9000	0.0000	1.9000	0.0000
12	Network	CUSTOMER POINT OF CONTACT (LCSC)	Service Order	2300	1.1458	0.4775	1.1458	0.4775
13								
14								
15	Network	Cost element Life (Months) =	42					
16			For LCSC work times longer than the standard half hour the manual work times below apply.					
17								
18			1.1958 - .05 =	1.1458				
19			.5275-.05 =	0.4775				
20			1.1958 - .05 =	1.1458				
21			.5275-.05 =	0.4775				
					Maximum of 25 entries per Cost Element #			