PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

TELECOMMUNICATIONS DIVISION
RESOLUTION T-15969
October 25, 1996

R E S O L U T I O N

RESOLUTION T-15969. PACIFIC BELL. REQUEST TO ESTABLISH
CELL RELAY SERVICE AS A NEW, FLEXIBLY-PRICED OFFERING.

BY ADVICE LETTER 18243 FILED MAY 16, 1996.

SUMMARY

Pacific Bell (Pacific) requests authority under provisions of
General Order No. 96-A (G.O. 96-A) to revise Tariff Schedule
Cal.P.U.C. No. 175-T, Access Services, to offer FasTrak ATM Cell
Relay Service (CRS), which is a new high-speed data transport
service.

No protests to Advice Letter (AL) No. 18243 were filed.

This Resolution authorizes, on a provisional basis, Pacific's CRS
as a Category II service with flexible pricing. This authority
will expire on January 1, 1998. Pacific estimated the first year
revenue impact of this filing to be an increase of $3,000,000.

BACKGROUND

By AL No. 18243, filed on May 16, 1996, Pacific seeks Commission
authorization to offer a service it calls "FasTrak ATM Cell Relay
Service" (CRS). Pacific's advice letter seeks to offer CRS both
to end-user customers for intraLATA use as well as to
interexchange carriers (IECs) that would use Pacific's CRS to
originate or terminate cell relay service for end-user customers
whose cell relay traffic crosses a LATA boundary.

Pacific proposes that CRS be placed in Category II for flexible
pricing and be included in the sharing mechanism. In its AL,
Pacific states that CRS is a discretionary service because it is
not necessary to, nor does it interfere with, the provisioning of
basic exchange service, and should therefore be placed in
Category II. Pacific also states that CRS does not include
monopoly building blocks, and is in compliance with the
Commission's requirements for imputation and unbundling. In its
proposal package, Pacific also provides copies of several
articles that describe the plans, accomplishments, or both, of
competing companies to provide cell relay service. Pacific
states that several competitors either already have a major
presence in California cell relay service markets, or soon will,

including MFS DataNet, MCI, Sprint, WilTel, and AT&T. Since this
degree of competition in this market appears to indicate that the
market for this service is at least partially competitive, this
also would qualify CRS as a Category II service.

CRS is a high-speed data transport service that supports many
different applications requiring transport of data among
distributed customer sites at speeds ranging from 128 kilobits
per second (Kbps) to 148 megabits per second (Mbps). CRS is
implemented using an industry-recognized technology--Asynchronous
Transfer Mode (ATM). ATM is a packet-like switching technology;
whereas Frame Relay Service (FRS) sends data arranged in frame
packets of varying lengths over a packet-data network, ATM
arranges data into fixed-length segments or "cells" before
sending it over its own broadband network. Furthermore, ATM
utilizes "virtual channels" (that is, software-defined routes
from the customers' premises through the carrier's ATM switch to
the destination), instead of dedicated, hard-wired circuits, to
carry customer information over a broadband network. A key
feature of ATM is that it breaks down its data payload into very
short cells (53 bytes), with the result that high-priority cells
in the data stream do not have to wait for long in a data queue.
ATM cells can be thought of as standardized containers for
shipping data, and can carry cells containing digitized voice,
image, video, multimedia, or alphanumeric computer data, all on
the same "intermodal data freight train".

ATM is the switching and multiplexing technique chosen by the
International Telecommunications Union (formerly CCITT) to
support a broad range of high-speed customer applications, both
variable-bit-rate (VBR) and constant-bit-rate (CBR), over one
standard network interface. VBR applications are those with
"bursty traffic" (traffic with large bursts of data followed by
periods of little or no data), and those that can tolerate
occasional short transport delays, such as irregular, high-speed
transmissions of large data files (for example, medical or other
high-resolution images, or files needed for a bank data center
"disaster recovery"). CBR applications are those with
practically constant rates of data transfer that can tolerate
only minimal transport delays (down in the range of milliseconds)
between data bits, such as transmissions of live video, audio, or
multimedia data.

CRS is similar to Switched Multi-megabit Data Service (SMDS) and
Frame Relay Service (FRS) in that all three are data transport
services that operate on separate "overlay networks", that is,
networks composed of switches, lines, and other components that
are separate from Pacific's basic switched network. CRS differs
from SMDS and FRS in offering customers much higher transport
speeds and lower maximum delay between data bits, including
speeds fast enough and delay factors low enough to allow high-
quality transport of live, full-motion video and multimedia data.
CRS also offers greater scalability than FRS or SMDS, allowing
the customer to adjust its service over a much broader range of
transport rates as its needs change, with minimal capital
investment in upgrades to its equipment.

Pacific states in its proposed tariff sheets that it plans to offer CRS throughout California, and that, by the end of 1996, facilities will be available in central offices located in the metropolitan areas of Los Angeles, Monterey, Oakland, Palo Alto, San Francisco, San Diego, San Jose, and Sacramento.   In areas where facilities or operating conditions do not permit the availability of CRS, Special Construction (charges set forth in section 15 of Pacific's Schedule 175-T) will apply to those customers who want CRS.

NOTICE

Pacific states that copies of the AL and Supplements were mailed to competing and adjacent utilities and/or other utilities, and interested parties, as requested.   The AL was listed in the Commission's Daily Calendar of May 22, 1996.

PROTESTS

No protests to AL 18243 were filed.

DISCUSSION

CRS is a high-speed data transport service that allows customers to transport data among distributed customer sites at speeds ranging from 128 Kbps to 148 Mbps.   CRS can transport digitized voice, image, video, multimedia, or alphanumeric computer data, all using the same customer and utility facilities at the same time.

There are two categories of rate elements that each CRS customer is required to purchase from Pacific; connections and data transmission rates.   At the time of subscribing to CRS, the customer is required to identify the locations it wants to connect using CRS for data exchanges, and the speeds at which it wishes to transmit data between these locations.

In addition to these two categories of rate elements, the CRS customer must also purchase, from either Pacific or from a competing carrier, a local loop facility from the customer's premises to the nearest Pacific serving wire center.   This facility can be any of the following three grades of digital lines; DS1, DS3, or OC3c.   If the customer purchases this local loop facility from Pacific, it buys it under Pacific's existing tariff rates and conditions contained in Section 7 of Pacific's tariff 175-T.

The connections that CRS provides between locations are referred to as Permanent Virtual Circuits (PVCs), and are logical connections or "virtual channels" instead of dedicated, hard-wired circuits.   PVCs are established in software tables at the time the customer subscribes to a PVC, and can be thought of as pre-approved routing addresses to guide the customer's data transmissions between its chosen origin and destination points. The connections are relatively static; they are established through a provisioning process, and remain the same until changed by a new provisioning process initiated by a customer request for

a change in service. Just as in Frame Relay Service, in CRS the
communication path between end-points or locations is pre-
established (through the provisioning process), and no "call"
set-up procedures are required at the time of each data
transmission.

The second category of CRS rate element that each CRS customer
must purchase is the data transmission rate within Pacific's CRS
network and a port on Pacific's nearest CRS switch. Pacific's
proposed CRS tariff schedule refers to this transmission rate and
port as the Information Access Rate (IAR). The customer must
specify the speeds at which it wishes to transmit data between
its chosen locations or connections. Pacific proposes to offer
CRS at many different transmission rates, ranging from 128 Kbps
to 148 Mbps. Within this overall range of transmission rates,
Pacific proposes to offer five different port types, each of
which will accommodate a specified range of transmission rates.
Pacific will offer three port sizes for end-user customers;
(1) 128 Kbps to 1.5 Mbps, (2) 4 - 40 Mbps, and (3) 51 - 148 Mbps.
Pacific will also offer two port sizes for IECs and competitive
access providers; (1) 40 Mbps, and (2) 148 Mbps.

While no protests to the subject AL were filed, CRS does share
certain attributes with previously authorized fast data
transmission services such as FRS which bear on the question of
whether CRS is being offered by Pacific on a truly unbundled
basis. In Resolution T-15408 of December 3, 1993, we stated on
page 4 "... We are not convinced that Pacific's FRS is not
comprised of monopoly building blocks. We believe that the
dedicated network facilities which Pacific will use to transport
FRS data between the local wire center and Pacific's FRS switch
is a monopoly building block until and unless Pacific can
demonstrate that subscribers to Pacific's FRS may use other
providers for that portion of the data transport and Pacific's
FRS is truly unbundled." We further stated, on page 6, "Since we
are not convinced by Pacific that its FRS is not comprised of
monopoly building blocks, we are unwilling to grant Pacific's
request on a permanent basis until Pacific can demonstrate to our
satisfaction that its FRS complies with the unbundling, non-
discriminatory access, and imputation requirements or Pacific
unbundles appropriate building blocks for its FRS."

When Pacific filed its AL 17145 to extend its provisional
offering of FRS for an additional six months, we stated in
Resolution T-15673 of December 21, 1994, page 2, "... It may be
appropriate to extend FRS on a provisional basis to account for
the possibility that these [unbundling and imputation]
requirements may be further clarified in a future OAND (Open
Access and Network Development) proceeding."

The same issues exist in the current AL filing. Pacific's CRS
offering includes a charge for the IAR that covers both the port
needed to connect to Pacific's CRS switch, and an interoffice
facility for the expected average mileage between a CRS
customer's serving wire center and the nearest cell relay switch,
which may be located right in this customer's serving wire
center, or it may be in a Pacific central office some miles

distant. As in the FRS resolution, the question here again is
whether Pacific's CRS offering can be considered sufficiently
unbundled, given that customers are unable to choose to transport
their CRS data from their serving wire center to Pacific's cell
relay switch by means other than Pacific's interoffice
facilities. We expect to rule on this issue in the Open Access
and Network Architecture Development (OANAD) proceeding, and will
grant only provisional authority for Pacific's CRS until this
issue is settled in that proceeding.

The Telecommunications Division concludes that the AL as
supplemented meets the requirements set forth in G.O. 96-A, and
recommends that the Commission approve this filing on a
provisional basis.

FINDINGS

1.   Pacific filed AL No. 18243 requesting Commission
authorization to establish a tariff schedule to offer CRS with
flexible pricing.

2.   Pacific states that authorization of this service would
result in an estimated first year revenue increase of $3,000,000.

3.   Pacific's request that the workpapers and supporting
cost documentation associated with the AL and supplements be
treated as confidential is reasonable.

4.   It is reasonable to grant CRS Category II status with
pricing flexibility, on a provisional basis.

5.   A clarifying decision on unbundling requirements has
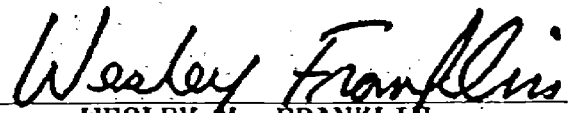not been issued in the OANAD proceedings.

THEREFORE, IT IS ORDERED that:

1.   Pacific Bell (Pacific) is hereby granted provisional
authority, to expire on January 1, 1998, to provide FasTrak ATM
Cell Relay Service (CRS) under the conditions specified in
Resolution T-15969.

2.   The Advice Letter and tariff sheets shall be marked to
show that they were authorized by Resolution T-15969.

3.   Before Pacific requests permanent Category II authority
for CRS, Pacific must demonstrate that CRS complies with the
unbundling, non-discriminatory access, and imputation
requirements adopted in D.89-10-031, as modified in any
subsequent Commission orders, including any Commission order in
the Open Access and Network Architecture Development proceeding.

The effective date of this Resolution is today.

I certify that this Resolution was adopted by the Public
Utilities Commission at its regular meeting on October 25, 1996.
The following Commissioners approved it:

WESLEY M. FRANKLIN
Executive Director

P. GREGORY CONLON
President
JESSIE J. KNIGHT, Jr.
HENRY M. DUQUE
JOSIAH L. NEEPER
Commissioners

DANIEL Wm. FESSLER being
necessarily absent, did not
participate.