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United States Telephone Association

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February 22, 1995

Mr. William F. Caton, Secretary
Federal Communications Commission
1919 M Street NW - Room 222
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

RE: Ex Parte Filing

CC Docket No. 94-1
DOCKET FILE COPY ORIGINAL

Dear Mr. Caton:

Attached is a definition of the Telephone Plant Index and as used in the Total Factor Productivity Study (and 1993 update) filed by USTA in this proceeding as requested by the Tariff Division Staff.

An original and two copies of this ex parte notice and the attachments are being filed in the Office of the Secretary on February 22, 1995. Please include this notice and attached material in the public record of these proceedings.

Respectfully Submitted

Mary McDermott
Mary McDermott
Vice President - Legal &
Regulatory Affairs

cc: Mark Uretsky
Anthony Bush
Alexander Belinfante
ITS

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**UNITED STATES TELEPHONE ASSOCIATION
DEFINITION OF TELEPHONE PLANT INDEXES
EX PARTE, FEBRUARY 21, 1995**

TELEPHONE PLANT INDEXES (TPIs)

DEFINITION:

Telephone Plant Indexes are measures of the relative changes in the cost of constructing telephone plant-in-service (including materials and labor components), with respect to the embedded base of telephone plant. All major elements of cost are included in constructing the TPI. They are capital purchases (materials), contracted labor and engineering, company labor and company engineering. Using an index year of 1984, the TPI plant accounts are weighted to a composite index using the dollar value of current year booked costs.

The TPI is a variable weight price index. The calculations are based on a generally accepted adaptation of the Divisia Index which takes the growth rates of individual prices (the various telephone plant accounts) between successive periods and weights each by its proportion of total expenditure in the latest period. Its advantage is that, as a variable weight type price index, improvements made in technology or technology shifts are automatically reflected by the dollars reported in each account. For example, if new equipment decreases the amount of time it takes for an installer to complete his job, this will be reflected in the dollars for associate labor. As network composition shifts from copper to fiber, efficiencies gained from the new technology in added capacity will be reflected in plant subaccounts with fiber by a materials weight inversely related to the increased capacity.

DEVELOPMENT OF TPIs:

The TPI is developed using company data sources such as: subsidiary ledgers that support the ARMIS 43-02 and Form M reports and financial systems. The TPI for each sub-account is calculated separately, then aggregated to form the overall TPI. Within each subaccount, the growth rate of each component is calculated separately, and then weighted together each year. These components are materials, company labor costs and contract labor costs. The components are aggregated for a given subaccount based on the portion of actual capital dollars in that subaccount devoted to each component in a given year.

Actual data are used to calculate the current year growth rate for each component of each subaccount. The weights used to aggregate the materials and labor costs are updated periodically. The weights used to aggregate subaccounts are determined each year based on booked costs, as reflected in company subsidiary ledgers. For example, 1993 dollars were used for computation of the 1993 TPIs which became available in the third quarter of 1994.

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STEPS IN THE PROCESS:

- Step 1 Determine beginning and end of year booked component costs for each account. Aggregated beginning and end of year component costs for each account reflect data reported on ARMIS 43-02, Table B-1, Columns ab and af, respectively. Pre-USOA data ties to the company's Form M reports. The individual beginning and end of year component costs are derived based on special studies performed by the company, utilizing accounting reporting codes (e.g. EXTCs) and company financial systems.
- Step 2 For each account, determine component distributions (weights) based on the dollars in that account (as derived in Step 1) devoted to each component.
- Step 3 For each account, determine year-over-year growth rate of each component: The contract labor price growth rate is based on Bureau of Labor Statistics Price Indexes (e.g. Employment Cost, CPIW). Labor growth rates reflect the year-over-year change in actual salary, wage and fringe benefit costs. Labor costs are derived from company subsidiary ledgers which support the ARMIS 43-02 report. Growth rates for material costs in each account are based on special studies. One growth rate is calculated for each labor component (contract and company) and used in every account.
- Step 4 Calculate the weighted average growth rate of each subaccount utilizing the component weights (Step 3) and growth rates (Step 3). See mathematical example below that yields a growth rate of 7.78% for account A.
- Step 5 Calculate the weighted average growth rate of each account utilizing the subaccount growth rates (developed in step 4). See the mathematical example above that yields a 4.96% growth rate for account C below.
- Step 6 Determine current year plant index by multiplying the weighted average growth rate of each account (or subaccount) by the prior year plant index.

Suppose, for example, that component costs (based on the most recently updated data) in subaccount A, which is company labor intensive, are \$1,000 for materials, \$8,500 for company labor, and \$500 for contract labor -- for a total of \$10,000 in account A. Then, 10% of the booked costs are for materials, 85% for company labor and 5% contract labor. Suppose further that in year Y materials costs in that subaccount are growing at a rate of 4%, company labor costs at 8.5% and contract labor costs at 3%. Then, the growth rate for that subaccount is $(10\% * 4\%) + (85\% * 8.5\%) + (5\% * 3\%)$ -- for a growth rate in year Y for account A of 7.78%. Also in year Y subaccount B is growing at a rate of 3.55%, and A and B are the subaccounts of account C. If the end of year book
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costs (as reported in company subsidiary ledgers) for subaccounts A and B are \$11,000 and \$22,000, respectively, then A is $33 \frac{1}{3}\%$ of account C and B is $66 \frac{2}{3}\%$ of account C. The growth rate of account C in year Y is $(33 \frac{1}{3}\% * 7.78\%) + (66 \frac{2}{3}\% * 3.55\%)$, or 4.96%.

Calculating the index in year Y for account A uses the index for the prior year and grows it by 7.78%. If, for example, account A's index was 130.0 for the prior year, then the account's index for year Y is 130.0 times 1.0778 or 140.114, which would round to 140.1.