

**STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION**

Commonwealth Edison Company

Petition for approval of delivery services tariffs
and tariff revisions and residential delivery
services implementation plan and for approval
of certain other amendments and
additions to its rates, terms and

) No. 01-0423

DIRECT TESTIMONY OF EDWARD C. **BODMER**

ON BEHALF OF

**THE CITY OF CHICAGO
PEOPLE OF THE STATE OF ILLINOIS
COOK COUNTY STATE'S ATTORNEY'S OFFICE
THE CITIZENS UTILITY BOARD**

DATED: August 23, 2001

**Docket No. 05-0597
CUB-CCSAO-City Exhibit 4.01
to Edward C. Bodmer's
Rebuttal Testimony**

ICC DOCKET No. 01-0423 GC
EXHIBIT 1.0

1379 A. Yes. The sizing of transformers that results from the load used by a few customers or a
1380 single customer and not on the regional level of load would be better allocated using local
1381 non-coincident peak data, if it is available. Where feasible, for equipment with those
1382 characteristics, the embedded cost study should allocate costs on the basis of four non-
1383 coincident peaks rather than four coincident peaks.

1384 **Q. What is the dollar effect on residential customers from correction of the allocation**
1385 **method for distribution costs?**

1386 A. Exhibit GC 1.1 demonstrates that residential customers are allocated 38% of costs using
1387 the more appropriate method, relative to 45% using Edison's approach. This changes the
1388 allocation of distribution costs from \$647 million to \$545 million.

1389 **Distribution Cost Functionalization and Density**

1390 **Q. Does Edison's embedded cost study distinguish between different types of distribution**
1391 **wires and poles or between different facilities that serve customers in differing**
1392 **population density areas?**

1393 A. No, it does not, even though in its marginal cost study Edison does recognize the need for
1394 that refinement to adhere to cost causation principles. Edison's embedded cost study
1395 classifies 54.2% of distribution costs as "distribution lines." This account presumably
1396 includes facilities that are primary conductors as well as secondary conductors, and it
1397 includes both overhead and underground equipment. Unless the facility types are separated,
1398 one cannot make various appropriate adjustments, such as distinguishing secondary

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1399 distribution equipment and poles that is owned by municipal street lighting customers or the
1400 railroad customers like CTA.

1401 Edison's embedded cost study also does not classify distribution cost according to population
1402 density, another cost causation factor Edison did incorporate in its marginal cost study. This
1403 means customer class allocations of embedded distribution costs cannot account for cost
1404 differences that arise from differences in population density among different customer
1405 locations. For example, if customers in one classification tend to be located in areas with
1406 relatively high population density and customers in another class tend to be in areas of low
1407 population density, the embedded cost study does recognize this fact.

1408 **Q. How important is it to distinguish customer classes with different density levels in
1409 Edison's cost study?**

1410 **A.** As illustrated on the map attached to Edison's marginal cost study, Edison's service territory
1411 consists of regions with a wide range of density ranging from the central business district in
1412 the City of Chicago to sparsely populated farming communities in the western part of its
1413 service territory. It is intuitively obvious, and well recognized in the electric utility industry,
1414 that density affects the length or size (and cost) of distribution facilities installed to serve the
1415 area.

1416 If there is no reason to expect customers in a particular customer class to be located
1417 predominantly in relatively more densely or sparsely populated areas, differentiation by

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1418 density level will not affect the ultimate allocation of costs to customer clas ses or the design
1419 of rates. That is the case for most customer classes; there is no reason to expect that the
1420 population density associated with a particular customer class is significantly different from
1421 the system average population density. For example, consider the case of watt-hour
1422 non-residential customers -- small business facilities that use relatively low amounts of
1423 electricity, like convenience stores. There is no reason to expect that, relative to the numbers
1424 in all other customer groups, more of such small businesses will be located in the Chicago
1425 business district than in the western part of Edison's territory.

1426

1427 **Q. Are there any customer classes for which the population density is clearly different**
1428 **from the system average?**

1429 **A.** Yes. For customers within the residential classes, the population density for the multi-family
1430 class is clearly different from the density of the overall system. Customers in the multi-
1431 family class are more likely to be located in the City of Chicago (albeit not the central
1432 business district) while single family customers are most prevalent in more sparsely
1433 populated suburban and rural areas. In allocating distribution costs for the residential class,
1434 the embedded study should recognize cost differences caused by population density.

1435 **Q. Can a reliable adjustment for the relative cost of distribution by density level be**
1436 **developed from information in Edison's marginal cost study?**

1437 **A.** No. Edison's attribution of cost by density in its marginal cost study suffers the same flaws
1438 and faulty foundation data as in the marginal study rejected in its last case. Those data are

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1439 derived from inappropriate assumptions and are based on unreliable survey data The
1440 significant issue involving population density is within the residential class. There, most
1441 customers use overhead wire, meaning it is likely that customers in areas with higher
1442 population density will have lower costs than customers in areas with lower population
1443 density. This is simply due to the fact that less wire is required to serve the customers. But,
1444 Edison's marginal cost study attributes a significant amount of very expensive underground
1445 conduit to high density residential customers, even though there are relatively few apartment
1446 buildings in the central business district where underground facilities are more likely to be
1447 used.

1448 **Q. How can Edison's embedded cost study be modified to appropriately reflect the relative**
1449 **cost associated with the different density levels in different customer classes?**

1450 **A.** Edison should adjust the allocation factor for distribution cost in the same way that it should
1451 adjust the allocation factors for services and other items -- on the basis of the relative cost
1452 of serving representative actual customers. This adjustment should be developed from
1453 accurate actual data on the miles of distribution lines and the actual cost of serving different
1454 density areas. (Edison's marginal cost study data are not accurate.)

1455 **Billing Costs**

1456 **Q. How are billing costs allocated in Edison's embedded cost of service study?**

1457 **A.** Edison's embedded cost study classified \$198 million of the revenue requirement as billing
1458 costs. Most of these costs are made up of operating expenses in the customer records and