CALIFORNIA PUBLIC UTILITIES COMMISSION
UTILITIES DIVISION

DETERMINATION
OF
STRAIGHT-LINE REMAINING LIFE DEPRECIATION ACCRUALS

STANDARD PRACTICE U-4

SAN FRANCISCO, CALIFORNIA
Revised January 3, 1961

Forecast Method

15. In certain accounts such as buildings, structures, telephone central office, dams, reservoirs, generating plants and other classes of property comprised of major units which it is expected will be retired as a single unit at one time, the development of an appropriate remaining life is more readily accomplished by direct estimate. This method is referred to as the Forecast Method or in some cases, the Life Span Method. The tabulation below shows a sample calculation using this method. First step in the procedure is to list each major unit of property included in the account together with its relating plant dollars surviving today (Columns 1 and 3). Next, a direct judgment estimate is made of the remaining service span or the terminal date when each unit will be retired (Columns 4 and 5). To the remaining span a small correction is applied for so-called "interim retirements" of smaller units comprising part of the major unit. Interim retirements and additions include such items as changes within a building or changes at an electrical generation station not altering the basic structures, etc. As an approximation the assumption is made that future annual interim retirements will occur at a consistent ratio to the present plant balance (Column 6). The correction for interim retirements is then developed by picturing the resulting survivor curve shape. The major unit of property with its forecasted terminal date is represented by a square-shaped survivor curve. The interim retirements cause the top of this square to slope downward to the terminal date when the entire unit is retired. The correction for interim retirements is then the area of the triangle lost at the top of the square by reason of the interim retirements. The base of this triangle is the remaining span. The depth (height of this triangle) is the interim retirement rate times the number of years during which they will continue, namely, the interim retirement rate times the remaining span. The correction for interim retirements (Column 7) is then the area of this triangle, or one-half times the interim retirement rate times the remaining span squared. In more accurate applications, this correction may be developed from an actuarial analysis of mortality data for the interim retirements. After applying the correction to obtain the effective remaining life (Column 8), the composite remaining life for the account is obtained by direct weighting with the dollars for each unit (Column 9). However, average service life weighting is more appropriate where only a few items occur in an account and a long time interval exists between the extreme probable retirement dates.

Example of Determination of Remaining Life by Forecast Method

Alpha Water Company, Northern Area
Ac. 311, Structures and Improvements as of 1/1/60.

Unit	*Year Placed*	*Plant 1/1/53*	*Probable Retirement Date*	*Remaining Span*	*Interim Retirement Rate ø*	*Correction For Interim Retirements*	*Remaining Life*	*Future Dollar Years*
(1)	(2)	(3)	(4)*	(5)	(6)	(7)	(8)=(5)-(7)	(9)=(3)×(8)
Office Building ------	1933	$10,420	1982	22.5	0.5	1.3	21.2	$220,904
Pump Station A------	1928	1,290	1968	8.5	--	--	8.5	10,965
Pump Station B------	1934	1,340	1974	14.5	0.25	0.3	14.2	19,028
Pump Station C------	1954	1,770	1994	34.5	0.25	1.5	33.0	58,410
Garage Building -----	1946	4,720	1977	17.5	0.5	0.8	16.7	78,824
		$19,540						$388,131

$$\text{Composite Remaining Life} = \frac{388{,}131}{19{,}540} = 19.86, \text{ use 20 years.}$$

* Probable retirement date for buildings was selected directly and for pump stations was determined from an estimated total span of 40 years.

ø Annual percentage correction for interim retirements. These are judgment rates based on experience. Interim retirements estimated to be 0.5% per year for buildings and 0.25% per year for pump stations.

Example: For office buildings $\frac{0.5 \times 22.5}{2} = 5.6\%$ and 5.6% of 22.5 gives a correction of 1.3 years.