BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

The Staff of the Missouri Public Service Commission,	)	
Complainant,	)	
v.	)	Case No. EC-2002-1
Union Electric Company, d/b/a AmerenUE,	)	
Respondent.	)	

STAFF'S RESPONSES TO
UNION ELECTRIC COMPANY'S FIRST SET OF INTERROGATORIES

Staff Response: **See Staff Response to Interrogatory No. 79 above. Past Commission cases and precedent indicate that it has been a long-standing practice of this Commission to rely on the results of the DCF for an estimation of the cost of equity capital. In *Re St. Louis County Water Co.*, Case No. WR-2000-844, Report And Order, pp. 25-27 (May 3, 2001), the Commission stated as follows:**

> **. . . The Commission has for many years judged the DCF method to be the most reliable for calculating a utility's cost of equity:**
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> > **The Commission has consistently found Discounted Cash Flow (DCF) analyses to be appropriate for determining a rate of return on equity. . . . This is because it is relatively simple to apply and measures investor expectations for a specific company. . . . [T]he DCF analysis is considerably more systematic and allows this Commission to treat all utilities it regulates in a consistent manner.[7]**
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> **[7] In the Matter of the Joint Application of Missouri Cities Water Company, 26 Mo.P.S.C.(N.S.) 1, 26-27 (1983).**

81. With respect to Schedules 11 and 22 to Mr. Bible's testimony, explain in as much detail as you can why compound growth rates of Dividend Per Share (DPS), Earnings Per Share (EPS), and Book Value Per Share (BVPS) are used, instead of the arithmetic average of growth rates, in calculating the historical growth rates.

Staff Response: **Staff is aware that compound and arithmetic averages are in use. Compound growth more accurately depicts growth or changes over more than one period of time. It is Staff's experience that compound average is the most prevalent method for this calculation. A mathematical example will demonstrate the reliability of compound over arithmetic average. Example: a company pays $1.00 dividend in year one. It pays $1.50 dividend in year two,**

most prevalent method for this calculation. A mathematical example will demonstrate the reliability of compound over arithmetic average. Example: a company pays $1.00 dividend in year one. It pays $1.50 dividend in year two, plus 50 percent growth. It pays $.75 dividend in year three, negative 50 percent growth. The arithmetic average of plus 50 percent and negative 50 percent is zero. However, the dividend went from $1.00 to $.75. The arithmetic average is zero percent, while the compound average is negative 13.4 percent. Clearly, compound average is a superior representation of the growth over these periods.

a. If so, identify each document that you rely on, that forms the basis of, or that otherwise supports this contention.

Staff Response: See reference in Staff Response to Interrogatory No. 81. Also, most any textbook dealing with numerical changes over time support compound growth. It is considered common knowledge. Staff's experience has been that investment advisory services, such as Value Line, quote compound growth rates. Also, compound growth is the preferred method used in reference sources, such as textbooks and published articles. Examples of the use of compound growth can be found in *Regulatory Finance, Utilities' Cost of Capital*, Roger A. Morin, 1994 and *The Cost Of Capital – A Practitioner's Guide*, Parcell, 1997.

84. Do you contend that it is unreasonable or inappropriate to calculate expected dividends as $D_1 = D_0 * (1+g)$ or $D_1 = D_0 * (1+0.5g)$?

Staff Response: Yes.

a. If so, explain in as much detail as you can the basis for this contention.