# ELECTRICAL ENERGY PRODUCERS' LICENSE TAX

## Revenue Description

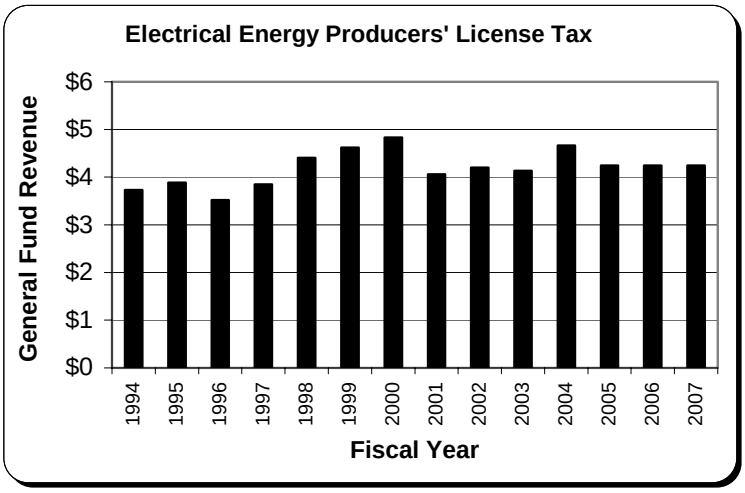
Title 15, chapter 51, MCA, provides for the imposition and collection of the electrical energy producers' license tax. Enacted in 1933, the tax currently is levied at a rate of $.0002 per kilowatt-hour on all electricity generated, manufactured, or produced in Montana for barter, sale, or exchange other than for plant use. This tax is remitted 100% to the general fund.

## Historical and Projected Revenue

Table 1 shows historical and forecast collections for the electrical energy producers' license tax for FY 1994 through FY 2007.

**Table 1**
**Electrical Energy Producers' License Tax - General Fund Revenues**
**($ millions)**

| | Fiscal Year | General Fund | Percent Change |
|---|---|---|---|
| A | 1994 | $3.728 | -11.90% |
| A | 1995 | $3.886 | 4.23% |
| A | 1996 | $3.520 | -9.41% |
| A | 1997 | $3.849 | 9.34% |
| A | 1998 | $4.402 | 14.36% |
| A | 1999 | $4.618 | 4.92% |
| A | 2000 | $4.829 | 4.56% |
| A | 2001 | $4.058 | -15.97% |
| A | 2002 | $4.197 | 3.44% |
| A | 2003 | $4.130 | -1.61% |
| A | 2004 | $4.661 | 12.86% |
| **F** | **2005** | **$4.243** | **-8.97%** |
| **F** | **2006** | **$4.243** | **0.00%** |
| **F** | **2007** | **$4.243** | **0.00%** |




Since FY 1994 the revenue from this tax has fluctuated. The SABHRS numbers are not always reflective of the actual tax due for a fiscal year because the fourth quarter of each fiscal year is accrued, and the accruals are not always precise. For example, in FY 2004 the SABHRS number is $198,182 too high. Based on taxable kilowatt-hours, the electrical energy producers' license tax is forecast to decrease 1% in FY 2005, and remain constant in FY 2006 and FY 2007. A five-year average is used to project taxable kilowatt-hours into FY 2005, FY 2006, and FY 2007. The five-year average for taxable kilowatt-hours is approximately 1% less than FY 2004 taxable kilowatt-hours; this explains the estimated decrease from FY 2004 levels.

## Forecast Methodology and Projected Calculation

The revenue estimate is made in three steps. The first step is projecting the taxable kilowatt-hours from the existing electrical generation facilities. The second step is projecting the taxable kilowatt-hours from new electrical generation facilities. The third step is multiplying the total taxable kilowatt-hours by the tax rate to get the projected tax revenue.

Over the FY 1994 to FY 2004 time period, this revenue has not had a consistent trend, fluctuating from year to year. Therefore, the appropriate forecasting technique is a "single moving average forecast" – a simple average of previous years. To choose the number of years used in the forecast, simulations were run each year from FY 1997 through FY 2004, and the accuracy of the simulations checked. Two year through five year moving average forecasts were evaluated. In all cases, the absolute percentage errors were similar, but the average absolute percentage error for the five-year moving average forecast was slightly lower, and therefore, it was chosen. The percentage errors over the simulated forecast period are in the last column of Table 2.

**Table 2**
**Existing Electric Generation**
**Taxable kWh (million)**

| Fiscal Year | Taxable kWh | 5 Year Moving Avg. Forecast | % Error |
|---|---|---|---|
| A 1994 | 19,838 | | |
| A 1995 | 21,079 | | |
| A 1996 | 18,443 | | |
| A 1997 | 20,160 | | |
| A 1998 | 22,015 | | |
| A 1999 | 22,265 | 20,307 | -8.8% |
| A 2000 | 21,510 | 20,792 | -3.3% |
| A 2001 | 20,444 | 20,878 | 2.1% |
| A 2002 | 21,643 | 21,279 | -1.7% |
| A 2003 | 21,069 | 21,575 | 2.4% |
| A 2004 | 21,410 | 21,386 | -0.1% |
| **F 2005** | | **21,215** | |
| **F 2006** | | **21,215** | |
| **F 2007** | | **21,215** | |
| | Absolute Average % Error | | 3.7% |

New electrical generation facilities are in various stages of planning and/or construction in Montana. Whether or not they are built depends on a number of factors such as electricity prices and construction costs. No increased electrical generation kilowatt-hours are included in the revenue estimate.

Table 3 shows the taxable kilowatt-hours from both existing and new electrical generation facilities. The total estimated taxable kilowatt-hours are multiplied by the tax rate of $.0002 per kilowatt-hour to calculate revenue projections of $4.243 million in FY 2005, $4.243 million in FY 2006, and $4.243 million in FY 2007.

**Table 3**
**Calculation of Electrical Energy Producers License Tax Forecast**
**FY 2005 through FY 2007**

| Fiscal Year | kWh (millions) | | Tax Rate Per Million kWh | | Total Revenue |
|---|---|---|---|---|---|
| **F 2005** | **21,215** | **X** | **$200** | **=** | **$4,243,019** |
| **F 2006** | **21,215** | **X** | **$200** | **=** | **$4,243,019** |
| **F 2007** | **21,215** | **X** | **$200** | **=** | **$4,243,019** |