LEI response to undertaking #72

prepared for Hill Sokalski Walsh Olson LLP
February 6th, 2018

Preamble: Mr. Goulding to confirm or check whether the value of forty-four dollars and thirty-one cents ($44.31) included in the calculation should have been twenty-six dollars and fifty-nine cents ($26.59), and also to confirm what the total value should be.

Response:

Yes, LEI confirms that the value of forty-four dollars and thirty-one cents ($44.31) per acre per year included in the calculation of irrigation cost attributed to electricity should have been twenty-six dollars and fifty-nine cents ($26.59) per acre per year. Under this change, five years of rate increases reduces the operating margin per dollar of revenue of irrigated potato farmers by approximately 7% from 0.268 to 0.250 as compared to the approximate 8% decrease from 0.268 to 0.247 on page 21 of LEI's report.

To arrive at the $26.59 per acre per year, LEI utilized the Government of Manitoba's *Guidelines for Estimating Potato Production Costs 2016*. The guidelines provided the cost of producing processing potatoes under irrigated conditions based on a series of assumptions including, but not limited to, the following:[1]

- 780 potato harvested acres on an annual basis;
- 6 irrigation pivot circles per year; and
- 60% pumping from hydro and 40% pumping from diesel.

Using the aforementioned assumptions and further values provided in the guidelines, such as the number inches of water applied, the total hours of pumping, the pumping costs per hour from hydro, and the total number of harvested acres, LEI arrived at an estimated total cost of pumping $26.59 for the hydro portion of the farm. As such, the estimated total cost of utilities (i.e. for irrigation and general use) is $131.97 per acre per year, lower than the $149.69 stated in LEI's report. Calculations are outlined in Figure 1**.**

By multiplying the total cost of utilities per acre for the average farm with the harvestable area in Manitoba in 2016, a total cost of utilities for all harvestable land for potato farming was determined to be approximately $8.45 million per year, lower than the $9.58 million per year stated in LEI's report. LEI then divided this value by the number of potato farms in Manitoba in 2016 (i.e. 163 potato farms) to find that the average total cost of utilities per farm amounted to

[1] Government of Manitoba. *Guidelines for Estimating Potato Production Costs – 2016*. January 2016.

approximately $51,814 per year (previously $58,774 in LEI's report).[2] This represents approximately 5.4% of total operating expenses of an irrigated potato farm, lower than the 6.1% stated in LEI's report.

Figure 1. Calculations for the total cost of pumping from hydro for the average farm and the total cost of utilities for the average farm

Values provided by the guidelines:
Inches of water applied = 12 in.
Hours per pivot (0.75" water) = 72 hours/pivot
Hours per pivot (1" water) = 96 hours/pivot
Total hours of pumping = hours/pivot (1" water) × inches of water applied = 96 × 12 = 1,152 hours
Pumping costs per hour (hydro) = $5.00/hour/pivot
Number of pivots (hydro) = portion of hydro × number of irrigation pivot circles = 60% × 6 = 3.6 pivots

LEI calculation:
Total cost of pumping (hydro) for the average farm

$$= \frac{\text{total hours of pumping} \times \text{pumping costs per hour (hydro)} \times \text{number of pivots (hydro)}}{\text{total number of harvested acres}}$$

$$= \frac{1{,}152 \text{ hours} \times \$5.00/\text{hour/pivot} \times 3.60 \text{ pivots}}{780 \text{ acres}}$$

= $26.59/acre/year

Total cost of utilities for the average farm
= total cost of utilities for general use + total cost of pumping (hydro)
= $105.38/acre/year + $26.59/acre/year
= $131.97/acre/year

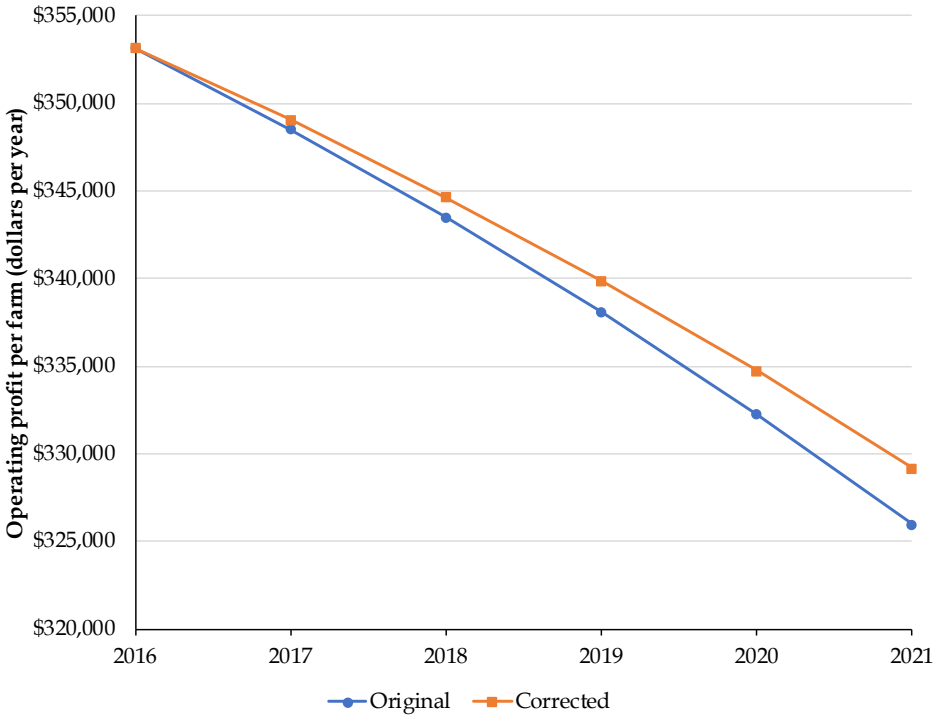
Source: Government of Manitoba; LEI analysis

As such, the average irrigated potato farm earned approximately $1.32 million with an operating margin per dollar of revenue of 0.268 in 2016. With a rate increase of 7.9% for five years, the average farm sees an approximate drop of $23,966, or 6.8%, in operating profit, with the operating margin per dollar of revenue falling from 0.268 to 0.250. The estimated operating margin per dollar of revenue after five years of rate increases is higher than the 0.247 previously stated in LEI's report.

The following figure shows the corrected declining average operating profit per farm in dollars per year from the base year (2016) to the fifth year of the 7.9% rate application (2021) against the previously calculated (original) average operating profit per farm in LEI's report. The illustrative results show that the portion of electricity share of the total operating expenses increases from 5.4% to 7.7% over the five-year period, lower than the previously stated increase of 6.1% to 8.7% in LEI's report.

[2] "Table 004-0213 Census of Agriculture, hay and field crops." *Statistics Canada*. 2016. Web. October 26, 2017. <http://www5.statcan.gc.ca/cansim/a01?lang=eng>

Figure 2. Average operating profit per irrigated potato farm



Source: Government of Manitoba.