# Appendix D
# Economic Analysis

The analysis used for the Olympic Peninsula and Lower Valley Area Reinforcement projects was conducted using Excel spreadsheet calculations. The following indicators of economic performance were computed:

- Repayment time (years from in service date)
- Net Present Value

The basic economic assumptions used were as follows:

| | | |
|---|---|---|
| Discount Rate | | 9.00% |
| Inflation Rate | | 3.0% |
| BPA Financing Rate | | 5.5% |
| O&M Escalation | | 3.0% |
| O&M Actual | | 3.0% |

The high discount rate of 9% favors projects with a faster payback period. The treasury-borrowing rate of 5.5% represents recent historical BPA borrowing.

Capital cost expenditures were distributed over the expected year of obligation over the construction period.

BPA transmission revenues were reckoned at the rate of $1.028 $/kW-mo (12.336 $/kW-year).

Typical operations and maintenance costs are used.

# Appendix D Olympic Peninsula Outage Costs.xls

| | Jan-96 | Oct-04 | Outage | | | Capability* |
|---|---|---|---|---|---|---|
| Residential Cost per kWh: | $1.42 | $1.75 | N-1 Line | | | 1286 |
| Commercial Cost per kWh: | $15.82 | $19.49 | N-1 Bank | | | 1405 |
| Industrial Cost per kWh: | $23.57 | $29.03 | N-2 Line | | | 585 |
| Residential Load Composition Percentage: | 50.0% | 50.0% | Stuck Breaker | | | 800 |
| Commercial Load Composition Percentage: | 30.0% | 30.0% | *Continuous capability of system after outage during repair period | | | |
| Industrial Load Composition Percentage: | 20.0% | 20.0% | | | | |
| Composite: | $10.17 | $12.53 | | | | |
| Inflation Rate: | | 2.64% | | | | |
| Discount Rate: | | 9.00% | | | | |
| Years: | | 8 | | | | |
| Repair time MW Penalty | | See G2-5 | (Reduction taken during outage period) | | | |
| Over by at least this amount for collapse to be assumed | 5% | 64.8 | | | | |

| **Olympia - Shelton 230 N-1 Outage** | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Outage Cost/KWhr | | | $12.53 | $12.86 | $13.20 | $13.55 | $13.90 | $14.27 | $14.65 | $15.03 | $15.43 | $15.84 | $16.26 | $16.69 | $17.13 | $17.58 | $18.04 | $18.52 |
| MTBF (years) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Initial Outage Time (hours) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Repair Time (hours) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1352 |
| Outage Capability | | Ratio | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 | 1286 |
| All 500/230 bank load MW 1:20 | | 1.11 | 1294 | 1304 | 1315 | 1325 | 1336 | 1346 | 1357 | 1368 | 1379 | 1390 | 1401 | 1412 | 1424 | 1435 | 1446 | 1458 |
| All 500/230 bank load MW 1:5 | | 1.05 | 1231 | 1241 | 1251 | 1380 | 1271 | 1281 | 1292 | 1302 | 1312 | 1323 | 1333 | 1344 | 1355 | 1366 | 1377 | 1388 |
| All 500/230 bank load MW 1:2 | | 1.00 | 1169 | 1178 | 1188 | 1197 | 1207 | 1217 | 1226 | 1236 | 1246 | 1256 | 1266 | 1276 | 1286 | 1297 | 1307 | 1317 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $552,153 | $571,263 | $591,035 | $611,492 | $632,656 | $654,553 | $677,208 | $700,647 | $724,897 | $749,987 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $43,384 | $51,330 | $59,722 | $68,578 | $77,920 | $87,769 | $98,148 | $109,081 | $120,590 | $132,702 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $644,562 | $666,871 | $689,953 | $0 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $49,180 | $58,417 | $68,173 | $0 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $101,381 | $81,960 | $0 | $183,341 |
| Repair Time Cost | $11,601 | $6,705 | $0 | $18,305 |
| Total Outage Cost | $112,982 | $88,665 | $0 | $201,647 |

| **N-1 Bank (Olympia or Shelton)** | No spare available at Olympia - assume 4 week replacement | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Outage Cost/KWhr | | | $12.53 | $12.86 | $13.20 | $13.55 | $13.90 | $14.27 | $14.65 | $15.03 | $15.43 | $15.84 | $16.26 | $16.69 | $17.13 | $17.58 | $18.04 | $18.52 |
| MTBF (years) | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| Initial Outage Time (hours) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Repair Time (hours) | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 |
| Outage Capability | | Ratio | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 | 1405 |
| All 500/230 bank load MW 1:20 | | 1.11 | 1294 | 1304 | 1315 | 1325 | 1336 | 1346 | 1357 | 1368 | 1379 | 1390 | 1401 | 1412 | 1424 | 1435 | 1446 | 1458 |
| All 500/230 bank load MW 1:5 | | 1.05 | 1231 | 1241 | 1251 | 1380 | 1271 | 1281 | 1292 | 1302 | 1312 | 1323 | 1333 | 1344 | 1355 | 1366 | 1377 | 1388 |
| All 500/230 bank load MW 1:2 | | 1.00 | 1169 | 1178 | 1188 | 1197 | 1207 | 1217 | 1226 | 1236 | 1246 | 1256 | 1266 | 1276 | 1286 | 1297 | 1307 | 1317 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $0 | $0 | $0 | $0 |
| Repair Time Cost | $0 | $0 | $0 | $0 |
| Total Outage Cost | $0 | $0 | $0 | $0 |

| **Olympia - Shelton 230 N-2 Outage** | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Outage Cost/KWhr | | | $12.53 | $12.86 | $13.20 | $13.55 | $13.90 | $14.27 | $14.65 | $15.03 | $15.43 | $15.84 | $16.26 | $16.69 | $17.13 | $17.58 | $18.04 | $18.52 |
| MTBF (years) | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 |
| Initial Outage Time (hours) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Repair Time (hours) | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 |
| Outage Capability | | Ratio | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 | 585 |
| All 500/230 bank load MW 1:20 | | 1.11 | 1294 | 1304 | 1315 | 1325 | 1336 | 1346 | 1357 | 1368 | 1379 | 1390 | 1401 | 1412 | 1424 | 1435 | 1446 | 1458 |
| All 500/230 bank load MW 1:5 | | 1.05 | 1231 | 1241 | 1251 | 1380 | 1271 | 1281 | 1292 | 1302 | 1312 | 1323 | 1333 | 1344 | 1355 | 1366 | 1377 | 1388 |
| All 500/230 bank load MW 1:2 | | 1.00 | 1169 | 1178 | 1188 | 1197 | 1207 | 1217 | 1226 | 1236 | 1246 | 1256 | 1266 | 1276 | 1286 | 1297 | 1307 | 1317 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $110,931 | $114,770 | $118,742 | $122,852 | $127,104 | $131,504 | $136,055 | $140,764 | $145,636 | $150,677 | $155,892 | $161,287 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $1,433,903 | $1,492,708 | $1,553,790 | $1,617,236 | $1,683,133 | $1,751,572 | $1,822,649 | $1,896,462 | $1,973,113 | $2,052,707 | $2,135,355 | $2,221,170 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $105,583 | $109,237 | $113,018 | $116,930 | $120,977 | $125,164 | $129,496 | $133,978 | $138,616 | $143,413 | $148,377 | $153,512 |

# Appendix D Olympic Peninsula Outage Costs.xls

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $1,310,909 | $1,365,457 | $1,422,135 | $1,481,024 | $1,542,206 | $1,605,768 | $1,671,798 | $1,740,390 | $1,811,639 | $1,885,645 | $1,962,511 | $2,042,343 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $100,236 | $103,705 | $107,294 | $111,008 | $114,850 | $118,825 | $122,938 | $127,193 | $131,595 | $136,150 | $140,862 | $145,737 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $1,187,915 | $1,238,206 | $1,290,480 | $1,344,812 | $1,401,279 | $1,459,964 | $1,520,948 | $1,584,318 | $1,650,166 | $1,718,583 | $1,789,666 | $1,863,516 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $28,829 | $109,757 | $260,495 | $399,080 |
| Repair Time Cost | $381,845 | $1,399,523 | $3,179,168 | $4,960,535 |
| Total Outage Cost | $410,674 | $1,509,280 | $3,439,662 | $5,359,616 |

110931
1214222
105583
1091228
100236
968234

| **Olympia Stuck Breaker Outage** | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Outage Cost/KWhr | | | $12.53 | $12.86 | $13.20 | $13.55 | $13.90 | $14.27 | $14.65 | $15.03 | $15.43 | $15.84 | $16.26 | $16.69 | $17.13 | $17.58 | $18.04 | $18.52 |
| MTBF (years) | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 |
| Initial Outage Time (hours) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Repair Time (hours) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| Outage Capability | | Ratio | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| All 500/230 bank load MW 1:20 | | 1.11 | 1294 | 1304 | 1315 | 1325 | 1336 | 1346 | 1357 | 1368 | 1379 | 1390 | 1401 | 1412 | 1424 | 1435 | 1446 | 1458 |
| All 500/230 bank load MW 1:5 | | 1.05 | 1231 | 1241 | 1251 | 1380 | 1271 | 1281 | 1292 | 1302 | 1312 | 1323 | 1333 | 1344 | 1355 | 1366 | 1377 | 1388 |
| All 500/230 bank load MW 1:2 | | 1.00 | 1169 | 1178 | 1188 | 1197 | 1207 | 1217 | 1226 | 1236 | 1246 | 1256 | 1266 | 1276 | 1286 | 1297 | 1307 | 1317 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $139,413 | $144,238 | $149,230 | $154,395 | $159,739 | $165,268 | $170,988 | $176,906 | $183,029 | $189,364 | $195,918 | $202,699 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $132,692 | $137,285 | $142,037 | $146,953 | $152,039 | $157,301 | $162,745 | $168,378 | $174,206 | $180,236 | $186,474 | $192,928 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $125,972 | $130,332 | $134,843 | $139,510 | $144,338 | $149,334 | $154,503 | $159,850 | $165,383 | $171,107 | $177,029 | $183,156 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $36,231 | $137,938 | $327,378 | $501,547 |
| Repair Time Cost | $0 | $0 | $0 | $0 |
| Total Outage Cost | $36,231 | $137,938 | $327,378 | $501,547 |

| **Combined Present Worth Analysis** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| Initial Outage Time Cost | $166,441 | $329,655 | $587,873 | $1,083,969 |
| Repair Time Cost | $393,446 | $1,406,227 | $3,179,168 | $4,978,841 |
| Total System Outage Cost | $559,887 | $1,735,882 | $3,767,041 | $6,062,809 |

| **Combined Present Worth Analysis** | | | | |
|---|---|---|---|---|
| Bank Outages | $0 | $0 | $0 | $0 |
| N-1 Line Outage | $112,982 | $88,665 | $0 | $201,647 |
| N-2 Line Outage | $410,674 | $1,509,280 | $3,439,662 | $5,359,616 |
| Stuck Breaker | $36,231 | $137,938 | $327,378 | $501,547 |
| Total System Outage Cos | $559,887 | $1,735,882 | $3,767,041 | $6,062,809 |

# Appendix D Olympic Pennisula Plan 1.xls

| ECONOMIC ANALYSIS | |
|---|---|
| **With Residual Value** | |
| **PAR Number** | 0 |
| **PAR NAME** | Olympic Pennisula: 500 kV to Shelton |
| **Prepared by** | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| **NPV** | **(40,981,835)** |
| | |
| NPV Capital | 28,612,769 |
| NPV Costs | 50,827,604 |
| NPV Revenue | 6,891,846 |
| Rev/Cost | 0.14 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 143,280 | 286,560 | 429,840 | 573,120 | 716,400 | 859,680 | 1,002,960 | 1,146,240 | 1,289,520 | 1,432,800 | 1,576,080 | 1,719,360 | 1,862,640 | 2,005,920 | 2,149,200 | 2,149,200 | 2,149,200 | 2,149,200 | 23,641,200 |
| New Capacity KW Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 143,280 | 286,560 | 429,840 | 573,120 | 716,400 | 859,680 | 1,002,960 | 1,146,240 | 1,289,520 | 1,432,800 | 1,576,080 | 1,719,360 | 1,862,640 | 2,005,920 | 2,149,200 | 2,149,200 | 2,149,200 | 2,149,200 | 23,641,200 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 2,700,900 | 2,781,927 | 2,865,385 | 2,951,346 | 3,039,887 | 3,131,083 | 3,225,016 | 3,321,766 | 3,421,419 | 3,524,062 | 3,629,784 | 3,738,677 | 3,850,838 | 3,966,363 | 4,085,354 | 4,207,914 | 4,334,152 | 4,464,176 | 63,240,049 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 2,700,900 | 2,781,927 | 2,865,385 | 2,951,346 | 3,039,887 | 3,131,083 | 3,225,016 | 3,321,766 | 3,421,419 | 3,524,062 | 3,629,784 | 3,738,677 | 3,850,838 | 3,966,363 | 4,085,354 | 4,207,914 | 4,334,152 | 4,464,176 | 63,240,049 |
| **Gross Margin** | | 0 | 0 | 0 | -2,557,620 | -2,495,367 | -2,435,545 | -2,378,226 | -2,323,487 | -2,271,403 | -2,222,056 | -2,175,526 | -2,131,899 | -2,091,262 | -2,053,704 | -2,019,317 | -1,988,198 | -1,960,443 | -1,936,154 | -2,058,714 | -2,184,952 | -2,314,976 | -39,598,849 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (2,557,620) | (2,495,367) | (2,435,545) | (2,378,226) | (2,323,487) | (2,271,403) | (2,222,056) | (2,175,526) | (2,131,899) | (2,091,262) | (2,053,704) | (2,019,317) | (1,988,198) | (1,960,443) | (1,936,154) | (2,058,714) | (2,184,952) | (2,314,976) | -39,598,849 |
| Depreciation | | 65,292 | 327,176 | 860,990 | 860,990 | 860,990 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 365,747 | 16,508,073 |
| **Earnings Before Income Taxes** | | (65,292) | (327,176) | (860,990) | (3,418,610) | (3,356,357) | (3,313,337) | (3,256,019) | (3,201,279) | (3,149,196) | (3,099,848) | (3,053,319) | (3,009,692) | (2,969,054) | (2,931,496) | (2,897,110) | (2,865,990) | (2,838,235) | (2,813,946) | (2,936,507) | (3,062,744) | (2,680,723) | -56,106,922 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (65,292) | (327,176) | (860,990) | (3,418,610) | (3,356,357) | (3,313,337) | (3,256,019) | (3,201,279) | (3,149,196) | (3,099,848) | (3,053,319) | (3,009,692) | (2,969,054) | (2,931,496) | (2,897,110) | (2,865,990) | (2,838,235) | (2,813,946) | (2,936,507) | (3,062,744) | (2,680,723) | -56,106,922 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (65,292) | (327,176) | (860,990) | (3,418,610) | (3,356,357) | (3,313,337) | (3,256,019) | (3,201,279) | (3,149,196) | (3,099,848) | (3,053,319) | (3,009,692) | (2,969,054) | (2,931,496) | (2,897,110) | (2,865,990) | (2,838,235) | (2,813,946) | (2,936,507) | (3,062,744) | (2,680,723) | -56,106,922 |
| Add: Depreciation | | 65,292 | 327,176 | 860,990 | 860,990 | 860,990 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 877,793 | 365,747 | 16,508,073 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (2,557,620) | (2,495,367) | (2,435,545) | (2,378,226) | (2,323,487) | (2,271,403) | (2,222,056) | (2,175,526) | (2,131,899) | (2,091,262) | (2,053,704) | (2,019,317) | (1,988,198) | (1,960,443) | (1,936,154) | (2,058,714) | (2,184,952) | (2,314,976) | -39,598,849 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 4,477,148 | 0 | 8,609,901 | 21,352,553 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35,111,702 |
| Other Capital | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,044,946 | 18,044,946 |
| **Cash Used in Investing Activities** | 4,477,148 | 0 | 8,609,901 | 21,352,553 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (18,044,946) | 17,066,756 |
| **Net Free Cash Flows** | (4,477,148) | 0 | (8,609,901) | (21,352,553) | (2,557,620) | (2,495,367) | (3,107,645) | (2,378,226) | (2,323,487) | (2,271,403) | (2,222,056) | (2,175,526) | (2,131,899) | (2,091,262) | (2,053,704) | (2,019,317) | (1,988,198) | (1,960,443) | (1,936,154) | (2,058,714) | (2,184,952) | 15,729,970 | -56,665,604 |
| Cumulative Net Free Cash Flows | (4,477,148) | (4,477,148) | (13,087,049) | (34,439,602) | (36,997,222) | (39,492,589) | (42,600,234) | (44,978,460) | (47,301,947) | (49,573,350) | (51,795,406) | (53,970,933) | (56,102,832) | (58,194,094) | (60,247,797) | (62,267,115) | (64,255,312) | (66,215,755) | (68,151,909) | (70,210,623) | (72,395,574) | (56,665,604) | |
| **PV of Net Free Cash Flows** | (4,477,148) | 0 | (7,246,781) | (16,488,089) | (1,811,882) | (1,621,817) | (1,852,987) | (1,300,971) | (1,166,080) | (1,045,817) | (938,620) | (843,088) | (757,964) | (682,125) | (614,564) | (554,379) | (500,767) | (453,006) | (410,452) | (400,399) | (389,863) | 2,574,966 | -40,981,835 |

# Appendix D Olympic Pennisula Plan 2.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 0 |
| PAR NAME | Olympic Pennisula: 230 kV double Circuit |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (22,298,184) |
| NPV Capital | 17,415,874 |
| NPV Costs | 31,001,065 |
| NPV Revenue | 6,891,846 |
| Rev/Cost | 0.22 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 143,280 | 286,560 | 429,840 | 573,120 | 716,400 | 859,680 | 1,002,960 | 1,146,240 | 1,289,520 | 1,432,800 | 1,576,080 | 1,719,360 | 1,862,640 | 2,005,920 | 2,149,200 | 2,149,200 | 2,149,200 | 2,149,200 | 23,641,200 |
| New Capacity KW Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 143,280 | 286,560 | 429,840 | 573,120 | 716,400 | 859,680 | 1,002,960 | 1,146,240 | 1,289,520 | 1,432,800 | 1,576,080 | 1,719,360 | 1,862,640 | 2,005,920 | 2,149,200 | 2,149,200 | 2,149,200 | 2,149,200 | 23,641,200 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,651,700 | 1,701,251 | 1,752,289 | 1,804,857 | 1,859,003 | 1,914,773 | 1,972,216 | 2,031,383 | 2,092,324 | 2,155,094 | 2,219,747 | 2,286,339 | 2,354,929 | 2,425,577 | 2,498,344 | 2,573,295 | 2,650,494 | 2,730,008 | 38,673,623 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,651,700 | 1,701,251 | 1,752,289 | 1,804,857 | 1,859,003 | 1,914,773 | 1,972,216 | 2,031,383 | 2,092,324 | 2,155,094 | 2,219,747 | 2,286,339 | 2,354,929 | 2,425,577 | 2,498,344 | 2,573,295 | 2,650,494 | 2,730,008 | 38,673,623 |
| **Gross Margin** | | 0 | 0 | 0 | -1,508,420 | -1,414,691 | -1,322,449 | -1,231,737 | -1,142,603 | -1,055,093 | -969,256 | -885,143 | -802,804 | -722,294 | -643,667 | -566,979 | -492,289 | -419,657 | -349,144 | -424,095 | -501,294 | -580,808 | -15,032,423 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,508,420) | (1,414,691) | (1,322,449) | (1,231,737) | (1,142,603) | (1,055,093) | (969,256) | (885,143) | (802,804) | (722,294) | (643,667) | (566,979) | (492,289) | (419,657) | (349,144) | (424,095) | (501,294) | (580,808) | -15,032,423 |
| Depreciation | | 37,917 | 195,000 | 520,000 | 520,000 | 520,000 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 223,668 | 10,068,623 |
| **Earnings Before Income Taxes** | | (37,917) | (195,000) | (520,000) | (2,028,420) | (1,934,691) | (1,859,251) | (1,768,540) | (1,679,405) | (1,591,896) | (1,506,059) | (1,421,945) | (1,339,607) | (1,259,096) | (1,180,469) | (1,103,782) | (1,029,092) | (956,460) | (885,947) | (960,897) | (1,038,096) | (804,476) | -25,101,046 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (37,917) | (195,000) | (520,000) | (2,028,420) | (1,934,691) | (1,859,251) | (1,768,540) | (1,679,405) | (1,591,896) | (1,506,059) | (1,421,945) | (1,339,607) | (1,259,096) | (1,180,469) | (1,103,782) | (1,029,092) | (956,460) | (885,947) | (960,897) | (1,038,096) | (804,476) | -25,101,046 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (37,917) | (195,000) | (520,000) | (2,028,420) | (1,934,691) | (1,859,251) | (1,768,540) | (1,679,405) | (1,591,896) | (1,506,059) | (1,421,945) | (1,339,607) | (1,259,096) | (1,180,469) | (1,103,782) | (1,029,092) | (956,460) | (885,947) | (960,897) | (1,038,096) | (804,476) | -25,101,046 |
| Add: Depreciation | | 37,917 | 195,000 | 520,000 | 520,000 | 520,000 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 223,668 | 10,068,623 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,508,420) | (1,414,691) | (1,322,449) | (1,231,737) | (1,142,603) | (1,055,093) | (969,256) | (885,143) | (802,804) | (722,294) | (643,667) | (566,979) | (492,289) | (419,657) | (349,144) | (424,095) | (501,294) | (580,808) | -15,032,423 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 2,600,000 | 0 | 5,200,001 | 13,000,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21,472,102 |
| Other Capital | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,063,261 | 11,063,261 |
| **Cash Used in Investing Activities** | 2,600,000 | 0 | 5,200,001 | 13,000,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (11,063,261) | 10,408,841 |
| **Net Free Cash Flows** | (2,600,000) | 0 | (5,200,001) | (13,000,001) | (1,508,420) | (1,414,691) | (1,994,549) | (1,231,737) | (1,142,603) | (1,055,093) | (969,256) | (885,143) | (802,804) | (722,294) | (643,667) | (566,979) | (492,289) | (419,657) | (349,144) | (424,095) | (501,294) | 10,482,453 | -25,441,264 |
| Cumulative Net Free Cash Flows | (2,600,000) | (2,600,000) | (7,800,001) | (20,800,002) | (22,308,422) | (23,723,113) | (25,717,662) | (26,949,399) | (28,092,002) | (29,147,095) | (30,116,351) | (31,001,493) | (31,804,298) | (32,526,591) | (33,170,258) | (33,737,237) | (34,229,527) | (34,649,184) | (34,998,328) | (35,422,423) | (35,923,716) | (25,441,264) | |
| **PV of Net Free Cash Flows** | (2,600,000) | 0 | (4,376,736) | (10,038,386) | (1,068,603) | (919,452) | (1,189,284) | (673,802) | (573,434) | (485,794) | (409,424) | (343,022) | (285,425) | (235,597) | (192,615) | (155,657) | (123,993) | (96,972) | (74,016) | (82,482) | (89,446) | 1,715,957 | -22,298,184 |

# Appendix D Olympic Pennisula Plan 2A.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 0 |
| PAR NAME | Olympic Pennisula: 230 kV double Circuit (2a) |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (20,575,223) |
| | |
| NPV Capital | 17,415,874 |
| NPV Costs | 31,001,065 |
| NPV Revenue | 8,614,808 |
| Rev/Cost | 0.28 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 179,100 | 358,200 | 537,300 | 716,400 | 895,500 | 1,074,600 | 1,253,700 | 1,432,800 | 1,611,900 | 1,791,000 | 1,970,100 | 2,149,200 | 2,328,300 | 2,507,400 | 2,686,500 | 2,686,500 | 2,686,500 | 2,686,500 | 29,551,500 |
| New Capacity KW Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 179,100 | 358,200 | 537,300 | 716,400 | 895,500 | 1,074,600 | 1,253,700 | 1,432,800 | 1,611,900 | 1,791,000 | 1,970,100 | 2,149,200 | 2,328,300 | 2,507,400 | 2,686,500 | 2,686,500 | 2,686,500 | 2,686,500 | 29,551,500 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,651,700 | 1,701,251 | 1,752,289 | 1,804,857 | 1,859,003 | 1,914,773 | 1,972,216 | 2,031,383 | 2,092,324 | 2,155,094 | 2,219,747 | 2,286,339 | 2,354,929 | 2,425,577 | 2,498,344 | 2,573,295 | 2,650,494 | 2,730,008 | 38,673,623 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,651,700 | 1,701,251 | 1,752,289 | 1,804,857 | 1,859,003 | 1,914,773 | 1,972,216 | 2,031,383 | 2,092,324 | 2,155,094 | 2,219,747 | 2,286,339 | 2,354,929 | 2,425,577 | 2,498,344 | 2,573,295 | 2,650,494 | 2,730,008 | 38,673,623 |
| **Gross Margin** | | 0 | 0 | 0 | -1,472,600 | -1,343,051 | -1,214,989 | -1,088,457 | -963,503 | -840,173 | -718,516 | -598,583 | -480,424 | -364,094 | -249,647 | -137,139 | -26,629 | 81,823 | 188,156 | 113,205 | 36,006 | -43,508 | -9,122,123 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,472,600) | (1,343,051) | (1,214,989) | (1,088,457) | (963,503) | (840,173) | (718,516) | (598,583) | (480,424) | (364,094) | (249,647) | (137,139) | (26,629) | 81,823 | 188,156 | 113,205 | 36,006 | (43,508) | -9,122,123 |
| Depreciation | | 37,917 | 195,000 | 520,000 | 520,000 | 520,000 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 223,668 | 10,068,623 |
| **Earnings Before Income Taxes** | | (37,917) | (195,000) | (520,000) | (1,992,600) | (1,863,051) | (1,751,791) | (1,625,260) | (1,500,305) | (1,376,976) | (1,255,319) | (1,135,385) | (1,017,227) | (900,896) | (786,449) | (673,942) | (563,432) | (454,980) | (348,647) | (423,597) | (500,796) | (267,176) | -19,190,746 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (37,917) | (195,000) | (520,000) | (1,992,600) | (1,863,051) | (1,751,791) | (1,625,260) | (1,500,305) | (1,376,976) | (1,255,319) | (1,135,385) | (1,017,227) | (900,896) | (786,449) | (673,942) | (563,432) | (454,980) | (348,647) | (423,597) | (500,796) | (267,176) | -19,190,746 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (37,917) | (195,000) | (520,000) | (1,992,600) | (1,863,051) | (1,751,791) | (1,625,260) | (1,500,305) | (1,376,976) | (1,255,319) | (1,135,385) | (1,017,227) | (900,896) | (786,449) | (673,942) | (563,432) | (454,980) | (348,647) | (423,597) | (500,796) | (267,176) | -19,190,746 |
| Add: Depreciation | | 37,917 | 195,000 | 520,000 | 520,000 | 520,000 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 223,668 | 10,068,623 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,472,600) | (1,343,051) | (1,214,989) | (1,088,457) | (963,503) | (840,173) | (718,516) | (598,583) | (480,424) | (364,094) | (249,647) | (137,139) | (26,629) | 81,823 | 188,156 | 113,205 | 36,006 | (43,508) | -9,122,123 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 2,600,000 | 0 | 5,200,001 | 13,000,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21,472,102 |
| Other Capital | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,063,261 | 11,063,261 |
| **Cash Used in Investing Activities** | 2,600,000 | 0 | 5,200,001 | 13,000,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (11,063,261) | 10,408,841 |
| **Net Free Cash Flows** | (2,600,000) | 0 | (5,200,001) | (13,000,001) | (1,472,600) | (1,343,051) | (1,887,089) | (1,088,457) | (963,503) | (840,173) | (718,516) | (598,583) | (480,424) | (364,094) | (249,647) | (137,139) | (26,629) | 81,823 | 188,156 | 113,205 | 36,006 | 11,019,753 | -19,530,964 |
| Cumulative Net Free Cash Flows | (2,600,000) | (2,600,000) | (7,800,001) | (20,800,002) | (22,272,602) | (23,615,653) | (25,502,742) | (26,591,199) | (27,554,702) | (28,394,875) | (29,113,391) | (29,711,973) | (30,192,398) | (30,556,491) | (30,806,138) | (30,943,277) | (30,969,907) | (30,888,084) | (30,699,928) | (30,586,723) | (30,550,716) | (19,530,964) | |
| **PV of Net Free Cash Flows** | (2,600,000) | 0 | (4,376,736) | (10,038,386) | (1,043,227) | (872,891) | (1,125,209) | (595,423) | (483,550) | (386,839) | (303,509) | (231,970) | (170,807) | (118,760) | (74,706) | (37,650) | (6,707) | 18,907 | 39,888 | 22,017 | 6,425 | 1,803,912 | -20,575,223 |

# Appendix D Olympic Pennisula Plan 2B.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 0 |
| PAR NAME | Olympic Pennisula: 230 kV double Circuit (2b) |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (25,141,190) |
| NPV Capital | 19,117,386 |
| NPV Costs | 34,018,573 |
| NPV Revenue | 6,891,846 |
| Rev/Cost | 0.20 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 143,280 | 286,560 | 429,840 | 573,120 | 716,400 | 859,680 | 1,002,960 | 1,146,240 | 1,289,520 | 1,432,800 | 1,576,080 | 1,719,360 | 1,862,640 | 2,005,920 | 2,149,200 | 2,149,200 | 2,149,200 | 2,149,200 | 23,641,200 |
| New Capacity KW Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 143,280 | 286,560 | 429,840 | 573,120 | 716,400 | 859,680 | 1,002,960 | 1,146,240 | 1,289,520 | 1,432,800 | 1,576,080 | 1,719,360 | 1,862,640 | 2,005,920 | 2,149,200 | 2,149,200 | 2,149,200 | 2,149,200 | 23,641,200 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,811,700 | 1,866,051 | 1,922,033 | 1,979,694 | 2,039,084 | 2,100,257 | 2,163,265 | 2,228,162 | 2,295,007 | 2,363,858 | 2,434,773 | 2,507,817 | 2,583,051 | 2,660,543 | 2,740,359 | 2,822,570 | 2,907,247 | 2,994,464 | 42,419,933 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,811,700 | 1,866,051 | 1,922,033 | 1,979,694 | 2,039,084 | 2,100,257 | 2,163,265 | 2,228,162 | 2,295,007 | 2,363,858 | 2,434,773 | 2,507,817 | 2,583,051 | 2,660,543 | 2,740,359 | 2,822,570 | 2,907,247 | 2,994,464 | 42,419,933 |
| **Gross Margin** | | 0 | 0 | 0 | -1,668,420 | -1,579,491 | -1,492,193 | -1,406,574 | -1,322,684 | -1,240,577 | -1,160,305 | -1,081,922 | -1,005,487 | -931,058 | -858,693 | -788,457 | -720,411 | -654,623 | -591,159 | -673,370 | -758,047 | -845,264 | -18,778,733 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,668,420) | (1,579,491) | (1,492,193) | (1,406,574) | (1,322,684) | (1,240,577) | (1,160,305) | (1,081,922) | (1,005,487) | (931,058) | (858,693) | (788,457) | (720,411) | (654,623) | (591,159) | (673,370) | (758,047) | (845,264) | -18,778,733 |
| Depreciation | | 41,708 | 214,500 | 572,000 | 572,000 | 572,000 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 245,334 | 11,049,581 |
| **Earnings Before Income Taxes** | | (41,708) | (214,500) | (572,000) | (2,240,420) | (2,151,491) | (2,080,995) | (1,995,376) | (1,911,487) | (1,829,379) | (1,749,107) | (1,670,725) | (1,594,290) | (1,519,860) | (1,447,496) | (1,377,259) | (1,309,214) | (1,243,425) | (1,179,961) | (1,262,172) | (1,346,849) | (1,090,598) | -29,828,314 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (41,708) | (214,500) | (572,000) | (2,240,420) | (2,151,491) | (2,080,995) | (1,995,376) | (1,911,487) | (1,829,379) | (1,749,107) | (1,670,725) | (1,594,290) | (1,519,860) | (1,447,496) | (1,377,259) | (1,309,214) | (1,243,425) | (1,179,961) | (1,262,172) | (1,346,849) | (1,090,598) | -29,828,314 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (41,708) | (214,500) | (572,000) | (2,240,420) | (2,151,491) | (2,080,995) | (1,995,376) | (1,911,487) | (1,829,379) | (1,749,107) | (1,670,725) | (1,594,290) | (1,519,860) | (1,447,496) | (1,377,259) | (1,309,214) | (1,243,425) | (1,179,961) | (1,262,172) | (1,346,849) | (1,090,598) | -29,828,314 |
| Add: Depreciation | | 41,708 | 214,500 | 572,000 | 572,000 | 572,000 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 588,803 | 245,334 | 11,049,581 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,668,420) | (1,579,491) | (1,492,193) | (1,406,574) | (1,322,684) | (1,240,577) | (1,160,305) | (1,081,922) | (1,005,487) | (931,058) | (858,693) | (788,457) | (720,411) | (654,623) | (591,159) | (673,370) | (758,047) | (845,264) | -18,778,733 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 2,860,000 | 0 | 5,720,001 | 14,300,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23,552,102 |
| Other Capital | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,129,261 | 12,129,261 |
| **Cash Used in Investing Activities** | 2,860,000 | 0 | 5,720,001 | 14,300,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (12,129,261) | 11,422,841 |
| **Net Free Cash Flows** | (2,860,000) | 0 | (5,720,001) | (14,300,001) | (1,668,420) | (1,579,491) | (2,164,293) | (1,406,574) | (1,322,684) | (1,240,577) | (1,160,305) | (1,081,922) | (1,005,487) | (931,058) | (858,693) | (788,457) | (720,411) | (654,623) | (591,159) | (673,370) | (758,047) | 11,283,997 | -30,201,574 |
| Cumulative Net Free Cash Flows | (2,860,000) | (2,860,000) | (8,580,001) | (22,880,002) | (24,548,422) | (26,127,913) | (28,292,206) | (29,698,779) | (31,021,464) | (32,262,040) | (33,422,345) | (34,504,267) | (35,509,755) | (36,440,812) | (37,299,506) | (38,087,962) | (38,808,373) | (39,462,996) | (40,054,155) | (40,727,524) | (41,485,571) | (30,201,574) | |
| **PV of Net Free Cash Flows** | (2,860,000) | 0 | (4,814,410) | (11,042,225) | (1,181,951) | (1,026,561) | (1,290,497) | (769,444) | (663,811) | (571,196) | (490,125) | (419,281) | (357,486) | (303,691) | (256,961) | (216,461) | (181,450) | (151,266) | (125,322) | (130,963) | (135,259) | 1,847,168 | -25,141,190 |

# Appendix D Olympic Pennisula Plan 2C.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 0 |
| PAR NAME | Olympic Pennisula: 230 kV double Circuit |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (25,669,426) |
| NPV Capital | 17,415,874 |
| NPV Costs | 31,001,065 |
| NPV Revenue | 3,520,604 |
| Rev/Cost | 0.11 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 71,640 | 143,280 | 214,920 | 286,560 | 358,200 | 429,840 | 501,480 | 573,120 | 644,760 | 716,400 | 788,040 | 859,680 | 931,320 | 1,002,960 | 1,074,600 | 1,146,240 | 1,217,880 | 1,289,520 | 12,250,440 |
| New Capacity KW Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 71,640 | 143,280 | 214,920 | 286,560 | 358,200 | 429,840 | 501,480 | 573,120 | 644,760 | 716,400 | 788,040 | 859,680 | 931,320 | 1,002,960 | 1,074,600 | 1,146,240 | 1,217,880 | 1,289,520 | 12,250,440 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,651,700 | 1,701,251 | 1,752,289 | 1,804,857 | 1,859,003 | 1,914,773 | 1,972,216 | 2,031,383 | 2,092,324 | 2,155,094 | 2,219,747 | 2,286,339 | 2,354,929 | 2,425,577 | 2,498,344 | 2,573,295 | 2,650,494 | 2,730,008 | 38,673,623 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,651,700 | 1,701,251 | 1,752,289 | 1,804,857 | 1,859,003 | 1,914,773 | 1,972,216 | 2,031,383 | 2,092,324 | 2,155,094 | 2,219,747 | 2,286,339 | 2,354,929 | 2,425,577 | 2,498,344 | 2,573,295 | 2,650,494 | 2,730,008 | 38,673,623 |
| **Gross Margin** | | 0 | 0 | 0 | -1,580,060 | -1,557,971 | -1,537,369 | -1,518,297 | -1,500,803 | -1,484,933 | -1,470,736 | -1,458,263 | -1,447,564 | -1,438,694 | -1,431,707 | -1,426,659 | -1,423,609 | -1,422,617 | -1,423,744 | -1,427,055 | -1,432,614 | -1,440,488 | -26,423,183 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,580,060) | (1,557,971) | (1,537,369) | (1,518,297) | (1,500,803) | (1,484,933) | (1,470,736) | (1,458,263) | (1,447,564) | (1,438,694) | (1,431,707) | (1,426,659) | (1,423,609) | (1,422,617) | (1,423,744) | (1,427,055) | (1,432,614) | (1,440,488) | -26,423,183 |
| Depreciation | | 37,917 | 195,000 | 520,000 | 520,000 | 520,000 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 223,668 | 10,068,623 |
| **Earnings Before Income Taxes** | | (37,917) | (195,000) | (520,000) | (2,100,060) | (2,077,971) | (2,074,171) | (2,055,100) | (2,037,605) | (2,021,736) | (2,007,539) | (1,995,065) | (1,984,367) | (1,975,496) | (1,968,509) | (1,963,462) | (1,960,412) | (1,959,420) | (1,960,547) | (1,963,857) | (1,969,416) | (1,664,156) | -36,491,806 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (37,917) | (195,000) | (520,000) | (2,100,060) | (2,077,971) | (2,074,171) | (2,055,100) | (2,037,605) | (2,021,736) | (2,007,539) | (1,995,065) | (1,984,367) | (1,975,496) | (1,968,509) | (1,963,462) | (1,960,412) | (1,959,420) | (1,960,547) | (1,963,857) | (1,969,416) | (1,664,156) | -36,491,806 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (37,917) | (195,000) | (520,000) | (2,100,060) | (2,077,971) | (2,074,171) | (2,055,100) | (2,037,605) | (2,021,736) | (2,007,539) | (1,995,065) | (1,984,367) | (1,975,496) | (1,968,509) | (1,963,462) | (1,960,412) | (1,959,420) | (1,960,547) | (1,963,857) | (1,969,416) | (1,664,156) | -36,491,806 |
| Add: Depreciation | | 37,917 | 195,000 | 520,000 | 520,000 | 520,000 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 536,803 | 223,668 | 10,068,623 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,580,060) | (1,557,971) | (1,537,369) | (1,518,297) | (1,500,803) | (1,484,933) | (1,470,736) | (1,458,263) | (1,447,564) | (1,438,694) | (1,431,707) | (1,426,659) | (1,423,609) | (1,422,617) | (1,423,744) | (1,427,055) | (1,432,614) | (1,440,488) | -26,423,183 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 2,600,000 | 0 | 5,200,001 | 13,000,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21,472,102 |
| Other Capital | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,063,261 | 11,063,261 |
| **Cash Used in Investing Activities** | 2,600,000 | 0 | 5,200,001 | 13,000,001 | 0 | 0 | 672,100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (11,063,261) | 10,408,841 |
| **Net Free Cash Flows** | (2,600,000) | 0 | (5,200,001) | (13,000,001) | (1,580,060) | (1,557,971) | (2,209,469) | (1,518,297) | (1,500,803) | (1,484,933) | (1,470,736) | (1,458,263) | (1,447,564) | (1,438,694) | (1,431,707) | (1,426,659) | (1,423,609) | (1,422,617) | (1,423,744) | (1,427,055) | (1,432,614) | 9,622,773 | -36,832,024 |
| Cumulative Net Free Cash Flows | (2,600,000) | (2,600,000) | (7,800,001) | (20,800,002) | (22,380,062) | (23,938,033) | (26,147,502) | (27,665,799) | (29,166,602) | (30,651,535) | (32,122,271) | (33,580,533) | (35,028,098) | (36,466,791) | (37,898,498) | (39,325,157) | (40,748,767) | (42,171,384) | (43,595,128) | (45,022,183) | (46,454,796) | (36,832,024) | |
| **PV of Net Free Cash Flows** | (2,600,000) | 0 | (4,376,736) | (10,038,386) | (1,119,354) | (1,012,574) | (1,317,434) | (830,561) | (753,202) | (683,704) | (621,255) | (565,125) | (514,659) | (469,271) | (428,433) | (391,672) | (358,564) | (328,729) | (301,825) | (277,547) | (255,623) | 1,575,229 | -25,669,426 |

# Appendix D Lower Valley Outage Costs.xls

| | Jan-96 | Oct-04 |
|---|---|---|
| Residential Cost per kWh: | $1.42 | $1.75 |
| Commercial Cost per kWh: | $15.82 | $19.49 |
| Industrial Cost per kWh: | $23.57 | $29.03 |
| Residential Load Composition Percentage: | 56.0% | 56.0% |
| Commercial Load Composition Percentage: | 38.0% | 38.0% |
| Industrial Load Composition Percentage: | 6.0% | 6.0% |
| Composite: | $8.22 | $10.13 |
| Inflation Rate: | | 2.64% |
| Discount Rate: | | 9.00% |
| Years: | | 8 |
| Repair time MW Penalty | | See G2-4 |
| Over by at least this amount for collapse to be assumed | 5% | 11.2 |

| Outage | | | Capability |
|---|---|---|---|
| Goshen-Swan Valley or Swan Valley Tx | | | 170 |
| Goshen-Drummond or Drummond Tx | | | 190 |
| Palisades-Snake River | | | 180 |

*Continuous capability of system after outage during repair period

| Over |
|---|
| 0.050 |

| Case | MTBF | Rate Out | Probability Out | Probabliity On | Probabliity On | Probability Out | MTBF |
|---|---|---|---|---|---|---|---|
| SVT | 34.000 | 0.029 | 2.941E-02 | 9.706E-01 | 0.942 | 0.058 | 17.254 |
| DrT | 34.000 | 0.029 | 2.941E-02 | 9.706E-01 | Year | Year | Year |
| G-SV | 1.111 | 0.900 | 2.466E-03 | 9.975E-01 | 0.986 | 0.014 | 0.201 |
| LV-P | 0.588 | 1.700 | 4.658E-03 | 9.953E-01 | Day | Day | Year |
| G-D | 0.417 | 2.400 | 6.575E-03 | 9.934E-01 | | | |

**Swan Valley Transformer**

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outage Cost/KWhr | | | $10.13 | $10.39 | $10.67 | $10.95 | $11.24 | $11.54 | $11.84 | $12.15 | $12.47 | $12.80 | $13.14 | $13.49 | $13.84 | $14.21 | $14.58 | $14.97 |
| MTBF (years) | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 |
| Initial Outage Time (hours) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Repair Time (hours) | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Outage Capability | | Ratios | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | |
| All 500/230 bank load MW 1:20 | | 1.11 | 183 | 189 | 195 | 201 | 206 | 213 | 219 | 226 | 229 | 233 | 236 | 240 | 243 | 247 | 251 | 254 |
| All 500/230 bank load MW 1:5 | | 1.05 | 175 | 180 | 186 | 191 | 197 | 202 | 208 | 215 | 218 | 221 | 225 | 228 | 232 | 235 | 239 | 242 |
| All 500/230 bank load MW 1:2 | | 1.00 | 166 | 171 | 176 | 181 | 187 | 192 | 198 | 204 | 207 | 210 | 213 | 217 | 220 | 223 | 226 | 230 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $3,792 | $4,009 | $4,238 | $4,481 | $4,668 | $4,864 | $5,070 | $5,283 | $5,505 | $5,735 | $5,973 | $6,220 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $899,647 | $1,081,116 | $1,274,423 | $1,484,267 | $1,616,451 | $1,756,447 | $1,906,537 | $2,063,327 | $2,228,444 | $2,400,840 | $2,580,786 | $8,353,016 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $3,609 | $3,816 | $4,034 | $4,265 | $4,443 | $4,630 | $4,825 | $5,028 | $5,239 | $5,458 | $5,685 | $5,920 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $654,162 | $821,546 | $1,000,058 | $1,194,165 | $1,314,208 | $1,441,532 | $1,578,309 | $1,721,302 | $1,872,055 | $2,029,568 | $2,194,093 | $7,950,348 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $3,426 | $3,623 | $3,829 | $4,049 | $4,218 | $4,395 | $4,581 | $4,774 | $4,974 | $5,182 | $5,397 | $5,620 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $408,676 | $561,977 | $725,693 | $904,063 | $1,011,964 | $1,126,618 | $1,250,080 | $1,379,277 | $1,515,666 | $1,658,296 | $1,807,401 | $7,547,679 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $1,049 | $3,994 | $9,479 | $14,522 |
| Repair Time Cost | $353,767 | $1,143,402 | $2,179,337 | $3,676,506 |
| Total Outage Cost | $354,816 | $1,147,396 | $2,188,816 | $3,691,029 |

| | |
|---|---|
| 9 | Events |
| 1.11 | MTBF |
| 107.3 | Average Duration |

**Goshen - Swan Valley Line**

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outage Cost/KWhr | | | $10.13 | $10.39 | $10.67 | $10.95 | $11.24 | $11.54 | $11.84 | $12.15 | $12.47 | $12.80 | $13.14 | $13.49 | $13.84 | $14.21 | $14.58 | $14.97 |
| MTBF (years) | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 | 1.11 |
| Initial Outage Time (hours) | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Repair Time (hours) | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Outage Capability | | Ratios | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| All 500/230 bank load MW 1:20 | | 1.11 | 183 | 189 | 195 | 201 | 206 | 213 | 219 | 226 | 229 | 233 | 236 | 240 | 243 | 247 | 251 | 254 |
| All 500/230 bank load MW 1:5 | | 1.05 | 175 | 180 | 186 | 191 | 197 | 202 | 208 | 215 | 218 | 221 | 225 | 228 | 232 | 235 | 239 | 242 |
| All 500/230 bank load MW 1:2 | | 1.00 | 166 | 171 | 176 | 181 | 187 | 192 | 198 | 204 | 207 | 210 | 213 | 217 | 220 | 223 | 226 | 230 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $116,029 | $122,686 | $129,679 | $137,117 | $142,856 | $148,845 | $155,138 | $161,659 | $168,448 | $175,482 | $182,771 | $190,322 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $52,840 | $63,498 | $74,852 | $87,177 | $94,941 | $103,163 | $111,979 | $121,188 | $130,886 | $141,011 | $151,580 | $162,609 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $110,436 | $116,772 | $123,428 | $130,507 | $135,969 | $141,669 | $147,659 | $153,866 | $160,327 | $167,023 | $173,960 | $181,147 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $38,422 | $48,253 | $58,738 | $70,138 | $77,189 | $84,667 | $92,701 | $101,099 | $109,954 | $119,205 | $128,868 | $138,959 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $104,842 | $110,857 | $117,176 | $123,897 | $129,083 | $134,494 | $140,180 | $146,073 | $152,207 | $158,563 | $165,149 | $171,972 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $24,003 | $33,007 | $42,623 | $53,099 | $59,437 | $66,171 | $73,422 | $81,011 | $89,021 | $97,399 | $106,156 | $115,308 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $32,101 | $122,214 | $290,060 | $444,375 |
| Repair Time Cost | $20,778 | $67,157 | $128,002 | $215,937 |
| Total Outage Cost | $52,879 | $189,371 | $418,062 | $660,311 |

| | |
|---|---|
| 17 | Events |
| 0.59 | MTBF |
| 38.9 | Average Duration |

**Lower Valley - Pallisade Line**

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outage Cost/KWhr | | | $10.13 | $10.39 | $10.67 | $10.95 | $11.24 | $11.54 | $11.84 | $12.15 | $12.47 | $12.80 | $13.14 | $13.49 | $13.84 | $14.21 | $14.58 | $14.97 |
| MTBF (years) | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 |
| Initial Outage Time (hours) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Repair Time (hours) | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 | 0.65 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 198 |
| Outage Capability | | Ratios | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| All 500/230 bank load MW 1:20 | | 1.11 | 183 | 189 | 195 | 201 | 206 | 213 | 219 | 226 | 229 | 233 | 236 | 240 | 243 | 247 | 251 | 254 |
| All 500/230 bank load MW 1:5 | | 1.05 | 175 | 180 | 186 | 191 | 197 | 202 | 208 | 215 | 218 | 221 | 225 | 228 | 232 | 235 | 239 | 242 |
| All 500/230 bank load MW 1:2 | | 1.00 | 166 | 171 | 176 | 181 | 187 | 192 | 198 | 204 | 207 | 210 | 213 | 217 | 220 | 223 | 226 | 230 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |

# Appendix D Lower Valley Outage Costs.xls

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $219,166 | $231,740 | $244,949 | $258,999 | $269,839 | $281,151 | $293,038 | $305,355 | $318,179 | $331,466 | $345,234 | $359,497 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $8,376 | $10,620 | $13,014 | $15,618 | $17,223 | $18,926 | $20,756 | $22,670 | $24,687 | $26,796 | $28,998 | $31,299 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $208,601 | $220,569 | $233,141 | $246,513 | $256,831 | $267,598 | $278,911 | $290,635 | $302,840 | $315,487 | $328,591 | $342,167 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $5,227 | $7,291 | $9,495 | $11,897 | $13,346 | $14,887 | $16,546 | $18,283 | $20,116 | $22,034 | $24,038 | $26,134 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $209,397 | $221,333 | $234,028 | $243,823 | $254,045 | $264,785 | $275,915 | $287,502 | $299,509 | $311,949 | $324,837 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $3,961 | $5,976 | $8,176 | $9,469 | $10,847 | $12,336 | $13,895 | $15,545 | $17,271 | $19,078 | $20,969 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $60,635 | $230,848 | $483,536 | $775,020 |
| Repair Time Cost | $3,742 | $11,482 | $19,318 | $34,541 |
| Total Outage Cost | $64,377 | $242,330 | $502,854 | $809,561 |

| **Drummond Transformer** | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Outage Cost/KWhr | | | $10.13 | $10.39 | $10.67 | $10.95 | $11.24 | $11.54 | $11.84 | $12.15 | $12.47 | $12.80 | $13.14 | $13.49 | $13.84 | $14.21 | $14.58 | $14.97 |
| MTBF (years) | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 |
| Initial Outage Time (hours) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Repair Time (hours) | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 | 672 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 |
| Outage Capability | | Ratios | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 |
| All 500/230 bank load MW 1:20 | | 1.11 | 183 | 189 | 195 | 201 | 206 | 213 | 219 | 226 | 229 | 233 | 236 | 240 | 243 | 247 | 251 | 254 |
| All 500/230 bank load MW 1:5 | | 1.05 | 175 | 180 | 186 | 191 | 197 | 202 | 208 | 215 | 218 | 221 | 225 | 228 | 232 | 235 | 239 | 242 |
| All 500/230 bank load MW 1:2 | | 1.00 | 166 | 171 | 176 | 181 | 187 | 192 | 198 | 204 | 207 | 210 | 213 | 217 | 220 | 223 | 226 | 230 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $3,792 | $4,009 | $4,238 | $4,481 | $4,668 | $4,864 | $5,070 | $5,283 | $5,505 | $5,735 | $5,973 | $6,220 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $406,384 | $574,830 | $754,771 | $950,896 | $1,069,000 | $1,194,543 | $1,329,798 | $1,471,363 | $1,620,852 | $1,777,208 | $1,940,689 | $2,111,564 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $3,816 | $4,034 | $4,265 | $4,443 | $4,630 | $4,825 | $5,028 | $5,239 | $5,458 | $5,685 | $5,920 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $315,261 | $480,407 | $660,794 | $766,756 | $879,628 | $1,001,570 | $1,129,338 | $1,264,463 | $1,405,936 | $1,553,997 | $1,708,896 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $4,049 | $4,218 | $4,395 | $4,581 | $4,774 | $4,974 | $5,182 | $5,397 | $5,620 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $370,692 | $464,512 | $564,714 | $673,342 | $787,312 | $908,074 | $1,034,664 | $1,167,304 | $1,306,227 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $1,049 | $3,525 | $6,238 | $10,812 |
| Repair Time Cost | $229,637 | $625,966 | $892,563 | $1,748,167 |
| Total Outage Cost | $230,686 | $629,491 | $898,802 | $1,758,979 |

| | |
|---|---|
| 24 | Events |
| 0.42 | MTBF |
| 307.3 | Average Duration |

| **Goshen - Drummond Line** | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Outage Cost/KWhr | | | $10.13 | $10.39 | $10.67 | $10.95 | $11.24 | $11.54 | $11.84 | $12.15 | $12.47 | $12.80 | $13.14 | $13.49 | $13.84 | $14.21 | $14.58 | $14.97 |
| MTBF (years) | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 |
| Initial Outage Time (hours) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Repair Time (hours) | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 |
| | | | | | | | | | | | | | | | | | | |
| Interrupted Load | | | | | | | | | | | | | | | | | | |
| System Capability | | | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 |
| Outage Capability | | Ratios | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 |
| All 500/230 bank load MW 1:20 | | 1.11 | 183 | 189 | 195 | 201 | 206 | 213 | 219 | 226 | 229 | 233 | 236 | 240 | 243 | 247 | 251 | 254 |
| All 500/230 bank load MW 1:5 | | 1.05 | 175 | 180 | 186 | 191 | 197 | 202 | 208 | 215 | 218 | 221 | 225 | 228 | 232 | 235 | 239 | 242 |
| All 500/230 bank load MW 1:2 | | 1.00 | 166 | 171 | 176 | 181 | 187 | 192 | 198 | 204 | 207 | 210 | 213 | 217 | 220 | 223 | 226 | 230 |
| Months/year exposure | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Hours/Day at peak | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Initial Outage Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $309,411 | $327,162 | $345,810 | $365,645 | $380,949 | $396,919 | $413,700 | $431,090 | $449,193 | $467,952 | $487,389 | $507,525 |
| Repair Time Cost 1:20 | $0 | $0 | $0 | $0 | $0 | $0 | $228,226 | $322,827 | $423,882 | $534,026 | $600,354 | $670,859 | $746,819 | $826,323 | $910,276 | $998,086 | $1,089,898 | $1,185,862 |
| Initial Outage Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $311,391 | $329,140 | $348,019 | $362,585 | $377,785 | $393,757 | $410,309 | $427,540 | $445,394 | $463,893 | $483,059 |
| Repair Time Cost 1:5 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $177,052 | $269,798 | $371,104 | $430,613 | $494,002 | $562,485 | $634,240 | $710,127 | $789,578 | $872,730 | $959,722 |
| Initial Outage Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $330,393 | $344,221 | $358,651 | $373,814 | $389,527 | $405,886 | $422,836 | $440,398 | $458,593 |
| Repair Time Cost 1:2 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $208,182 | $260,872 | $317,145 | $378,151 | $442,157 | $509,978 | $581,071 | $655,562 | $733,582 |

| **Present Worth Analysis (ten years)** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| | 0.05 | 0.20 | 0.50 | |
| Initial Outage Time Cost | $85,602 | $287,623 | $509,039 | $882,265 |
| Repair Time Cost | $128,965 | $351,545 | $501,267 | $981,776 |
| Total Outage Cost | $214,567 | $639,168 | $1,010,306 | $1,864,041 |

| **Combined Present Worth Analysis** | 1:20 | 1:5 | 1:2 | Total |
|---|---|---|---|---|
| Initial Outage Time Cost | $180,437 | $648,204 | $1,298,353 | $2,126,994 |
| Repair Time Cost | $736,889 | $2,199,552 | $3,720,487 | $6,656,927 |
| Total System Outage Cost | $917,326 | $2,847,756 | $5,018,840 | $8,783,921 |

| **Combined Present Worth Analysis** | | | | |
|---|---|---|---|---|
| Bank Outages | $585,502 | $1,776,887 | $3,087,618 | $5,450,007 |
| Line Outages | $331,823 | $1,070,869 | $1,931,222 | $3,333,914 |
| Total System Outage Cost | $917,326 | $2,847,756 | $5,018,840 | $8,783,921 |

# Appendix D Lower Valley Plan 1.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 1641 |
| PAR NAME | Palisades-Goshen Rebuild |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (55,309,677) |
| NPV Capital | 29,304,953 |
| NPV Costs | 65,752,283 |
| NPV Revenue | 4,146,463 |
| Rev/Cost | 0.06 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ancillary Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous COGs (manual number) | | 0 | 0 | 0 | 4,431,300 | 4,564,239 | 4,701,166 | 4,842,201 | 4,987,467 | 5,137,091 | 5,291,204 | 5,449,940 | 5,613,438 | 5,781,841 | 5,955,297 | 6,133,956 | 6,317,974 | 6,507,513 | 6,702,739 | 6,903,821 | 7,110,936 | 7,324,264 | 103,756,387 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 4,431,300 | 4,564,239 | 4,701,166 | 4,842,201 | 4,987,467 | 5,137,091 | 5,291,204 | 5,449,940 | 5,613,438 | 5,781,841 | 5,955,297 | 6,133,956 | 6,317,974 | 6,507,513 | 6,702,739 | 6,903,821 | 7,110,936 | 7,324,264 | 103,756,387 |
| **Gross Margin** | | 0 | 0 | 0 | -4,326,684 | -4,355,007 | -4,387,318 | -4,441,173 | -4,516,695 | -4,596,575 | -4,680,944 | -4,769,936 | -4,863,690 | -4,962,349 | -5,066,061 | -5,174,976 | -5,289,250 | -5,409,045 | -5,534,527 | -5,665,865 | -5,803,236 | -5,946,820 | -89,790,151 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (4,326,684) | (4,355,007) | (4,387,318) | (4,441,173) | (4,516,695) | (4,596,575) | (4,680,944) | (4,769,936) | (4,863,690) | (4,962,349) | (5,066,061) | (5,174,976) | (5,289,250) | (5,409,045) | (5,534,527) | (5,665,865) | (5,803,236) | (5,946,820) | -89,790,151 |
| Depreciation | | 13,892 | 95,258 | 476,288 | 476,288 | 476,288 | 493,090 | 493,090 | 493,090 | 493,090 | 540,444 | 682,507 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 600,072 | 18,294,948 |
| **Earnings Before Income Taxes** | | (13,892) | (95,258) | (476,288) | (4,802,972) | (4,831,295) | (4,880,408) | (4,934,263) | (5,009,785) | (5,089,665) | (5,221,388) | (5,452,443) | (6,303,863) | (6,402,522) | (6,506,233) | (6,615,148) | (6,729,423) | (6,849,218) | (6,974,699) | (7,106,038) | (7,243,408) | (6,546,892) | -108,085,099 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (13,892) | (95,258) | (476,288) | (4,802,972) | (4,831,295) | (4,880,408) | (4,934,263) | (5,009,785) | (5,089,665) | (5,221,388) | (5,452,443) | (6,303,863) | (6,402,522) | (6,506,233) | (6,615,148) | (6,729,423) | (6,849,218) | (6,974,699) | (7,106,038) | (7,243,408) | (6,546,892) | -108,085,099 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (13,892) | (95,258) | (476,288) | (4,802,972) | (4,831,295) | (4,880,408) | (4,934,263) | (5,009,785) | (5,089,665) | (5,221,388) | (5,452,443) | (6,303,863) | (6,402,522) | (6,506,233) | (6,615,148) | (6,729,423) | (6,849,218) | (6,974,699) | (7,106,038) | (7,243,408) | (6,546,892) | -108,085,099 |
| Add: Depreciation | | 13,892 | 95,258 | 476,288 | 476,288 | 476,288 | 493,090 | 493,090 | 493,090 | 493,090 | 540,444 | 682,507 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 1,440,173 | 600,072 | 18,294,948 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (4,326,684) | (4,355,007) | (4,387,318) | (4,441,173) | (4,516,695) | (4,596,575) | (4,680,944) | (4,769,936) | (4,863,690) | (4,962,349) | (5,066,061) | (5,174,976) | (5,289,250) | (5,409,045) | (5,534,527) | (5,665,865) | (5,803,236) | (5,946,820) | -89,790,151 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 952,575 | 0 | 2,857,725 | 15,241,201 | 0 | 0 | 672,100 | 0 | 0 | 0 | 1,894,165 | 5,682,495 | 30,306,640 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57,606,902 |
| Capital Line Lease | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38,461,931 | 38,461,931 |
| **Cash Used in Investing Activities** | 952,575 | 0 | 2,857,725 | 15,241,201 | 0 | 0 | 672,100 | 0 | 0 | 0 | 1,894,165 | 5,682,495 | 30,306,640 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (38,461,931) | 19,144,971 |
| **Net Free Cash Flows** | (952,575) | 0 | (2,857,725) | (15,241,201) | (4,326,684) | (4,355,007) | (5,059,418) | (4,441,173) | (4,516,695) | (4,596,575) | (6,575,109) | (10,452,431) | (35,170,330) | (4,962,349) | (5,066,061) | (5,174,976) | (5,289,250) | (5,409,045) | (5,534,527) | (5,665,865) | (5,803,236) | 32,515,111 | -108,935,122 |
| Cumulative Net Free Cash Flows | (952,575) | (952,575) | (3,810,300) | (19,051,502) | (23,378,186) | (27,733,193) | (32,792,611) | (37,233,784) | (41,750,479) | (46,347,055) | (52,922,164) | (63,374,595) | (98,544,925) | (103,507,274) | (108,573,335) | (113,748,310) | (119,037,561) | (124,446,606) | (129,981,133) | (135,646,998) | (141,450,234) | (108,935,122) | |
| **PV of Net Free Cash Flows** | (952,575) | 0 | (2,405,290) | (11,769,004) | (3,065,132) | (2,830,456) | (3,016,766) | (2,429,474) | (2,266,777) | (2,116,391) | (2,777,397) | (4,050,660) | (12,504,274) | (1,618,612) | (1,516,001) | (1,420,728) | (1,332,202) | (1,249,885) | (1,173,285) | (1,101,952) | (1,035,476) | 5,322,661 | -55,309,677 |

# Appendix D Lower Valley Plan 2.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 1641 |
| PAR NAME | Goshen -Lanes Creek & Palisades-Goshen rebuild |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (63,465,682) |
| NPV Capital | 38,490,406 |
| NPV Costs | 72,638,034 |
| NPV Revenue | 4,146,463 |
| Rev/Cost | 0.06 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ancillary Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous COGs (manual number) | | 0 | 0 | 0 | 4,151,700 | 4,276,251 | 4,404,539 | 4,536,675 | 4,672,775 | 4,812,958 | 4,957,347 | 5,106,067 | 5,259,249 | 5,417,027 | 5,579,538 | 5,746,924 | 5,919,331 | 6,096,911 | 6,279,819 | 6,468,213 | 6,662,260 | 6,862,128 | 97,209,711 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 4,151,700 | 4,276,251 | 4,404,539 | 4,536,675 | 4,672,775 | 4,812,958 | 4,957,347 | 5,106,067 | 5,259,249 | 5,417,027 | 5,579,538 | 5,746,924 | 5,919,331 | 6,096,911 | 6,279,819 | 6,468,213 | 6,662,260 | 6,862,128 | 97,209,711 |
| **Gross Margin** | | 0 | 0 | 0 | -4,047,084 | -4,067,019 | -4,090,691 | -4,135,647 | -4,202,003 | -4,272,442 | -4,347,087 | -4,426,063 | -4,509,501 | -4,597,535 | -4,690,302 | -4,787,944 | -4,890,607 | -4,998,443 | -5,111,607 | -5,230,257 | -5,354,560 | -5,484,684 | -83,243,475 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (4,047,084) | (4,067,019) | (4,090,691) | (4,135,647) | (4,202,003) | (4,272,442) | (4,347,087) | (4,426,063) | (4,509,501) | (4,597,535) | (4,690,302) | (4,787,944) | (4,890,607) | (4,998,443) | (5,111,607) | (5,230,257) | (5,354,560) | (5,484,684) | -83,243,475 |
| Depreciation | | 33,459 | 229,431 | 1,147,153 | 1,147,153 | 1,147,153 | 1,147,153 | 1,147,153 | 1,147,153 | 1,163,403 | 1,163,403 | 1,163,403 | 1,163,403 | 1,163,403 | 1,163,403 | 1,172,698 | 1,200,583 | 1,349,303 | 1,349,303 | 1,349,303 | 1,349,303 | 562,209 | 22,458,921 |
| **Earnings Before Income Taxes** | | (33,459) | (229,431) | (1,147,153) | (5,194,237) | (5,214,172) | (5,237,843) | (5,282,799) | (5,349,156) | (5,435,845) | (5,510,490) | (5,589,466) | (5,672,904) | (5,760,937) | (5,853,704) | (5,960,641) | (6,091,190) | (6,347,746) | (6,460,909) | (6,579,560) | (6,703,862) | (6,046,893) | -105,702,396 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (33,459) | (229,431) | (1,147,153) | (5,194,237) | (5,214,172) | (5,237,843) | (5,282,799) | (5,349,156) | (5,435,845) | (5,510,490) | (5,589,466) | (5,672,904) | (5,760,937) | (5,853,704) | (5,960,641) | (6,091,190) | (6,347,746) | (6,460,909) | (6,579,560) | (6,703,862) | (6,046,893) | -105,702,396 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (33,459) | (229,431) | (1,147,153) | (5,194,237) | (5,214,172) | (5,237,843) | (5,282,799) | (5,349,156) | (5,435,845) | (5,510,490) | (5,589,466) | (5,672,904) | (5,760,937) | (5,853,704) | (5,960,641) | (6,091,190) | (6,347,746) | (6,460,909) | (6,579,560) | (6,703,862) | (6,046,893) | -105,702,396 |
| Add: Depreciation | | 33,459 | 229,431 | 1,147,153 | 1,147,153 | 1,147,153 | 1,147,153 | 1,147,153 | 1,147,153 | 1,163,403 | 1,163,403 | 1,163,403 | 1,163,403 | 1,163,403 | 1,163,403 | 1,172,698 | 1,200,583 | 1,349,303 | 1,349,303 | 1,349,303 | 1,349,303 | 562,209 | 22,458,921 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (4,047,084) | (4,067,019) | (4,090,691) | (4,135,647) | (4,202,003) | (4,272,442) | (4,347,087) | (4,426,063) | (4,509,501) | (4,597,535) | (4,690,302) | (4,787,944) | (4,890,607) | (4,998,443) | (5,111,607) | (5,230,257) | (5,354,560) | (5,484,684) | -83,243,475 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 2,294,305 | 0 | 6,882,916 | 36,708,884 | 0 | 0 | 0 | 0 | 0 | 650,000 | 0 | 0 | 0 | 0 | 0 | 371,800 | 1,115,400 | 5,948,800 | 0 | 0 | 0 | 0 | 53,972,104 |
| Capital Line Lease | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30,702,192 | 30,702,192 |
| **Cash Used in Investing Activities** | 2,294,305 | 0 | 6,882,916 | 36,708,884 | 0 | 0 | 0 | 0 | 0 | 650,000 | 0 | 0 | 0 | 0 | 0 | 371,800 | 1,115,400 | 5,948,800 | 0 | 0 | 0 | (30,702,192) | 23,269,913 |
| **Net Free Cash Flows** | (2,294,305) | 0 | (6,882,916) | (36,708,884) | (4,047,084) | (4,067,019) | (4,090,691) | (4,135,647) | (4,202,003) | (4,922,442) | (4,347,087) | (4,426,063) | (4,509,501) | (4,597,535) | (4,690,302) | (5,159,744) | (6,006,007) | (10,947,243) | (5,111,607) | (5,230,257) | (5,354,560) | 25,217,508 | -106,513,388 |
| Cumulative Net Free Cash Flows | (2,294,305) | (2,294,305) | (9,177,221) | (45,886,104) | (49,933,188) | (54,000,207) | (58,090,898) | (62,226,545) | (66,428,548) | (71,350,990) | (75,698,077) | (80,124,140) | (84,633,641) | (89,231,176) | (93,921,478) | (99,081,222) | (105,087,229) | (116,034,472) | (121,146,079) | (126,376,337) | (131,730,896) | (106,513,388) | |
| **PV of Net Free Cash Flows** | (2,294,305) | 0 | (5,793,212) | (28,345,993) | (2,867,056) | (2,643,283) | (2,439,145) | (2,262,340) | (2,108,844) | (2,266,429) | (1,836,256) | (1,715,245) | (1,603,284) | (1,499,618) | (1,403,556) | (1,416,546) | (1,512,732) | (2,529,614) | (1,083,629) | (1,017,231) | (955,419) | 4,128,057 | -63,465,682 |

# Appendix D Lower Valley Plan 3.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 1641 |
| PAR NAME | Caribou Loop in Lower Valley Energy |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (27,246,721) |
| | |
| NPV Capital | 18,230,556 |
| NPV Costs | 33,497,754 |
| NPV Revenue | 4,146,463 |
| Rev/Cost | 0.12 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ancillary Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Line Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,856,200 | 1,911,886 | 1,969,243 | 2,028,320 | 2,089,169 | 2,151,845 | 2,216,400 | 2,282,892 | 2,351,379 | 2,421,920 | 2,494,578 | 2,569,415 | 2,646,497 | 2,725,892 | 2,807,669 | 2,891,899 | 2,978,656 | 3,068,016 | 43,461,875 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,856,200 | 1,911,886 | 1,969,243 | 2,028,320 | 2,089,169 | 2,151,845 | 2,216,400 | 2,282,892 | 2,351,379 | 2,421,920 | 2,494,578 | 2,569,415 | 2,646,497 | 2,725,892 | 2,807,669 | 2,891,899 | 2,978,656 | 3,068,016 | 43,461,875 |
| **Gross Margin** | | 0 | 0 | 0 | -1,751,584 | -1,702,654 | -1,655,395 | -1,627,292 | -1,618,397 | -1,611,329 | -1,606,140 | -1,602,888 | -1,601,631 | -1,602,428 | -1,605,342 | -1,610,435 | -1,617,773 | -1,627,424 | -1,639,457 | -1,653,943 | -1,670,956 | -1,690,572 | -29,495,639 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,751,584) | (1,702,654) | (1,655,395) | (1,627,292) | (1,618,397) | (1,611,329) | (1,606,140) | (1,602,888) | (1,601,631) | (1,602,428) | (1,605,342) | (1,610,435) | (1,617,773) | (1,627,424) | (1,639,457) | (1,653,943) | (1,670,956) | (1,690,572) | -29,495,639 |
| Depreciation | | 9,479 | 65,000 | 334,165 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 251,360 | 10,915,510 |
| **Earnings Before Income Taxes** | | (9,479) | (65,000) | (334,165) | (2,354,849) | (2,305,919) | (2,258,660) | (2,230,557) | (2,221,662) | (2,214,594) | (2,209,405) | (2,206,153) | (2,204,896) | (2,205,693) | (2,208,607) | (2,213,700) | (2,221,038) | (2,230,689) | (2,242,722) | (2,257,208) | (2,274,221) | (1,941,932) | -40,411,149 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (9,479) | (65,000) | (334,165) | (2,354,849) | (2,305,919) | (2,258,660) | (2,230,557) | (2,221,662) | (2,214,594) | (2,209,405) | (2,206,153) | (2,204,896) | (2,205,693) | (2,208,607) | (2,213,700) | (2,221,038) | (2,230,689) | (2,242,722) | (2,257,208) | (2,274,221) | (1,941,932) | -40,411,149 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (9,479) | (65,000) | (334,165) | (2,354,849) | (2,305,919) | (2,258,660) | (2,230,557) | (2,221,662) | (2,214,594) | (2,209,405) | (2,206,153) | (2,204,896) | (2,205,693) | (2,208,607) | (2,213,700) | (2,221,038) | (2,230,689) | (2,242,722) | (2,257,208) | (2,274,221) | (1,941,932) | -40,411,149 |
| Add: Depreciation | | 9,479 | 65,000 | 334,165 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 251,360 | 10,915,510 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,751,584) | (1,702,654) | (1,655,395) | (1,627,292) | (1,618,397) | (1,611,329) | (1,606,140) | (1,602,888) | (1,601,631) | (1,602,428) | (1,605,342) | (1,610,435) | (1,617,773) | (1,627,424) | (1,639,457) | (1,653,943) | (1,670,956) | (1,690,572) | -29,495,639 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 650,000 | 0 | 1,950,000 | 10,766,600 | 10,764,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,130,600 |
| Capital Line Lease | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,856,415 | 12,856,415 |
| **Cash Used in Investing Activities** | 650,000 | 0 | 1,950,000 | 10,766,600 | 10,764,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (12,856,415) | 11,274,185 |
| **Net Free Cash Flows** | (650,000) | 0 | (1,950,000) | (10,766,600) | (12,515,584) | (1,702,654) | (1,655,395) | (1,627,292) | (1,618,397) | (1,611,329) | (1,606,140) | (1,602,888) | (1,601,631) | (1,602,428) | (1,605,342) | (1,610,435) | (1,617,773) | (1,627,424) | (1,639,457) | (1,653,943) | (1,670,956) | 11,165,843 | -40,769,824 |
| Cumulative Net Free Cash Flows | (650,000) | (650,000) | (2,600,000) | (13,366,600) | (25,882,184) | (27,584,838) | (29,240,233) | (30,867,524) | (32,485,922) | (34,097,250) | (35,703,390) | (37,306,278) | (38,907,909) | (40,510,337) | (42,115,678) | (43,726,113) | (45,343,887) | (46,971,311) | (48,610,768) | (50,264,711) | (51,935,667) | (40,769,824) | |
| **PV of Net Free Cash Flows** | (650,000) | 0 | (1,641,276) | (8,313,791) | (8,866,355) | (1,106,608) | (987,058) | (890,184) | (812,219) | (741,900) | (678,451) | (621,172) | (569,435) | (522,678) | (480,393) | (442,126) | (407,468) | (376,054) | (347,555) | (321,675) | (298,150) | 1,827,827 | -27,246,721 |

# Appendix D Lower Valley Plan 3A.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 1641 |
| PAR NAME | Caribou Loop in Lower Valley Energy (3a) |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (24,913,583) |
| | |
| NPV Capital | 18,230,556 |
| NPV Costs | 33,497,754 |
| NPV Revenue | 6,479,601 |
| Rev/Cost | 0.19 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ancillary Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 209,232 | 418,464 | 627,696 | 732,312 | 802,056 | 906,672 | 1,011,288 | 1,115,904 | 1,220,520 | 1,325,136 | 1,429,752 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 20,539,608 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 209,232 | 418,464 | 627,696 | 732,312 | 802,056 | 906,672 | 1,011,288 | 1,115,904 | 1,220,520 | 1,325,136 | 1,429,752 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 1,534,368 | 20,539,608 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Line Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,856,200 | 1,911,886 | 1,969,243 | 2,028,320 | 2,089,169 | 2,151,845 | 2,216,400 | 2,282,892 | 2,351,379 | 2,421,920 | 2,494,578 | 2,569,415 | 2,646,497 | 2,725,892 | 2,807,669 | 2,891,899 | 2,978,656 | 3,068,016 | 43,461,875 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,856,200 | 1,911,886 | 1,969,243 | 2,028,320 | 2,089,169 | 2,151,845 | 2,216,400 | 2,282,892 | 2,351,379 | 2,421,920 | 2,494,578 | 2,569,415 | 2,646,497 | 2,725,892 | 2,807,669 | 2,891,899 | 2,978,656 | 3,068,016 | 43,461,875 |
| **Gross Margin** | | 0 | 0 | 0 | -1,646,968 | -1,493,422 | -1,341,547 | -1,296,008 | -1,287,113 | -1,245,173 | -1,205,112 | -1,166,988 | -1,130,859 | -1,096,784 | -1,064,826 | -1,035,047 | -1,112,129 | -1,191,524 | -1,273,301 | -1,357,531 | -1,444,288 | -1,533,648 | -22,922,267 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,646,968) | (1,493,422) | (1,341,547) | (1,296,008) | (1,287,113) | (1,245,173) | (1,205,112) | (1,166,988) | (1,130,859) | (1,096,784) | (1,064,826) | (1,035,047) | (1,112,129) | (1,191,524) | (1,273,301) | (1,357,531) | (1,444,288) | (1,533,648) | -22,922,267 |
| Depreciation | | 9,479 | 65,000 | 334,165 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 251,360 | 10,915,510 |
| **Earnings Before Income Taxes** | | (9,479) | (65,000) | (334,165) | (2,250,233) | (2,096,687) | (1,944,812) | (1,899,273) | (1,890,378) | (1,848,438) | (1,808,377) | (1,770,253) | (1,734,124) | (1,700,049) | (1,668,091) | (1,638,312) | (1,715,394) | (1,794,789) | (1,876,566) | (1,960,796) | (2,047,553) | (1,785,008) | -33,837,777 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (9,479) | (65,000) | (334,165) | (2,250,233) | (2,096,687) | (1,944,812) | (1,899,273) | (1,890,378) | (1,848,438) | (1,808,377) | (1,770,253) | (1,734,124) | (1,700,049) | (1,668,091) | (1,638,312) | (1,715,394) | (1,794,789) | (1,876,566) | (1,960,796) | (2,047,553) | (1,785,008) | -33,837,777 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (9,479) | (65,000) | (334,165) | (2,250,233) | (2,096,687) | (1,944,812) | (1,899,273) | (1,890,378) | (1,848,438) | (1,808,377) | (1,770,253) | (1,734,124) | (1,700,049) | (1,668,091) | (1,638,312) | (1,715,394) | (1,794,789) | (1,876,566) | (1,960,796) | (2,047,553) | (1,785,008) | -33,837,777 |
| Add: Depreciation | | 9,479 | 65,000 | 334,165 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 251,360 | 10,915,510 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,646,968) | (1,493,422) | (1,341,547) | (1,296,008) | (1,287,113) | (1,245,173) | (1,205,112) | (1,166,988) | (1,130,859) | (1,096,784) | (1,064,826) | (1,035,047) | (1,112,129) | (1,191,524) | (1,273,301) | (1,357,531) | (1,444,288) | (1,533,648) | -22,922,267 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 650,000 | 0 | 1,950,000 | 10,766,600 | 10,764,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,130,600 |
| New OSP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Investing Activities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,856,415 | 12,856,415 |
| **Cash Used in Investing Activities** | 650,000 | 0 | 1,950,000 | 10,766,600 | 10,764,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (12,856,415) | 11,274,185 |
| **Net Free Cash Flows** | (650,000) | 0 | (1,950,000) | (10,766,600) | (12,410,968) | (1,493,422) | (1,341,547) | (1,296,008) | (1,287,113) | (1,245,173) | (1,205,112) | (1,166,988) | (1,130,859) | (1,096,784) | (1,064,826) | (1,035,047) | (1,112,129) | (1,191,524) | (1,273,301) | (1,357,531) | (1,444,288) | 11,322,767 | -34,196,452 |
| Cumulative Net Free Cash Flows | (650,000) | (650,000) | (2,600,000) | (13,366,600) | (25,777,568) | (27,270,990) | (28,612,537) | (29,908,544) | (31,195,658) | (32,440,830) | (33,645,942) | (34,812,930) | (35,943,789) | (37,040,573) | (38,105,398) | (39,140,445) | (40,252,575) | (41,444,099) | (42,717,400) | (44,074,931) | (45,519,219) | (34,196,452) | |
| **PV of Net Free Cash Flows** | (650,000) | 0 | (1,641,276) | (8,313,791) | (8,792,243) | (970,622) | (799,920) | (708,961) | (645,959) | (573,312) | (509,052) | (452,246) | (402,060) | (357,748) | (318,645) | (284,160) | (280,112) | (275,329) | (269,932) | (264,026) | (257,706) | 1,853,515 | -24,913,583 |

# Appendix D Lower Valley Plan 3B.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 1641 |
| PAR NAME | Caribou Loop in Lower Valley Energy (3b) |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (30,008,825) |
| | |
| NPV Capital | 19,832,767 |
| NPV Costs | 36,445,735 |
| NPV Revenue | 4,146,463 |
| Rev/Cost | 0.11 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ancillary Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 104,616 | 209,232 | 313,848 | 401,028 | 470,772 | 540,516 | 610,260 | 680,004 | 749,748 | 819,492 | 889,236 | 958,980 | 1,028,724 | 1,098,468 | 1,168,212 | 1,237,956 | 1,307,700 | 1,377,444 | 13,966,236 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Line Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous COGs (manual number) | | 0 | 0 | 0 | 2,019,820 | 2,080,415 | 2,142,827 | 2,207,112 | 2,273,325 | 2,341,525 | 2,411,771 | 2,484,124 | 2,558,648 | 2,635,407 | 2,714,469 | 2,795,903 | 2,879,780 | 2,966,174 | 3,055,159 | 3,146,814 | 3,241,218 | 3,338,455 | 47,292,945 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 2,019,820 | 2,080,415 | 2,142,827 | 2,207,112 | 2,273,325 | 2,341,525 | 2,411,771 | 2,484,124 | 2,558,648 | 2,635,407 | 2,714,469 | 2,795,903 | 2,879,780 | 2,966,174 | 3,055,159 | 3,146,814 | 3,241,218 | 3,338,455 | 47,292,945 |
| **Gross Margin** | | 0 | 0 | 0 | -1,915,204 | -1,871,183 | -1,828,979 | -1,806,084 | -1,802,553 | -1,801,009 | -1,801,511 | -1,804,120 | -1,808,900 | -1,815,915 | -1,825,233 | -1,836,923 | -1,851,056 | -1,867,706 | -1,886,947 | -1,908,858 | -1,933,518 | -1,961,011 | -33,326,709 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,915,204) | (1,871,183) | (1,828,979) | (1,806,084) | (1,802,553) | (1,801,009) | (1,801,511) | (1,804,120) | (1,808,900) | (1,815,915) | (1,825,233) | (1,836,923) | (1,851,056) | (1,867,706) | (1,886,947) | (1,908,858) | (1,933,518) | (1,961,011) | -33,326,709 |
| Depreciation | | 10,427 | 71,500 | 360,432 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 273,517 | 11,875,381 |
| **Earnings Before Income Taxes** | | (10,427) | (71,500) | (360,432) | (2,571,646) | (2,527,624) | (2,485,421) | (2,462,525) | (2,458,995) | (2,457,450) | (2,457,952) | (2,460,561) | (2,465,341) | (2,472,356) | (2,481,675) | (2,493,365) | (2,507,498) | (2,524,147) | (2,543,388) | (2,565,299) | (2,589,960) | (2,234,528) | -45,202,090 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (10,427) | (71,500) | (360,432) | (2,571,646) | (2,527,624) | (2,485,421) | (2,462,525) | (2,458,995) | (2,457,450) | (2,457,952) | (2,460,561) | (2,465,341) | (2,472,356) | (2,481,675) | (2,493,365) | (2,507,498) | (2,524,147) | (2,543,388) | (2,565,299) | (2,589,960) | (2,234,528) | -45,202,090 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (10,427) | (71,500) | (360,432) | (2,571,646) | (2,527,624) | (2,485,421) | (2,462,525) | (2,458,995) | (2,457,450) | (2,457,952) | (2,460,561) | (2,465,341) | (2,472,356) | (2,481,675) | (2,493,365) | (2,507,498) | (2,524,147) | (2,543,388) | (2,565,299) | (2,589,960) | (2,234,528) | -45,202,090 |
| Add: Depreciation | | 10,427 | 71,500 | 360,432 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 656,442 | 273,517 | 11,875,381 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,915,204) | (1,871,183) | (1,828,979) | (1,806,084) | (1,802,553) | (1,801,009) | (1,801,511) | (1,804,120) | (1,808,900) | (1,815,915) | (1,825,233) | (1,836,923) | (1,851,056) | (1,867,706) | (1,886,947) | (1,908,858) | (1,933,518) | (1,961,011) | -33,326,709 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 715,000 | 0 | 2,145,000 | 11,557,260 | 11,840,400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26,257,660 |
| New OSP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Investing Activities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13,991,907 | 13,991,907 |
| **Cash Used in Investing Activities** | 715,000 | 0 | 2,145,000 | 11,557,260 | 11,840,400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (13,991,907) | 12,265,754 |
| **Net Free Cash Flows** | (715,000) | 0 | (2,145,000) | (11,557,260) | (13,755,604) | (1,871,183) | (1,828,979) | (1,806,084) | (1,802,553) | (1,801,009) | (1,801,511) | (1,804,120) | (1,808,900) | (1,815,915) | (1,825,233) | (1,836,923) | (1,851,056) | (1,867,706) | (1,886,947) | (1,908,858) | (1,933,518) | 12,030,896 | -45,592,462 |
| Cumulative Net Free Cash Flows | (715,000) | (715,000) | (2,860,000) | (14,417,260) | (28,172,864) | (30,044,047) | (31,873,026) | (33,679,109) | (35,481,663) | (37,282,672) | (39,084,182) | (40,888,302) | (42,697,202) | (44,513,117) | (46,338,350) | (48,175,273) | (50,026,330) | (51,894,035) | (53,780,982) | (55,689,840) | (57,623,358) | (45,592,462) | |
| **PV of Net Free Cash Flows** | (715,000) | 0 | (1,805,404) | (8,924,325) | (9,744,817) | (1,216,140) | (1,090,560) | (987,990) | (904,641) | (829,235) | (760,978) | (699,156) | (643,127) | (592,313) | (546,195) | (504,305) | (466,225) | (431,577) | (400,021) | (371,253) | (344,999) | 1,969,434 | -30,008,825 |

# Appendix D Lower Valley Plan 3C.xls

| ECONOMIC ANALYSIS | |
|---|---|
| With Residual Value | |
| PAR Number | 1641 |
| PAR NAME | Caribou Loop in Lower Valley Energy (3c) |
| Prepared by | Rebecca Fredrickson |

| FINANCIAL METRICS | |
|---|---|
| NPV | (29,497,603) |
| | |
| NPV Capital | 18,230,556 |
| NPV Costs | 33,497,754 |
| NPV Revenue | 1,895,580 |
| Rev/Cost | 0.06 |

| | | | |
|---|---|---|---|
| Residual Value | Yes | Increase in Capacity:MW | 0 |
| Term months | 240 | KV Line | 0 |
| Start Rev Mo. | 6 | Is this a Replacement | N |
| Start Year | 2005 | # Breakers | 0 |
| Discount Rate | 9.00% | # Shunts | - |
| EVA Rate | 9.00% | Manual O & M Input | N |
| Capacitors and Switches | - | Capital Materials | 0 |
| Kv line miles | 0 | Other Capital | 0 |

07-Dec-04

| Income Statement | Initial | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue** | | | | | | | | | | | | | | | | | | | | | | | |
| O & M Savings | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ancillary Sales | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Load Growth Sales | | 0 | 0 | 0 | 52,308 | 104,616 | 156,924 | 209,232 | 244,104 | 261,540 | 296,412 | 313,848 | 348,720 | 366,156 | 401,028 | 418,464 | 435,900 | 470,772 | 488,208 | 523,080 | 540,516 | 575,388 | 6,207,216 |
| **Total Revenues** | 0 | 0 | 0 | 0 | 52,308 | 104,616 | 156,924 | 209,232 | 244,104 | 261,540 | 296,412 | 313,848 | 348,720 | 366,156 | 401,028 | 418,464 | 435,900 | 470,772 | 488,208 | 523,080 | 540,516 | 575,388 | 6,207,216 |
| **Cost of Goods Sold** | | | | | | | | | | | | | | | | | | | | | | | |
| Line Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O & M | | 0 | 0 | 0 | 1,856,200 | 1,911,886 | 1,969,243 | 2,028,320 | 2,089,169 | 2,151,845 | 2,216,400 | 2,282,892 | 2,351,379 | 2,421,920 | 2,494,578 | 2,569,415 | 2,646,497 | 2,725,892 | 2,807,669 | 2,891,899 | 2,978,656 | 3,068,016 | 43,461,875 |
| **Total Cost of Goods Sold** | | 0 | 0 | 0 | 1,856,200 | 1,911,886 | 1,969,243 | 2,028,320 | 2,089,169 | 2,151,845 | 2,216,400 | 2,282,892 | 2,351,379 | 2,421,920 | 2,494,578 | 2,569,415 | 2,646,497 | 2,725,892 | 2,807,669 | 2,891,899 | 2,978,656 | 3,068,016 | 43,461,875 |
| **Gross Margin** | | 0 | 0 | 0 | -1,803,892 | -1,807,270 | -1,812,319 | -1,819,088 | -1,845,065 | -1,890,305 | -1,919,988 | -1,969,044 | -2,002,659 | -2,055,764 | -2,093,550 | -2,150,951 | -2,210,597 | -2,255,120 | -2,319,461 | -2,368,819 | -2,438,140 | -2,492,628 | -37,254,659 |
| **Operating Expenses** | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Lease | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Customer Service & Billing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bad Debt | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Direct & Indirect Labor | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Electronic Maintenance Charges | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Property Tax | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utilities & Insurance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Operating Expenses** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **EBITDA** | | 0 | 0 | 0 | (1,803,892) | (1,807,270) | (1,812,319) | (1,819,088) | (1,845,065) | (1,890,305) | (1,919,988) | (1,969,044) | (2,002,659) | (2,055,764) | (2,093,550) | (2,150,951) | (2,210,597) | (2,255,120) | (2,319,461) | (2,368,819) | (2,438,140) | (2,492,628) | -37,254,659 |
| Depreciation | | 9,479 | 65,000 | 334,165 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 251,360 | 10,915,510 |
| **Earnings Before Income Taxes** | | (9,479) | (65,000) | (334,165) | (2,407,157) | (2,410,535) | (2,415,584) | (2,422,353) | (2,448,330) | (2,493,570) | (2,523,253) | (2,572,309) | (2,605,924) | (2,659,029) | (2,696,815) | (2,754,216) | (2,813,862) | (2,858,385) | (2,922,726) | (2,972,084) | (3,041,405) | (2,743,988) | -48,170,169 |
| Income Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net Income** | | (9,479) | (65,000) | (334,165) | (2,407,157) | (2,410,535) | (2,415,584) | (2,422,353) | (2,448,330) | (2,493,570) | (2,523,253) | (2,572,309) | (2,605,924) | (2,659,029) | (2,696,815) | (2,754,216) | (2,813,862) | (2,858,385) | (2,922,726) | (2,972,084) | (3,041,405) | (2,743,988) | -48,170,169 |

| Cash Flow | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 | Year 13 | Year 14 | Year 15 | Year 16 | Year 17 | Year 18 | Year 19 | Year 20 | Year 21 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Income** | 0 | (9,479) | (65,000) | (334,165) | (2,407,157) | (2,410,535) | (2,415,584) | (2,422,353) | (2,448,330) | (2,493,570) | (2,523,253) | (2,572,309) | (2,605,924) | (2,659,029) | (2,696,815) | (2,754,216) | (2,813,862) | (2,858,385) | (2,922,726) | (2,972,084) | (3,041,405) | (2,743,988) | -48,170,169 |
| Add: Depreciation | | 9,479 | 65,000 | 334,165 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 603,265 | 251,360 | 10,915,510 |
| Deferred Taxes | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Cash Flow from Operations** | 0 | 0 | 0 | 0 | (1,803,892) | (1,807,270) | (1,812,319) | (1,819,088) | (1,845,065) | (1,890,305) | (1,919,988) | (1,969,044) | (2,002,659) | (2,055,764) | (2,093,550) | (2,150,951) | (2,210,597) | (2,255,120) | (2,319,461) | (2,368,819) | (2,438,140) | (2,492,628) | -37,254,659 |
| **Investing Activities** | | | | | | | | | | | | | | | | | | | | | | | |
| Allocated Capital | 650,000 | 0 | 1,950,000 | 10,766,600 | 10,764,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,130,600 |
| Capital Line Lease | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residual Value | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,856,415 | 12,856,415 |
| **Cash Used in Investing Activities** | 650,000 | 0 | 1,950,000 | 10,766,600 | 10,764,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (12,856,415) | 11,274,185 |
| **Net Free Cash Flows** | (650,000) | 0 | (1,950,000) | (10,766,600) | (12,567,892) | (1,807,270) | (1,812,319) | (1,819,088) | (1,845,065) | (1,890,305) | (1,919,988) | (1,969,044) | (2,002,659) | (2,055,764) | (2,093,550) | (2,150,951) | (2,210,597) | (2,255,120) | (2,319,461) | (2,368,819) | (2,438,140) | 10,363,787 | -48,528,844 |
| Cumulative Net Free Cash Flows | (650,000) | (650,000) | (2,600,000) | (13,366,600) | (25,934,492) | (27,741,762) | (29,554,081) | (31,373,168) | (33,218,234) | (35,108,538) | (37,028,526) | (38,997,570) | (41,000,229) | (43,055,993) | (45,149,542) | (47,300,493) | (49,511,091) | (51,766,211) | (54,085,672) | (56,454,491) | (58,892,631) | (48,528,844) | |
| **PV of Net Free Cash Flows** | (650,000) | 0 | (1,641,276) | (8,313,791) | (8,903,412) | (1,174,601) | (1,080,626) | (995,103) | (925,976) | (870,349) | (811,024) | (763,069) | (712,015) | (670,546) | (626,487) | (590,518) | (556,783) | (521,098) | (491,711) | (460,711) | (435,040) | 1,696,532 | -29,497,603 |