

# Analysis of usec inc.

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USEC is the world's leading supplier of enriched Uranium to nuclear power plants. Due to the expiration of long term energy cost savings contracts, USEC is examining the possibility of taking on a new project called the American Centrifuge Project. This project will utilize a different process for Uranium enrichment, which is the core business process of USEC. The new technology process uses much less energy, which will reduce manufacturing costs and keep USEC on the leading edge of technology in the enrichment market space. As with any major energy industry project, the ACP project comes with a huge price tag of around \$1. billion. Investment of this size cannot be made without due analysis. We have taken in to account all the details given while calculating key statistics for this project. A thorough analysis is in the best interests of USEC as the project will provide them with the freedom to implement new technologies in the uranium enrichment process in their own plant. Without this, USEC is constrained to lease the government owned plants which usually comes with its own restrictions. We will be calculating the individual cash flows of its existing Paducah operations and the ACP project it is planning to invest in.

Our decision will be based on the incremental NPV and IRR. This report will walk us through all the important aspects of our analysis and ultimately to our final decision of whether accepting or rejecting the project. Background USEC is pursuing ACP for several reasons, most of which can be attributed to an increasing gain by its competitors in the market space. USEC's long term contract for a lower cost power supply for their current process had expired. This left USEC with much higher costs for electricity, which is heavily used in the current process for Uranium enrichment, gaseous diffusion.

This jump in energy cost reduced the margins USEC was receiving on sales, as compared to their competitors. This is driving the need to come up with an alternative solution to the current process. The ACP technology is being looked at because it could give a competitive advantage to USEC against its competitors. ACP will lower the production costs and improve USEC's technology position in the market. If the company takes on the ACP project, USEC will reach 6.5 million units in production by 2013. A minimal level of maintenance would be required due to the improved technology and better facilities.

ACP would also double the size of USEC as a whole. Cash Flow Calculations We are providing below the assumptions and other calculations we used while computing the WACC and the cash flows. \* Net working capital of 5% of sales will be used for both Paducah and ACP project \* Inflation is assumed to be 3% \* Flotation costs are ignored for cost of equity. \* We assume a risk-free rate of 5.09%. This number comes from the current yield of the 30 year T-bond as shown in Exhibit 5. \* 50% reduction in enrichment cost start from year 2011 (for ACP project).

Without the 50% reduction, the enrichment cost in 2011 would have been \$50.15. We are going to start at  $50.15/2 = \$25.07$  (50%) from year 2011 as enrichment cost and from there it will again increase at the rate of inflation which is 3%. In 2011, the total capacity will be 3.5M (2.5M from ACP and 1M from Paducah). While calculating the enrichment cost for the year 2011, we used the reduced cost for the ACP capacity which is 2.5 million and the original enrichment cost for the scaled down Paducah plant capacity which is 1 million. \* Change in NWC for 2006 will be 0.

The NWC will be recovered at the end of the final period which is at the end of year 2025. \* The CAPEX and the depreciation cost for the Paducah plant in the year 2011 will be prorated to the reduced capacity of 1 million while calculating the cash flow for the ACP project. \* Market Risk Premium will be assumed as 6% \* CAPEX for Paducah, Paducah depreciation, and lease expenses are fixed and prorated where required but is not adjusted for inflation. Weighted Average Cost of Capital To calculate the weighted average cost of capital, we first calculated the market value of debt and equity.

The case exhibits provided the necessary data to calculate the market value of debt and equity. The weight of debt and equity were calculated to be around 32 and 68 percent respectively. Appendix will provide the detailed steps we used to calculate the WACC, individual cash flows for Paducah and ACP and the incremental cash flows. A risk free rate of 5.19%, a Beta of 1.3, and a market risk premium of 6% were used to calculate the cost of equity using CAPM. For cost of debt, we used the given 9.04%. We came up with the after tax WACC of 10.57%

Analysis and Recommendation. We are comfortable in using the WACC as the discount rate for cash flow calculation. NPV calculation using the WACC as the discount rate will provide us some idea about whether this project is at least worth or not for the cost of capital. But to make our final decision, we would really look at the incremental IRR and NPV to see how much more or less it comes up when compared to the discount rate. We will be expecting an IRR which is at least 2 percent above the discount rate as a justification to recommend a project of this size. We calculated the NPV for ACP to be \$1,

910, 199, 999. 1 which is greater than the NPV for Paducah at \$1, 615, 996, 848. 88. The incremental internal rate of return and NPV of this project are 13. 12% and \$294, 203, 150. 14 respectively. The incremental IRR of 13. 12% is 2% more than the discount rate of 10. 57% (or WACC in our case). Current stock price of \$10. 80 is based on USEC's current business model. We believe that the current stock price is undervalued as it does not reflect the potential of the ACP project. As a result, the stock price will increase. So based on the NPV and incremental IRR, it would be in USEC's best interest to accept ACP.

The ACP project will help the firm to double its capacity and improve the technology to gain the competitive advantage in the industry. The long term prospect of USEC will be bright as a result of ACP project. Though the ACP plant will be completely depreciated at the end of its life cycle of 15 years, it will provide USEC with more opportunities to further improve on the technology which has proved profitable already and to invest in more lucrative future projects which will ultimately improve the financial bottom line of the organization.