Q. **ENERGY SUPPLY**

PUB 38.0 (RE: B- 10, Hydro Plants Facility Rehabilitation, Volume II, Energy Supply, Appendix I)

PUB 38.3
Provide the NPV analysis, including working calculations, for the Heart's Content Refurbishment project.

A. Attachment A contains the net present value (NPV) analysis for the Hearts Content Refurbishment Project. The calculation determines the overall economic value of the facility based on the present value of revenue requirement and projected future capital costs for the plant.

The results of the NPV calculations indicate a cumulative present worth of -$2,874,650 and a levelized energy cost of 3.425 ¢ per kWh. The proposed investment in the Heart's Content Refurbishment Project will provide energy to the system at a cost significantly below the cost of fuel used to produce equivalent energy at the Holyrood Generating Station.

Present Worth of Revenue Requirement

Hearts Content Generating Plant - Projected Future Costs

Weighted Average Incremental Cost of Capital: **8.52%**

Class of Asset: **Hydro Plant**

Year	Generation Capital Expenditures	Capital Revenue Requirement	Operating Costs	Net Benefit	Present Worth Benefit	Cumulative Present Worth Benefit	Unit Cost	Levelized Unit Cost
	$	$	$	$	$	$	(¢/kWhr)	(¢/kWhr)
2005	**337,000**	43,607	**57,191**	-100,797	-92,883	-92,883	1.227	3.425
2006		39,195	58,143	-97,339	-82,654	-175,538	1.185	3.425
2007	**150,000**	58,150	59,077	-117,228	-91,728	-267,265	1.427	3.425
2008		55,721	60,130	-115,851	-83,534	-350,799	1.410	3.425
2009	**1,631,000**	266,087	61,211	-327,298	-217,467	-568,267	3.984	3.425
2010	**620,665**	324,352	62,282	-386,635	-236,724	-804,990	4.707	3.425
2011		313,318	63,388	-376,706	-212,537	-1,017,527	4.586	3.425
2012		309,500	64,436	-373,937	-194,411	-1,211,938	4.552	3.425
2013		305,590	65,514	-371,104	-177,790	-1,389,728	4.518	3.425
2014		301,592	66,591	-368,183	-162,542	-1,552,270	4.482	3.425
2015	**120,621**	313,117	67,728	-380,845	-154,932	-1,707,202	4.636	3.425
2016		307,373	69,003	-376,376	-141,093	-1,848,295	4.582	3.425
2017		302,968	70,292	-373,260	-128,939	-1,977,234	4.544	3.425
2018		298,484	71,592	-370,076	-117,802	-2,095,036	4.505	3.425
2019		293,923	72,876	-366,799	-107,592	-2,202,629	4.465	3.425
2020		289,289	74,262	-363,551	-98,267	-2,300,896	4.426	3.425
2021		284,585	75,668	-360,254	-89,731	-2,390,627	4.386	3.425
2022		279,814	77,158	-356,972	-81,933	-2,472,560	4.346	3.425
2023		274,979	78,677	-353,656	-74,799	-2,547,359	4.305	3.425
2024		270,081	80,194	-350,275	-68,267	-2,615,626	4.264	3.425
2025		265,123	81,623	-346,746	-62,274	-2,677,900	4.221	3.425
2026		260,109	81,623	-341,731	-56,555	-2,734,455	4.160	3.425
2027		255,039	81,623	-336,662	-51,342	-2,785,796	4.098	3.425
2028		249,917	81,623	-331,540	-46,591	-2,832,387	4.036	3.425
2029		244,744	81,623	-326,367	-42,263	**-2,874,650**	3.973	**3.425**