

Public Staff - H591 v10 Analysis June 24, 2021 ¹	DEP + DEC				DEP				DEC							
	Base with Carbon Policy		H951 Legislative Impact Analysis		Base with Carbon Policy		H951 Legislative Impact Analysis		Base with Carbon Policy		H951 Legislative Impact Analysis					
	B ⁸		PS 1		B		PS 1		B		PS 1					
Year	2030	2035	2030	2035	2030	2035	2030		2035		2030	2035	2030		2035	
							Total Cost with H951	Impact of H951 ⁹	Total Cost with H951	Impact of H951			Total Cost with H951	Impact of H951	Total Cost with H951	Impact of H951
System CO2 Reduction From 2005 Baseline ²	59%	62%	62%	64%												
Average Annual Percentage Change in Retail Rates (through 2030 through 2035)					1.1%	1.3%	1.3%	0.1%	1.3%	0.0%	0.9%	1.5%	1.4%	0.5%	1.6%	0.1%
Cumulative Percentage Change in Retail Rates (by 2030 by 2035)					11%	19%	12%	1.3%	20%	0.5%	9%	23%	13%	4.4%	25%	2.1%
Year	2050	2050		2050	2050		2050	2050		2050	2050					
		Total Cost with H951	Impact of H951 ⁹		Total Cost with H951	Impact of H951		Total Cost with H951	Impact of H951							
Present Value Revenue Requirement by 2050 (PVRR) [\$B] ³	\$82.5	\$88.4	\$5.8	\$35.7	\$37.1	\$1.4	\$46.8	\$51.3	\$4.5							
Estimated Transmission Investment [\$B] ⁴	\$1.2	\$1.8	\$0.5	\$0.5	\$0.4	-\$0.1	\$0.8	\$1.4	\$0.6							
Year	2035	2035		2035	2035		2035	2035								
		Total Cost with H951	Impact of H951		Total Cost with H951	Impact of H951		Total Cost with H951	Impact of H951							
Total Solar [MW] by 2035 ⁵	12,187	15,656	3,469	3,372	3,687	315	4,890	8,044	3,154							
New Onshore Wind [MW] by 2035	750	1,050	300	600	600	0	150	450	300							
New Offshore Wind [MW] by 2035	0	0	0	0	0	0	0	0	0							
New Total Storage [MW] by 2035 ⁶	2,140	2,391	251	1,562	1,332	-230	578	1,059	480							
New Standalone Storage [MW] by 2035	1,313	1,605	292	1,152	940	-212	161	665	504							
New PV-Coupled Storage [MW] by 2035	827	786	-41	410	393	-18	417	394	-23							
New Gas [MW] by 2035	7,328	6,868	-460	4,276	4,274	-2	3,052	2,594	-458							
Total EE and DSM Contribution [MW] by 2035	2,050	2,050	0	825	825	0	1,225	1,225	0							
Coal Retirements ⁷	Most Economic	Per Legislation		Most Economic	Per Legislation		Most Economic	Per Legislation								

Notes

1) The Public Staff bill impact analysis excludes the following portions of the bill as infeasible to quantify due to unknown factors, likely negligible impacts, or no change from the IRP: - PBR and MYRR, with the exception of the assumption that the maximum PIM would be claimed in each year; Section 8 small power producers contract revisions; Solar Choice Tariff; solar leasing cap change (62-126.5(d)); fuel rider change (62-133.2(d)); nuclear Early Site Permit costs above \$50 million (Section 3.(a)); nuclear Subsequent License Renewals (Section 3.(b)); Green Source Advantage for UNC and military customers change to bill credit options. -The analysis presented here does not include complete costs for other initiatives that are constant throughout the IRP or that may be pending before state commissions, such as Duke's Grid Improvement Plan.

2) Combined DEC/DEP System CO2 Reductions from 2005 baseline

3) Represents specific IRP portfolio's incremental costs included in IRP analysis through 2050, and exclude the cost of CO2 as a tax.

4) Represents PVRR of network upgrades required to integrate new resources and coal transmission retirement costs. Included in PVRR figures.

5) Total solar nameplate capacity includes 3,925 MW connected in DEC and DEP combined as of year-end 2020 (projected). Total solar under the legislation may be less than projected due to how Transition MW is defined and Duke's projected renewable capacity online by January 1, 2027.

6) Includes 4-hr and 6-hr grid-tied storage, storage at solar plus storage sites, and pumped storage hydro.

7) Most Economic is the retirement plan in the IRP. Per Legislation refers to PS interpretation of required retirement dates: Cliffside 5 is delayed by 5 years; Marshall is accelerated by 8 years. Other retirement dates are unchanged.

8) Portfolio B is from Duke's 2020 IRP, which the Public Staff has recommended the Commission to accept as reasonable for planning purposes (along with Portfolio A, base without carbon policy). Numbers for Portfolio B may not match Duke's filed IRP exactly due to slight differences in in-service years and baseline data.

9) The 'Impact of H951' column shows the incremental cost of H951, which is the difference between the total cost with H951 and the total cost of the Base Case with Carbon Policy (Portfolio B) from Duke's 2020 IRP in the specified year.

Public Staff - H591 v10 Detailed Bill Impact Analysis Breakouts ¹	DEP + DEC		DEP						DEC					
	Base with Carbon Policy	H951 Legislative Impact Analysis	Base with Carbon Policy		H951 Legislative Impact Analysis				Base with Carbon Policy		H951 Legislative Impact Analysis			
	B ⁵	PS 1	B		PS 1				B		PS 1			
Year			2030	2035	2030		2035		2030	2035	2030		2035	
			Total Cost with H951	Impact of H951 ⁶	Total Cost with H951	Impact of H951	Total Cost with H951	Impact of H951	Total Cost with H951	Impact of H951	Total Cost with H951	Impact of H951	Total Cost with H951	Impact of H951
Average Annual Percentage Change in Retail Rates (through 2030 through 2035)			1.1%	1.3%	1.3%	0.1%	1.3%	0.0%	0.9%	1.5%	1.4%	0.5%	1.6%	0.1%
Cumulative Percentage Change in Retail Rates (by 2030 by 2035)			11%	19%	12%	1.3%	20%	0.5%	9%	23%	13%	4.4%	25%	2.1%
Average Monthly Residential Bill Impact (1,000 kWh/mo) (by 2030 by 2035) ²			\$9	\$17	\$11	\$2	\$18	\$1	\$7	\$21	\$12	\$5	\$23	\$3
Average Annual Percentage Change in Residential Bills (thru 2030 thru 2035)			0.8%	1.0%	1.0%	0.1%	1.0%	0.0%	0.7%	1.2%	1.1%	0.5%	1.4%	0.1%
Cumulative Percentage Change in Residential Bills (by 2030 by 2035)			8%	15%	9%	1.4%	15%	0.5%	6%	19%	11%	4.5%	21%	2.3%
Average Annual Percentage Change in Commercial Bills (thru 2030 thru 2035) ³			1.3%	1.5%	1.5%	0.2%	1.6%	0.0%	0.9%	1.4%	1.3%	0.4%	1.5%	0.1%
Cumulative Percentage Change in Commercial Bills (by 2030 by 2035)			13%	23%	14%	1.7%	24%	0.7%	8%	21%	12%	3.9%	23%	1.8%
Average Annual Percentage Change in Industrial Bills (thru 2030 thru 2035) ⁴			1.1%	1.2%	1.1%	0.1%	1.2%	0.0%	0.9%	1.7%	1.6%	0.7%	2.0%	0.2%
Cumulative Percentage Change in Industrial Bills (by 2030 by 2035)			10%	19%	11%	0.7%	18%	-0.5%	8%	27%	15%	6.8%	31%	4.1%
Year	2050	2050		2050	2050				2050	2050				
		Total Cost with H951	Impact of H951		Total Cost with H951		Impact of H951			Total Cost with H951		Impact of H951		
Present Value Revenue Requirement (PVR) [\$B]	\$82.5	\$88.4	\$5.8	\$35.7	\$37.1		\$1.4		\$46.8	\$51.3		\$4.5		

Notes

- 1) These allocations to customer classes are based on estimates, and are not as precise as could be determined via a full allocation analysis. Changes in class allocation factors over time are assumed proportional to energy sales.
- 2) Residential bill impacts are estimated using residential allocation factors.
- 3) Commercial bill impacts are estimated using commercial allocation factors for small and medium customers.
- 4) Industrial bill impacts are estimated using industrial allocation factors for small, medium, and large customers.
- 5) Portfolio B is from Duke's 2020 IRP, which the Public Staff has recommended the Commission to accept as reasonable for planning purposes (along with Portfolio A, base without carbon policy).
- 6) The 'Impact of H951' column shows the incremental cost of H951, which is the difference between the total cost with H951 and the total cost of the Base Case with Carbon Policy (Portfolio B) from Duke's 2020 IRP in the specified year.