

FISCAL AND REGULATORY IMPACT ANALYSIS
DECOMMISSIONING AND FINANCIAL ASSURANCE REQUIREMENTS
FOR UTILITY-SCALE SOLAR PROJECTS
15A NCAC 01V

General Information

Department: Department of Environmental Quality (DEQ)
Division of Waste Management (DWM)
Utility-Scale Solar Management Program
<https://www.deq.nc.gov/about/divisions/waste-management/utility-scale-solar-management-program>

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Title of Rule: Decommissioning and Financial Assurance Requirements for Utility-Scale Solar Projects

Rule Citations: 15A NCAC 01V .0101 - .0107

Rulemaking Authority: N.C.G.S. 130A-309.240(j); S.L. 2023-58

Impact Summary:

State Government Impact?	Yes
Local Government Impact?	Yes
Federal Government Impact?	No
Private Sector Impact?	Businesses - Yes, Homeowners – No
Substantial Economic Impact?	Yes

Table of Contents

	<u>Page Number</u>
List of Tables	3
List of Charts.....	4
Abbreviations, Acronyms, and Frequently Used Terms.....	5
Executive Summary.....	6
Proposed Rulemaking Schedule.....	11
Overview and Purpose.....	11
Background and Necessity.....	13
Summary of Affected Parties.....	16
Fiscal Impact Analysis.....	20
Summary of Proposed Rules.....	20
General Assumptions.....	21
Summary of Monetized Costs.....	22
Summary of Monetized Benefits.....	26
Summary of Unmonetized Fiscal Impacts.....	28
Uncertainty Analysis.....	32
Alternatives.....	36
Appendices.....	43
Appendix A: Development of Affected Party Estimates for Utility-Scale Solar Projects Number of Projects and Power Capacity.....	44
Appendix B: Development of Decommissioning Schedule.....	61
Appendix C: Development of Fee Structure and the Fiscal Impact Associated with Fees.....	65
Appendix D: Development of Program Administration Costs.....	72
Appendix E: Session Law 2023-58.....	76
Appendix F: Proposed Rule Text: 15A NCAC 01V	85

<u>List of Tables</u>	<u>Page Number</u>
<u>Table 1</u> Estimated Impacts of Proposed Rule 15A NCAC 01V	8
<u>Table 2</u> Estimated Impacts of Proposed Amendments to 15A NCAC 01V	9
<u>Table 3</u> Fiscal Impact and Balance in Utility-Scale Solar Management Fund with Proposed Fees	10
<u>Table 4</u> Proposed Rulemaking Schedule	11
<u>Table 5</u> Overview of Requirements in S.L. 2023-58 (N.C.G.S. 130A-309.240 – 309.243) and Proposed Rules (15A NCAC 01V)	15
<u>Table 6</u> Estimated Number of Affected Parties by Type for 2025	16
<u>Table 7</u> Cost Summary for Fees	23
<u>Table 8</u> Cost Summary for Program Administration	25
<u>Table 9</u> Summary of Fee Receipts	27
<u>Table 10</u> Number of Years Costs and Benefits are Realized for the Financial Assurance Reduction by Salvage Value Provision	31
<u>Table 11</u> Utility-Scale Solar Management Fund Balance when New Project Power Capacity Future Projections Change	34
<u>Table 12</u> Utility-Scale Solar Management Fund Balance when Existing Projects Do Not Pay Fee in 2025	35
<u>Table 13</u> Alternative Fee Schedule for 2025	37
<u>Table 14</u> Fiscal Impact and Balance in Utility-Scale Solar Management Fund with Alternative Fee Schedule	38
<u>Table 15</u> Utility-Scale Solar Management Fund Balance with Different Fees Applied for Existing Projects Initial and Renewal Fees	41
<u>Table 16</u> Time Frame for Projected Data versus New and Existing Projects	48
<u>Table 17</u> Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year	49
<u>Table 18</u> Projected Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year	51
<u>Table 19</u> Total Power Capacity by Power Capacity Range and Operational Year	53
<u>Table 20</u> Projected Total Power Capacity by Power Capacity Range and Operational Year	55
<u>Table 21</u> Projected Number of Utility-Scale Solar Projects by Power Capacity Range and Operation	57
<u>Table 22</u> Projected Total Power Capacity by Power Capacity Range and Operational Year with 20 MW Threshold	59
<u>Table 23</u> Summary of Projected Number of North Carolina Utility-Scale Solar Projects and Power Capacity Over Time	64
<u>Table 24</u> Proposed Fee Schedule for 2025	65
<u>Table 25</u> North Carolina Wind Energy Facility Fees	66
<u>Table 26</u> Estimated Five Year Fees for New and Existing Utility-Scale Solar Projects in 2025	68

<u>List of Tables (continued)</u>	<u>Page Number</u>
Table 27 Fees per Power Capacity (MW) with Inflation Rate Over Time	69
Table 28 Utility-Scale Solar Project Power Capacity Over Time for Fees	70
Table 29 Utility-Scale Solar Project Fee Summary Over Time	71
Table 30 DEQ Annual Salary with Benefits and Annual Operating Cost Estimates for 2025	72
Table 31 Hourly Loaded Wage Rate Estimated Over Time for Utility-Scale Solar Management Program Positions	73
Table 32 Summary of Program Administration Costs for State Government	74
Table 33 Fiscal Impact and Balance in Utility-Scale Solar Management Fund with Proposed Fees	75

<u>List of Charts</u>	<u>Page Number</u>
Chart 1 Projected Number of Utility-Scale Solar Projects by Operational Year	17
Chart 2 Projected Power Capacity at Utility-Scale Solar Projects by Operational Year	17
Chart 3 Number of New and Existing Utility-Scale Solar Projects Over Time	18
Chart 4 New and Existing Utility-Scale Solar Project Power Capacity Over Time	18
Chart 5 Projections of Solar Power Capacity Over Time with 20 MW Threshold	19
Chart 6 Effect of Varying Fee Amounts on the Utility-Scale Solar Management Fund Balance over Time	40
Chart 7 Projected Number of Utility-Scale Solar Projects by Operational Year	44
Chart 8 Projected Power Capacity at Utility-Scale Solar Projects by Operational Year	45
Chart 9 Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year	50
Chart 10 Projected Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year	52
Chart 11 Total Power Capacity by Power Capacity Range and Operational Year	54
Chart 12 Projected Power Capacity by Power Capacity Range and Operational Year	56
Chart 13 Projected Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year with 20 MW Threshold	58
Chart 14 Projected Power Capacity by Power Capacity Range and Operational Year with 20 MW Threshold	60
Chart 15 Number of Utility-Scale Solar Projects Installed Over Time and Estimated Decommissioning Schedule	62
Chart 16 Utility-Scale Solar Projects Power Capacity Over Time & Estimated Decommissioning Schedule	63
Chart 17 Power Capacity of New and Existing Utility-Scale Solar Projects Over Time	67

Abbreviations, Acronyms, and Frequently Used Terms	
15A NCAC	Title 15A of the North Carolina Administrative Code
DEQ	Department of Environmental Quality
DWM	Division of Waste Management
EMC	Environmental Management Commission
Existing USSP	A USSP that was constructed before November 1, 2025
NC	North Carolina
New USSP	A USSP that was constructed on or after November 1, 2025
N.C.G.S.	North Carolina General Statute
PV Module	Photovoltaic Module
Salvage Value	Salvage value means the value of components that can be reused or recycled resulting in a net benefit instead of a cost. The salvage value is then used to off-set the cost of decommissioning.
S.L.	Session Law
USSP	Utility-Scale Solar Project

Executive Summary

Session Law (S.L.) 2023-58 amended Article 9 of Chapter 130A of the North Carolina General Statutes (N.C.G.S.) to add a new Part 2J, Management of Solar Energy Equipment, including N.C.G.S. 130A-309.240 through 130A-309.243. The statute created new requirements for utility-scale solar project (“USSP”) owners to properly decommission the project upon cessation of operations and restore the property, register with the North Carolina Department of Environmental Quality (DEQ) and pay a fee, and submit a decommissioning plan and establish financial assurance for new and rebuilt/expanded USSPs.

S.L. 2023-58 created statewide consistent oversight of USSP decommissioning and financial assurance requirements that may help to protect landowners in the event the USSP is abandoned. With financial assurance in place, the landowner would not be left to fund the decommissioning to return the land to its prior condition.

S.L. 2023-58 also mandated rulemaking on a very narrow scope of items that provided detail and clarification to the requirements described in statute, including the requirement that rules establish the registration fee amounts. The session law (S.L. 2023-58) and new statutes (N.C.G.S. 130A-309.240–309.243) created by the session law serve as the baseline for this fiscal impact analysis, and ultimately caused the fiscal impact on the affected parties discussed in this analysis. Although the bulk of impacts associated with these proposed rules is more appropriately attributed to the session law and statutes, the rules will affect the magnitude of the fee impacts. For this reason, this analysis provides a comprehensive evaluation of the fee structure and amounts.

The proposed new rules (as required by session law/statute) for Decommissioning and Financial Assurance Requirements for Utility-Scale Solar Projects 15A NCAC 01V .0101 - .0107 will result in costs to the private sector in the form of registration and renewal fees. Fees are paid every 5 years as mandated in S.L. 2023-58 and revenue is credited to the Utility-Scale Solar Management Fund. The creation of this fund was mandated by S.L. 2023-58 for the collection of fees to implement the new USSP requirements. DEQ will use these Fund revenues for program administration costs.

Using a 7% discount factor, the 10-year present value (for years 2025-2034) of the quantifiable costs to the private sector from registration/renewal fees is \$3,041,472 (in 2024\$). The 10-year present value of the quantifiable costs (expenditures from program administration) and quantifiable benefits (revenue from fees) to State Government (DEQ USSP Fund) are \$2,725,268 and \$3,041,472 (in 2024\$), respectively. The 10-year net present value (benefits minus costs) to State Government is \$316,204 (in 2024\$).

Table 1 summarizes the total costs and benefits associated with the proposed fees over 30 years, which is, for purposes of this document, the assumed lifespan of a USSP. Table 2 presents these estimates as net impacts on an annual basis. Table 3 provides estimates for the accumulated revenues in the Utility-Scale Solar Management Fund over time.

DEQ expects that the fee amounts and/or fee structure will be adjusted on a regular basis. As such, the uncertainty of these estimated fee impacts increases over time. At a minimum, the proposed rule 15A NCAC 01V .0103(c) states that the fees may be increased or decreased, and the fee structure adjusted every five years. It is also likely that fees will be adjusted (up or down) during the decennial rule review and re-adoption process mandated by N.C.G.S. 150B-21.3A. The goal of adjusting fees will be to reasonably assure that fee revenues will fully cover program administration costs without generating a large surplus

in the Utility-Scale Solar Management Fund, thus keeping costs as low as possible for the regulated community.

Note that these estimates do not include costs to the private sector associated with providing financial assurance. Nor do they include salvage value offsets that will likely significantly reduce the financial assurance costs. The cost for financial assurance and the ability to offset the cost of financial assurance with salvage value is fully attributable to S.L. 2023-58 and not the proposed rules. To ensure there is adequate financial assurance available, the proposed rules set a specific time period during which the financial assurance may not be reduced by the salvage value below the cost of specific activities and items described in proposed rule 15A NCAC 01V .0104(g). The factors to calculate financial assurance, salvage value, and the associated costs with the proposed rule are site specific, highly uncertain, and extremely variable. With so many uncertainties, the costs and cost offset of this proposed rule provision are unquantified and further discussed in the Summary of Nonmonetized Fiscal Impact section of this document.

Table 1 - Estimated Impacts of Proposed Rule 15A NCAC 01V

Year	BENEFITS*					COSTS*				
	Private Sector	Federal Government	State Government	Local Government	Total Benefits	Private Sector	Federal Government	State Government	Local Government	Total Costs
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2025	\$0	\$0	\$1,381,450	\$0	\$1,381,450	\$1,381,450	\$0	\$367,201	\$0	\$1,748,651
2026	\$0	\$0	\$208,300	\$0	\$208,300	\$208,300	\$0	\$364,173	\$0	\$572,473
2027	\$0	\$0	\$215,400	\$0	\$215,400	\$215,400	\$0	\$371,456	\$0	\$586,856
2028	\$0	\$0	\$222,200	\$0	\$222,200	\$222,200	\$0	\$378,885	\$0	\$601,085
2029	\$0	\$0	\$230,300	\$0	\$230,300	\$230,300	\$0	\$386,463	\$0	\$616,763
2030	\$0	\$0	\$496,066	\$0	\$496,066	\$496,066	\$0	\$394,192	\$0	\$890,258
2031	\$0	\$0	\$304,745	\$0	\$304,745	\$304,745	\$0	\$402,076	\$0	\$706,821
2032	\$0	\$0	\$317,558	\$0	\$317,558	\$317,558	\$0	\$410,118	\$0	\$727,676
2033	\$0	\$0	\$329,777	\$0	\$329,777	\$329,777	\$0	\$418,320	\$0	\$748,097
2034	\$0	\$0	\$343,043	\$0	\$343,043	\$343,043	\$0	\$426,686	\$0	\$769,729
2035	\$0	\$0	\$655,723	\$0	\$655,723	\$655,723	\$0	\$435,220	\$0	\$1,090,943
2036	\$0	\$0	\$440,381	\$0	\$440,381	\$440,381	\$0	\$443,924	\$0	\$884,306
2037	\$0	\$0	\$456,030	\$0	\$456,030	\$456,030	\$0	\$452,803	\$0	\$908,833
2038	\$0	\$0	\$470,943	\$0	\$470,943	\$470,943	\$0	\$461,859	\$0	\$932,802
2039	\$0	\$0	\$487,136	\$0	\$487,136	\$487,136	\$0	\$471,096	\$0	\$958,232
2040	\$0	\$0	\$854,967	\$0	\$854,967	\$854,967	\$0	\$480,518	\$0	\$1,335,485
2041	\$0	\$0	\$612,847	\$0	\$612,847	\$612,847	\$0	\$490,128	\$0	\$1,102,976
2042	\$0	\$0	\$631,856	\$0	\$631,856	\$631,856	\$0	\$499,931	\$0	\$1,131,787
2043	\$0	\$0	\$650,394	\$0	\$650,394	\$650,394	\$0	\$509,930	\$0	\$1,160,324
2044	\$0	\$0	\$669,621	\$0	\$669,621	\$669,621	\$0	\$520,128	\$0	\$1,189,749
2045	\$0	\$0	\$1,018,154	\$0	\$1,018,154	\$1,018,154	\$0	\$530,531	\$0	\$1,548,685
2046	\$0	\$0	\$830,328	\$0	\$830,328	\$830,328	\$0	\$541,141	\$0	\$1,371,469
2047	\$0	\$0	\$848,394	\$0	\$848,394	\$848,394	\$0	\$551,964	\$0	\$1,400,358
2048	\$0	\$0	\$871,621	\$0	\$871,621	\$871,621	\$0	\$563,003	\$0	\$1,434,625
2049	\$0	\$0	\$894,848	\$0	\$894,848	\$894,848	\$0	\$574,264	\$0	\$1,469,112
2050	\$0	\$0	\$1,163,535	\$0	\$1,163,535	\$1,163,535	\$0	\$585,749	\$0	\$1,749,284
2051	\$0	\$0	\$1,098,925	\$0	\$1,098,925	\$1,098,925	\$0	\$597,464	\$0	\$1,696,389
2052	\$0	\$0	\$1,126,039	\$0	\$1,126,039	\$1,126,039	\$0	\$609,413	\$0	\$1,735,452
2053	\$0	\$0	\$1,154,034	\$0	\$1,154,034	\$1,154,034	\$0	\$621,601	\$0	\$1,775,635
2054	\$0	\$0	\$1,181,982	\$0	\$1,181,982	\$1,181,982	\$0	\$634,033	\$0	\$1,816,015

Using a 7% discount factor, the 10-year present value (Yrs 2025-2034) of the quantifiable costs to the Private Sector from registration/renewal fees is \$3,041,472 (in 2024\$). The 10-year present value of the quantifiable costs (expenditures for program administration) and quantifiable benefits (revenue from fees) to State Government (DEQ Utility-Scale Solar Management Fund) are \$2,725,268 and \$3,041,472 (in 2024\$), respectively. The 10-year net present value (benefits minus costs) to State Government is \$316,204 (in 2024\$).

* Not all expected costs and benefits are captured in this table. This table reflects only monetized impacts. Some costs and benefits are nonmonetized and further discussed in the Fiscal Impact Analysis, Summary of Unmonetized Costs and Benefits section of this document.

Table 2

Estimated Impacts of Proposed Amendments to 15A NCAC 01V				
Year	NET COSTS/BENEFITS			
	Private Sector	Federal Government	State Government	Local Government
2024	\$0	\$0	\$0	\$0
2025	(\$1,381,450)	\$0	\$1,014,249	\$0
2026	(\$208,300)	\$0	(\$155,873)	\$0
2027	(\$215,400)	\$0	(\$156,056)	\$0
2028	(\$222,200)	\$0	(\$156,685)	\$0
2029	(\$230,300)	\$0	(\$156,163)	\$0
2030	(\$496,066)	\$0	\$101,874	\$0
2031	(\$304,745)	\$0	(\$97,331)	\$0
2032	(\$317,558)	\$0	(\$92,560)	\$0
2033	(\$329,777)	\$0	(\$88,543)	\$0
2034	(\$343,043)	\$0	(\$83,643)	\$0
2035	(\$655,723)	\$0	\$220,503	\$0
2036	(\$440,381)	\$0	(\$3,543)	\$0
2037	(\$456,030)	\$0	\$3,227	\$0
2038	(\$470,943)	\$0	\$9,084	\$0
2039	(\$487,136)	\$0	\$16,040	\$0
2040	(\$854,967)	\$0	\$374,449	\$0
2041	(\$612,847)	\$0	\$122,719	\$0
2042	(\$631,856)	\$0	\$131,925	\$0
2043	(\$650,394)	\$0	\$140,465	\$0
2044	(\$669,621)	\$0	\$149,492	\$0
2045	(\$1,018,154)	\$0	\$487,624	\$0
2046	(\$830,328)	\$0	\$289,187	\$0
2047	(\$848,394)	\$0	\$296,429	\$0
2048	(\$871,621)	\$0	\$308,618	\$0
2049	(\$894,848)	\$0	\$320,585	\$0
2050	(\$1,163,535)	\$0	\$577,786	\$0
2051	(\$1,098,925)	\$0	\$501,462	\$0
2052	(\$1,126,039)	\$0	\$516,626	\$0
2053	(\$1,154,034)	\$0	\$532,432	\$0
2054	(\$1,181,982)	\$0	\$547,949	\$0

Table 3

Fiscal Impact and Balance in Utility-Scale Solar Management Fund with Proposed Fees							
Year	Fee Revenue Received	Program Administration Costs			Fiscal Impact per Year (Fees Received - Program Administration Cost)	Carry Over Funds from Previous Year	Utility-Scale Solar Management Fund Balance*
		Salary (3 FTEs)	Benefits & Recurring Costs	Total Cost			
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2025	\$1,381,450	\$217,987	\$139,026	\$367,201	\$1,014,249	\$0	\$1,014,249
2026	\$208,300	\$222,347	\$141,826	\$364,173	(\$155,873)	\$1,014,249	\$858,377
2027	\$215,400	\$226,794	\$144,662	\$371,456	(\$156,056)	\$858,377	\$702,321
2028	\$222,200	\$231,330	\$147,555	\$378,885	(\$156,685)	\$702,321	\$545,636
2029	\$230,300	\$235,956	\$150,507	\$386,463	(\$156,163)	\$545,636	\$389,473
2030	\$496,066	\$240,675	\$153,517	\$394,192	\$101,874	\$389,473	\$491,346
2031	\$304,745	\$245,489	\$156,587	\$402,076	(\$97,331)	\$491,346	\$394,015
2032	\$317,558	\$250,399	\$159,719	\$410,118	(\$92,560)	\$394,015	\$301,456
2033	\$329,777	\$255,407	\$162,913	\$418,320	(\$88,543)	\$301,456	\$212,913
2034	\$343,043	\$260,515	\$166,171	\$426,686	(\$83,643)	\$212,913	\$129,270
2035	\$655,723	\$265,725	\$169,495	\$435,220	\$220,503	\$129,270	\$349,773
2036	\$440,381	\$271,039	\$172,885	\$443,924	(\$3,543)	\$349,773	\$346,230
2037	\$456,030	\$276,460	\$176,343	\$452,803	\$3,227	\$346,230	\$349,457
2038	\$470,943	\$281,989	\$179,870	\$461,859	\$9,084	\$349,457	\$358,541
2039	\$487,136	\$287,629	\$183,467	\$471,096	\$16,040	\$358,541	\$374,581
2040	\$854,967	\$293,382	\$187,136	\$480,518	\$374,449	\$374,581	\$749,030
2041	\$612,847	\$299,249	\$190,879	\$490,128	\$122,719	\$749,030	\$871,748
2042	\$631,856	\$305,234	\$194,697	\$499,931	\$131,925	\$871,748	\$1,003,674
2043	\$650,394	\$311,339	\$198,591	\$509,930	\$140,465	\$1,003,674	\$1,144,139
2044	\$669,621	\$317,566	\$202,562	\$520,128	\$149,492	\$1,144,139	\$1,293,631
2045	\$1,018,154	\$323,917	\$206,614	\$530,531	\$487,624	\$1,293,631	\$1,781,255
2046	\$830,328	\$330,396	\$210,745	\$541,141	\$289,187	\$1,781,255	\$2,070,441
2047	\$848,394	\$337,003	\$214,961	\$551,964	\$296,429	\$2,070,441	\$2,366,871
2048	\$871,621	\$343,744	\$219,259	\$563,003	\$308,618	\$2,366,871	\$2,675,488
2049	\$894,848	\$350,618	\$223,646	\$574,264	\$320,585	\$2,675,488	\$2,996,073
2050	\$1,163,535	\$357,631	\$228,118	\$585,749	\$577,786	\$2,996,073	\$3,573,860
2051	\$1,098,925	\$364,783	\$232,681	\$597,464	\$501,462	\$3,573,860	\$4,075,321
2052	\$1,126,039	\$372,079	\$237,334	\$609,413	\$516,626	\$4,075,321	\$4,591,947
2053	\$1,154,034	\$379,521	\$242,080	\$621,601	\$532,432	\$4,591,947	\$5,124,380
2054	\$1,181,982	\$387,111	\$246,922	\$634,033	\$547,949	\$5,124,380	\$5,672,328

10-year Periodic Rule Review

*Note that all Fund Balances reflect the balance remaining AFTER paying for administration costs.

Proposed Rulemaking Schedule

The proposed rulemaking schedule for 15A NCAC 01V – Decommissioning and Financial Assurance for USSP is described in Table 4, below.

Table 4

Date	Action
October 15, 2024	Beginning of 60-day comment period for rules
December 16, 2024	End of comment period for rules
December 31, 2024	Goal for DEQ to adopt rules
February 26, 2025	Rules Review Commission Meeting for approval of rules
March 1, 2025	Goal for Effective Date of Rules
August 1, 2025	Session Law 2023-58 Deadline for DEQ rule adoption

Overview and Purpose

North Carolina Session Law [\(S.L.\) 2023-58](#), amended Article 9 of Chapter 130A of the North Carolina General Statutes (N.C.G.S.) to add a new Part 2J, Management of Solar Energy Equipment, including N.C.G.S. 130A-309.240 through 130A-309.243 and a new DEQ reporting requirement in N.C.G.S. 130A-309.06(c)(21). The state law now requires the owner of a USSP capable of generating 2 or more megawatts (MW) alternating current (AC) that is directly connected to the electrical grid to:

- Properly decommission the project upon cessation of operations and restore the property.
- Register with NCDEQ and pay a fee.
- Submit a decommissioning plan and establish financial assurance for new and rebuilt/expanded USSPs.

S.L. 2023-58 defines “utility-scale solar project” to mean:

a ground-mounted PV, concentrating PV (CPV), or concentrating solar power (CSP or solar thermal) project capable of generating 2 megawatts AC (MW AC) or more directly connected to the local or regional electrical grid with the ability to deliver power to the electrical grid. The term includes the solar arrays, accessory buildings, battery storage facilities, transmission facilities, and any other infrastructure necessary for the operation of the project. For purposes of this section, a utility-scale solar project does not include renewable energy facilities owned or leased by a retail electric customer intended primarily for the customer's own use or to offset the customer's own retail electrical energy consumption at the premises or for net metering.

S.L. 2023-58 made DEQ the lead agency in the statewide administration and enforcement of new requirements for USSP registration, decommissioning, and financial assurance program for new projects, and for enforcing the new state-level statutory registration and decommissioning requirements for existing USSPs. DEQ created the Utility-Scale Solar Management Program under the Division of Waste Management to administer and enforce the requirements of S.L. 2023-58 and subsequent rulemaking. S.L. 2023-58 can be found in [Appendix E](#) of this document.

Statutory authority for rulemaking was provided in N.C.G.S. 130A-309.240(j) and S.L. 2023-58 mandated rulemaking as follows:

(j) Rules Required. – The Department of Environmental Quality shall adopt rules establishing criteria to set the amount of financial assurance required for utility-scale solar projects as set forth in subsection (d) of this section. These rules shall consider, at a minimum, the solar technology to be employed, i.e., PV, CPV, CSP, or other technology; the approximate number and size of PV modules included in the solar arrays to be constructed; any ancillary facilities to be constructed in association with the project; the condition of the property prior to construction of a utility-scale solar project; the amount of acreage that would be impacted by the proposed project; and any other factors designed to enable establishment of adequate financial assurance for decommissioning and restoration on a site-by-site basis. In establishing requirements for financial assurance for a utility-scale solar project, the Department shall consider the salvage value of the project's equipment. The rules shall require periodic updates to be provided by owners with respect to financial assurance maintained. In addition, the Department shall adopt rules as necessary to implement other requirements of this section, including rules to address the following matters:

- (1) Requirements for decommissioning plans, including required information, and processes for submittal and review of plans.
- (2) Fees to be assessed upon registration.
- (3) Any other matter the Department deems necessary.

The deadline by which DEQ was required to adopt rules was mandated in Section 2.(c) of S.L. 2023-58:

SECTION 2.(c) The Department of Environmental Quality shall adopt permanent rules implementing the requirements of this section no later than August 1, 2025.

The proposed rules for the Utility-Scale Solar Management Program can be found in [Appendix F](#) of this document. The proposed rules are summarized as follows and are further described in the [Summary of Proposed Rules](#) section on page 20.

15A NCAC 01V

- .0101 Applicability and Definitions
- .0102 Registration and Fee Requirements
- .0103 Registration Fee Amount
- .0104 Decommissioning Cost Estimate Requirements
- .0105 General Requirements for Financial Assurance
- .0106 Allowable Mechanisms for Financial Assurance
- .0107 Required Language for Financial Assurance Mechanisms

The purpose of this document is to conduct an evaluation of the costs and benefits associated with proposed new rules 15A NCAC 01V .0101 – .0107.

Background and Necessity

North Carolina is one of the nation's leaders for the number of solar facilities supplying power to the electricity grid ranking number four (with California, Texas, and Florida ranking ahead of North Carolina)¹. PV modules, also referred to as solar panels, have been a topic of interest in recent North Carolina legislation. Prior recent legislation and research that led up to the legislation in S.L. 2023-58 can be reviewed in the following legislation and subsequent reports/plans submitted to the General Assembly as required in the respective legislation:

- [S.L. 2019-132 \(H329\)](#) mandated that by January 1, 2022, the Environmental Management Commission (EMC) shall adopt rules to establish a regulatory program to govern (i) the management of end-of-life photovoltaic modules and energy storage system batteries and (ii) decommissioning of USSPs and wind energy facilities. In the development of these rules, the Department of Environmental Quality shall consider all of the following matters:
 - Hazard characterization
 - Preferred management methods
 - Costs and benefits of management methods
 - Lifecycle of currently deployed equipment
 - Volume impacts of landfill capacity
 - Survey of federal and other states' and countries' regulatory requirements
 - Determination on whether adequate financial assurance requirements are necessary to ensure proper decommissioning of USSPs upon cessation of operations
 - Manufacturer stewardship program considerations

The EMC and DEQ evaluated the end-of-life management of renewable energy equipment (including PV modules) and summarized the evaluation in the January 1, 2021 "[Final Report on the Activities Conducted to Establish a Regulatory Program for the Management and Decommissioning of Renewable Energy Equipment.](#)"

- [S.L. 2021-165 \(H951\)](#) mandated that no later than March 1, 2022, the DEQ shall develop a plan to ensure adequate financial resources for the decommissioning of USSPs to be submitted to the General Assembly for legislative action.

DEQ evaluated options for the decommissioning of USSPs and financial assurance and summarized the evaluation in the March 1, 2022 "[Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects.](#)" This plan includes summary spreadsheets from the review of USSP decommissioning plan and financial assurance requirements effective in other states and in North Carolina counties. A survey of North Carolina counties was also conducted. The majority of NC counties responding to the survey indicated a preference for state level USSP decommissioning and financial assurance requirements instead of county level requirements.

¹ Solar Energy institute Association (SEIA)/Green Tech Media (GTM) Research Solar Market Insight Report: <https://www.seia.org/us-solar-market-insight> https://www.seia.org/sites/default/files/2024-06/SolarCheatSheetQ2_2024.pdf, and <https://www.seia.org/research-resources/top-10-solar-states-0>

S.L. 2023-58 is the result of the above noted recent legislation and subsequent mandated reports. S.L. 2023-58 created statewide consistent oversight of USSPs. Decommissioning and financial assurance for USSPs may help protect landowners in the event the USSP was to be abandoned -- the landowner would not be left to fund the decommissioning to be able to return the land to its prior condition before the USSP installation. To date, DEQ is unaware of any North Carolina USSPs that have been abandoned. Information on the estimated number of USSPs in North Carolina and the anticipated lifespan of USSPs can be found in [Appendix A](#) and [Appendix B](#), respectively.

S.L. 2023-58 and new statutes (N.C.G.S. 130A-309.240–309.243) created by the session law serve as the baseline for this fiscal impact analysis, and ultimately caused the fiscal impact on the affected parties discussed in this analysis. S.L. 2023-58 provided the requirements for registration, payment of fees to cover program administration, decommissioning, and financial assurance regulatory requirements that are applicable to USSPs. The proposed new rules 15A NCAC 01V .0101 – .0107 provide clarification of the statute, logistics for administration, and details on the fee structure and amounts and the calculation of the decommissioning cost estimates. [Table 5](#), on page 15, provides an overview of the provisions of S.L. 2023-58 and the proposed rules. It is important to note that the proposed rules do not impose new requirements. The session law and statutes set the requirement. The proposed rules provide clarifying details.

In addition to complying with the mandate in S.L. 2023-58 for rulemaking, the proposed rules are necessary to provide detail and clarification on how requirements are to be implemented. While S.L. 2023-58 described most of the requirements in statute, the logistics of how the requirements are to be administered was not provided in statute. S.L. 2023-58 specifically directed DEQ to adopt rules to address the amount of the registration fees; to provide detail on decommissioning plans, including required information, and processes for submittal and review of plans; and to provide criteria to set the amount of financial assurance required for USSPs. The scope of the proposed rules is narrow and focuses on the specific items that DEQ was mandated to address through rulemaking.

DEQ has existing requirements for the management of hazardous waste and solid waste in Article 9 of N.C.G.S. Chapter 130A, 15A NCAC 13A (Hazardous Waste Rules), and 15A NCAC 13B (Solid Waste Rules) that are generally applicable to end of life PV modules or PV modules that can no longer or will no longer be used as-is for their intended purpose. Existing hazardous waste statutes and rules could be used to address PV modules that are abandoned. Prior to S.L. 2023-58, DEQ had never previously regulated (nor had the statutory authority to regulate) USSP decommissioning and/or financial assurance for decommissioning of PV modules. A USSP is not a waste management facility, and neither the existing statutes nor S.L. 2023-58 give DEQ authority to require permits for the construction of USSPs.

Table 5

Overview of Requirements in S.L. 2023-58 (N.C.G.S. 130A-309.240 – 309.243) and Proposed Rules (15A NCAC 01V)			
Requirement/Provision	S.L. 2023-58/ N.C.G.S. 130A Part 2J	15A NCAC 01V	Comments
Definitions	X	X	15A NCAC 01V includes additional definitions for clarification.
Decommissioning Requirement	X		
Decommissioning Plan	X	X	The decommissioning plan is required by S.L. 2023-58. 15A NCAC 01V provides clarification on cost estimate calculation, financial assurance offset by salvage value, and logistics for submitting the decommissioning plan for review by DEQ.
Financial Assurance Requirement	X	X	Financial assurance is required by S.L. 2023-58. 15A NCAC 01V provides clarification on meeting requirements described in S.L. 2023-58 and logistics for submitting the financial assurance mechanism for review by DEQ.
Registration	X	X	Registration is required by S.L. 2023-58. 15A NCAC 01V adds the requirement for DEQ to review decommissioning plan and financial assurance submitted at registration. Clarification is provided on cost estimate calculation and financial assurance offset by salvage value.
Annual List from NCUC	X		
Landowner and Local Authority may have more stringent requirements	X		
Fees	X	X	The requirement to pay fees was mandated in S.L. 2023-58. The fee amount is established in 15A NCAC 01V.
Department Report	X		
Rulemaking Requirement	X	X	15A NCAC 01V is proposed to meet this mandated rulemaking requirement.
Identifying grants and incentives	X		
Utility-Scale Solar Management Fund	X		
Enforcement and Appeals	X		
Annual Report to General Assembly	X		
Deadline for Rulemaking	X		
Quarterly Reports to General Assembly	X		
Applicability of Existing Contracts	X		
Effective Dates	X		

Given the complicated nature of the requirements associated with financial assurance, the proposed rules are necessary to lay out the process to calculate the needed amount of financial assurance and also ensure consistency in the application of the requirements. Although DEQ has not previously regulated USSP decommissioning and financial assurance, DEQ has a long history of administering and enforcing closure and financial assurance regulatory compliance associated with permitted waste management facilities in accordance with state and federal requirements. Experience with the existing financial assurance rules and regulations used by the Division of Waste Management made it clear that the specific steps of the decommissioning and financial assurance process down to including specific wording of the financial instrument was important and is consistent with the level of detail included in similar existing state and federal site closure and financial assurance regulations. The structure and clarity described in the proposed rules reduces uncertainty by the regulated entities as well as the regulators and ensures consistency in the application of the requirements.

Summary of Affected Parties

The number of affected parties that will be economically impacted by the proposed rules in 2025 (the anticipated effective date of the proposed rules) are shown in Table 6.

Table 6

Estimated Number of Affected Parties by Type for 2025				
	Private Sector	Federal Government	State Government	Local Government
Number of Affected Parties	697	0	1	60

Private Entities:

The USSP owners that are subject to the requirements of S.L. 2023-58 will have a fiscal impact from the proposed rules. S.L. 2023-58 mandated that the North Carolina Utilities Commission (NCUC) provide DEQ an annual list of operating USSPs in NC by July 1 every year. The NCUC information provided to DEQ included the number of operational projects, the power capacity of each project, and the year the project became operational. Fourteen years of data (2009–2023) from NCUC was used to project the future number of USSPs and the power capacity over time. [Chart 1](#) and [Chart 2](#), on page 17, summarize the NCUC data for the number of USSPs and power capacity over time and shows the future estimated number of projects and power capacity for 30 years (2024 through 2054). For the purpose of this fiscal analysis, 30 years is the assumed lifespan of a USSP. Additional information on the lifespan of the USSP can be found in [Appendix B](#).

S.L. 2023-58 created two categories of USSPs. “Existing” USSPs are constructed before November 1, 2025. “New” USSPs are constructed on or after November 1, 2025. S.L. 2023-58 Section 4 provides further information on the requirements for decommissioning and financial assurance for existing USSPs and new USSPs.

It is estimated that in 2025, there will be 697 USSPs in North Carolina (all private entities) supplying an estimated 7,894 MW of power capacity. The number of existing USSPs and their associated power capacity will remain consistent until projects are decommissioned after 30 years in operation – then the

number of existing projects and power capacity decreases. The number of new USSPs will have an initial decline in the number of projects but then will have overall growth that is slow but steady.

Chart 1

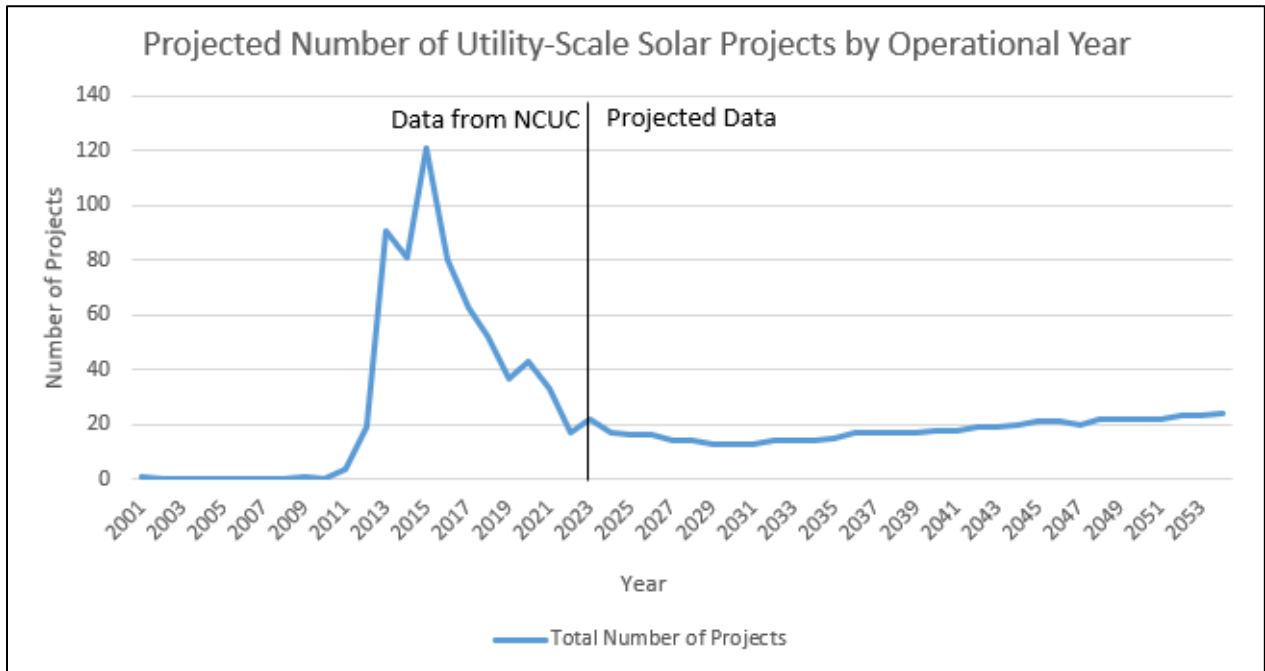


Chart 2

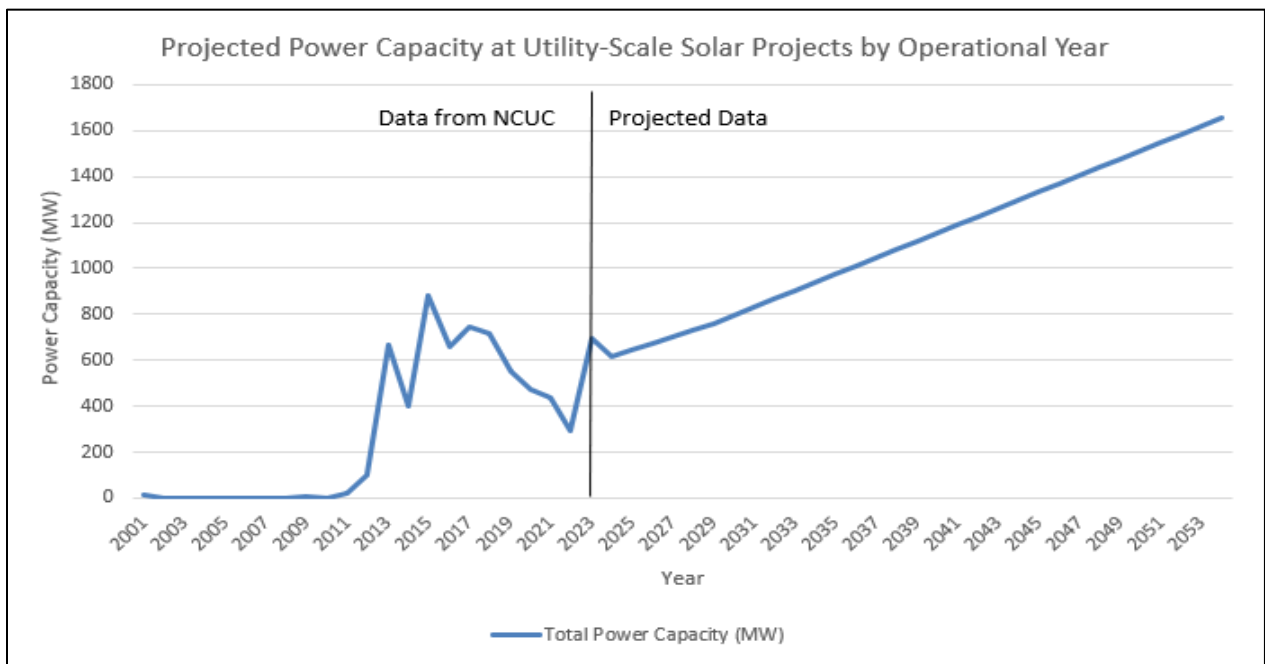


Chart 3 and Chart 4 summarize information for the number of existing and new USSPs and the power capacity of existing and new USSPs over time.

Chart 3

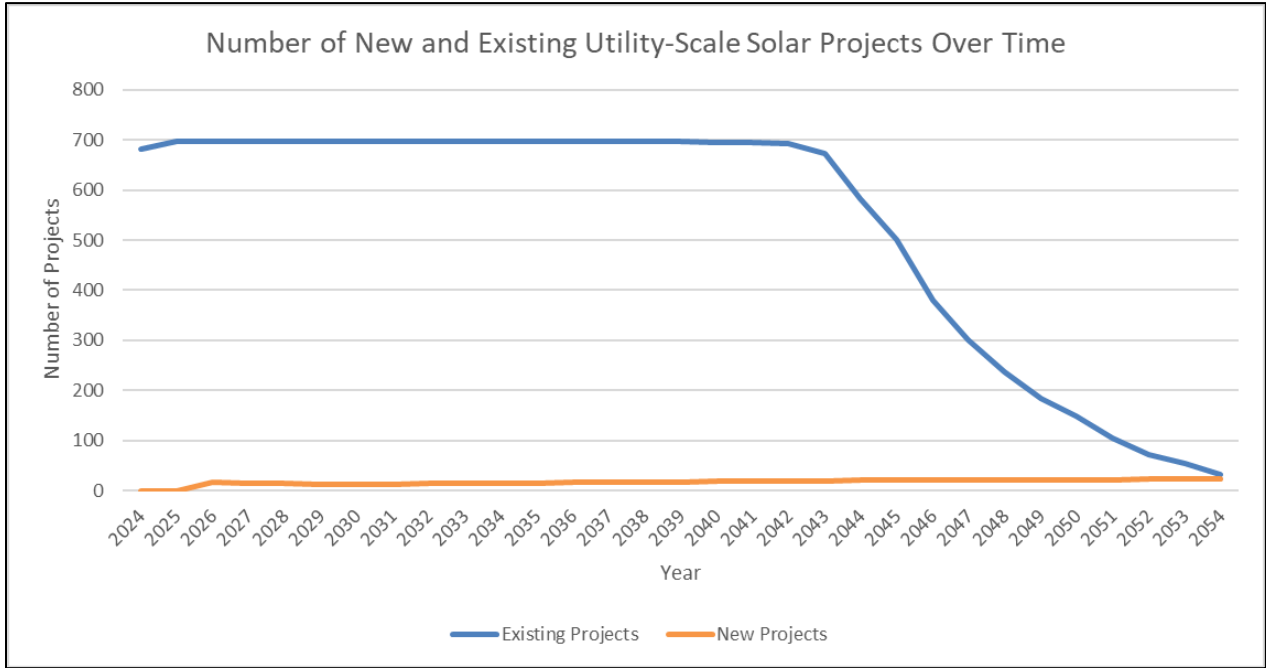
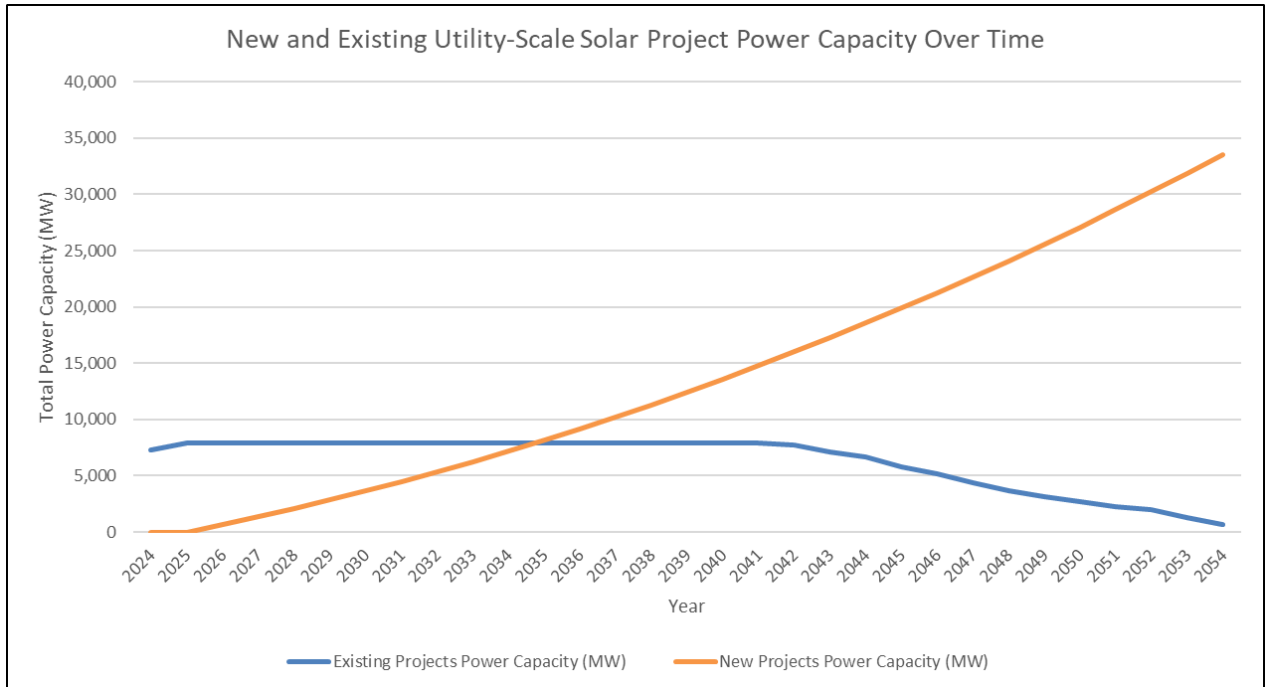
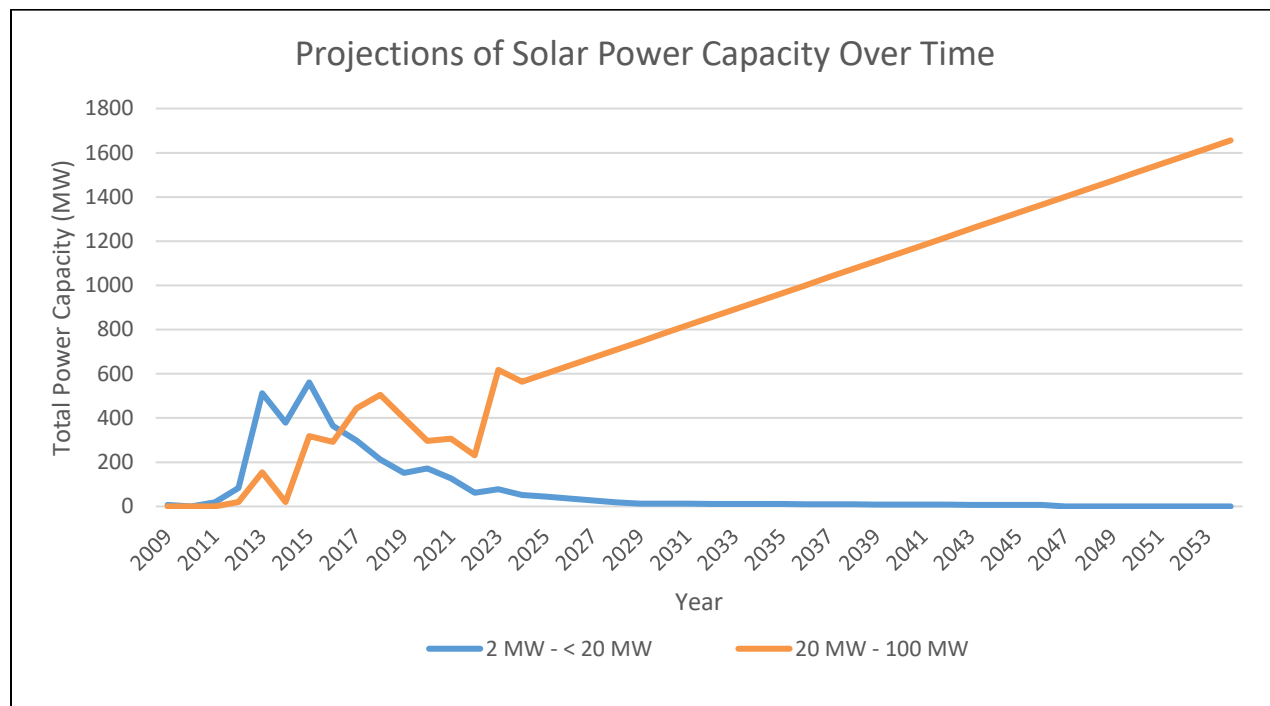


Chart 4



USSPs in the larger power capacity ranges (between 20 MW to 100 MW) are anticipated to have increased growth over time. The USSPs in the lower power capacity ranges (between 2 MW and less than 20 MW) are projected to decrease over time and in 2047 are projected to be zero. Chart 5 shows the projections for the power capacity ranges (using a 20 MW threshold for the power capacity ranges). The development of the estimates for USSPs that are affected parties can be found in [Appendix A](#).

Chart 5



Renewable energy facilities owned or leased by a retail electric customer intended primarily for the customer's own use or to offset the customer's own retail electrical energy consumption at the premises or for net metering are not affected by the proposed rules. This means that homeowners, businesses, and other entities using PV modules for their own power generation are also not impacted by the proposed rules.

Private Sector – General Public and Private Landowners Leasing Property for USSP:

Any fiscal impact to the general public and/or the private landowners who are leasing their property for USSPs was largely the result of S.L. 2023-58 and not the proposed rules. However, since there could be an indirect fiscal impact and the scope of the impact is unknown this is further detailed in the Nonmonetized Fiscal Impact section of this document.

Federal Government:

The federal government is not affected by the proposed rules since the federal government neither owns any of the USSPs in North Carolina subject to S.L. 2023-58 nor has regulatory authority/jurisdiction over their decommissioning/financial assurance.

State Government:

DEQ, a state government agency that was directed to administer the Utility-Scale Solar Management Program requirements for decommissioning and financial assurance will be impacted by the proposed rules. DEQ is the only state level agency that has regulatory jurisdiction of USSP decommissioning and financial assurance. While the NCUC regulates some aspects of USSP, they do not regulate decommissioning or financial assurance as described in S.L. 2023-58.

Local Government:

North Carolina counties and municipalities (local government) that have (or plan to have) requirements in ordinance for decommissioning/financial assurance for USSPs could potentially be impacted by the proposed rules. In 2022, there were 60 North Carolina counties² that have existing decommissioning/financial assurance requirements in county ordinance.

Fiscal Impact Analysis

S.L. 2023-58 is ultimately largely responsible for the fiscal impact on the affected parties. However, the fiscal impact attributable to the session law and statute cannot be easily separated from the fiscal impact of the proposed rules. Therefore, the values for fiscal impact arising from the session law and statutes are used in this fiscal analysis. A review of the proposed Decommissioning and Financial Assurance Requirements for Utility-Scale Solar Projects Rules 15A NCAC 01V .0101 – .0107 was conducted to determine whether there was a fiscal impact created by each rule. A summary of the proposed rules is in the Fiscal Impact Analysis – Summary of Proposed Rules section, below.

Summary of Proposed Rules

Below is a summary of each proposed rule with information that briefly indicates which affected party/parties will have a fiscal impact.

15A NCAC 01V .0101 – Applicability and Definitions: This proposed rule provides definitions for clarification purposes. There are no costs or benefits associated with this proposed rule beyond those requirements mandated by S.L. 2023-58 and Part 2J of Article 9 of Chapter 130A.

15A NCAC 01V .0102 – Registration and Fee Requirements: The requirements for the USSP owner to register and pay a fee were mandated by S.L. 2023-58. This proposed rule provides the logistics for registering and paying the fee. The fee amount is specified in 15A NCAC 01V .0103. There is a cost to DEQ (state government) for personnel to administer the registration and fee requirements. The development of costs associated with Program Administration are in [Appendix D](#).

15A NCAC 01V .0103 – Registration Fee Amount: While S.L. 2023-58 mandated a fee be paid at the time of initial registration and at registration recurrence every five years, the amount of the fee was not provided in statute. DEQ was directed in S.L. 2023-58 to specify the amount of the registration fee in rules and that the fees are to be used to fund DEQ's administration of the new requirements associated with USSP decommissioning and financial assurance. This proposed rule provides the amount of the initial and

² NCDEQ Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects, March 1, 2022: [Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects](#)

the renewal registration fee. There is a cost associated with this proposed rule to the USSP owner (private entities) and a subsequent benefit (in the form of fee revenue) to DEQ (state government). The fee revenue will directly support DEQ's Utility Scale Solar Management Program. The development of the fiscal impacts associated with fees can be found in [Appendix C](#).

15A NCAC 01V .0104 - Decommissioning Cost Estimate Requirements: The requirements for the USSP owner to submit a decommissioning plan complete with cost estimates were mandated by S.L. 2023-58. This proposed rule provides clarification and logistics for developing the costs associated with decommissioning including how salvage value can be used to offset financial assurance. There is a cost to DEQ (state government) for personnel to review decommissioning plans. There is both a cost and a cost offset (sometimes referred to as a "benefit" for purposes of this analysis) to new USSP owners (private entities) that is associated with the ability to request a reduction in the financial assurance based on the estimated salvage value. The development of costs associated with Program Administration are in [Appendix D](#).

15A NCAC 01V .0105 – General Requirements for Financial Assurance: The requirements for new USSP owners to establish financial assurance were mandated by S.L. 2023-58. This proposed rule provides clarifying information and the process for submitting information to DEQ. There is a cost to DEQ (state government) for personnel to review the financial assurance instrument. The development of costs associated with Program Administration are in [Appendix D](#).

15A NCAC 01V .0106 – Allowable Mechanisms for Financial Assurance: S.L. 2023-58 specified the requirement for financial assurance and listed the allowed financial assurance mechanisms in statute. This proposed rule provides specific details about the mechanism and the logistics for submittal of the financial assurance mechanism. There is a cost to DEQ (state government) for personnel to review the financial assurance mechanism. The development of costs associated with Program Administration are in [Appendix D](#).

15A NCAC 01V .0107 - Required Language for Financial Assurance Mechanisms: This proposed rule provides the specific wording that must be used for the financial assurance mechanism. There is a cost to DEQ (state government) for personnel to review the financial assurance mechanism. The development of costs associated with Program Administration are in [Appendix D](#).

General Facts and Assumptions Made for Cost/Benefit Analysis

General Assumptions:

- **Fiscal Impact Analysis Time Frame:** The fiscal impact analysis will span 30 years (2024-2054). For the purposes of this fiscal analysis, 30 years is the assumed lifespan of the USSP. Additional information on the lifespan of the USSP can be found in [Appendix B](#).
- **Fee payment:** Existing USSPs are required to pay a fee in 2025, so it is assumed they will comply. It is also assumed that subsequent required fee payments for both existing and new USSPs will be paid in the year they are due.

Summary of Monetized Costs

This analysis focuses on the costs to the regulated community from the proposed registration and renewal fees, as well as costs to state government for program administration. It bears repeating that the bulk of the impacts from the proposed solar decommissioning rules are attributable to S.L. 2023-58. However, the proposed rules will affect the magnitude of impact, in particular in regard to the fee amounts. The costs are summarized showing the proposed rule associated with the cost as well as the affected party type (private versus federal, state, and local government) over a 30-year period. There are two categories of quantifiable costs associated with the proposed rules:

- Fees
- Program Administration

Fees

While S.L. 2023-58 mandated a fee be paid at the time of initial registration and at registration recurrence (“renewal”) every five years, the amount of the fee was not provided in statute. S.L. 2023-28 mandated that the fees collected shall be applied to DEQ's cost of administering the program. Proposed fee amounts are described in 15A NCAC 01V .0103. There is a cost associated with this proposed rule to the USSP owner (private entities) in the form of fees and a subsequent “benefit” (in the form of fee revenues) to DEQ (state government) since the fees will directly support DEQ’s Utility Scale Solar Management Program. The cost associated with the collection of the proposed fees is incorporated as part of the cost of the program administration of the Utility-Scale Solar Management Program (further discussed in the Summary of Costs - Program Administration section). The development of the fee structure is in [Appendix C](#). The summary of the cost associated with fees is in [Table 7](#), on page 23. Neither federal government nor local government are impacted by the proposed fees.

Issues associated with setting the fee schedule are described in [Appendix C](#). N.C.G.S. 150B-21.3A requires state agencies to review existing rules every 10 years. As such, the fee amounts and fee structure will be reviewed every 10 years, at least. The periodic rule review process includes a required public comment period. Additionally, proposed rule 15A NCAC 01V .0103(c) allows for fees to be increased or decreased or adjustments made to the fee structures to meet the requirements that the fees be used to fund program administration.

Table 7

Cost Summary for Fees				
Year	Private Sector	Federal Government	State Government	Local Government
2024	\$0	N/A	Costs associated with fees for State Government (DEQ) are incorporated in Program Administration Costs	N/A
2025	\$1,381,450			
2026	\$208,300			
2027	\$215,400			
2028	\$222,200			
2029	\$230,300			
2030	\$496,066			
2031	\$304,745			
2032	\$317,558			
2033	\$329,777			
2034	\$343,043			
2035	\$655,723			
2036	\$440,381			
2037	\$456,030			
2038	\$470,943			
2039	\$487,136			
2040	\$854,967			
2041	\$612,847			
2042	\$631,856			
2043	\$650,394			
2044	\$669,621			
2045	\$1,018,154			
2046	\$830,328			
2047	\$848,394			
2048	\$871,621			
2049	\$894,848			
2050	\$1,163,535			
2051	\$1,098,925			
2052	\$1,126,039			
2053	\$1,154,034			
2054	\$1,181,982			

Program Administration

S.L. 2023-58 mandated the requirements for USSP owners for registration and fee payment, submittal of decommissioning plans, and submittal of financial assurance instruments. The session law did mandate that fees would be used to support program administration; however, the session law did not provide specific requirements for DEQ administration of the program. There is a cost to DEQ (state government) for personnel to administer the registration fee requirements, review decommissioning plans, and review financial assurance instruments, as required by 15A NCAC 01V .0102 – .0107. There is also a cost for personnel to administer and enforce the requirements of S.L. 2023-58 and N.C.G.S. 130A-309.240–309.243 for this program, but that cost is considered a part of the baseline and is not directly attributed to the proposed rules. Three Full Time Equivalent (FTE) DEQ positions are needed to administer the requirements described in the new statutes and the proposed rules and these positions will solely support the Utility-Scale Solar Management Program. S.L. 2023-58 created the Utility-Scale Solar Management Fund (Fund) (N.C.G.S. 130A-309.242) which consists of revenue credited to the Fund from the proceeds of the fee imposed on owners of USSP under N.C.G.S. 130A-309.240(h). The funds shall be used by DEQ to implement the new provisions for USSPs in S.L. 2023-58. The fees are proposed in amounts that will reasonably assure that the Utility-Scale Solar Management Program will be fully funded solely by the proposed registration/renewal fees. The development of the cost associated with program administration is in [Appendix D](#). The summary of the costs associated with program administration of the proposed rules are in [Table 8](#), on page 25.

Table 8

Cost Summary for Program Administration (Salary, Benefits, Recurring Costs for 3 FTEs)						
Year	Private Sector	Federal Government	State Government (DEQ)			Local Government
			Salary (3 FTEs)	Benefits & Recurring Costs	Total Costs	
2024	N/A	N/A	\$0	\$0	\$0	N/A
2025			\$217,987	\$139,026	\$367,201*	
2026			\$222,347	\$141,826	\$364,173	
2027			\$226,794	\$144,662	\$371,456	
2028			\$231,330	\$147,555	\$378,885	
2029			\$235,956	\$150,507	\$386,463	
2030			\$240,675	\$153,517	\$394,192	
2031			\$245,489	\$156,587	\$402,076	
2032			\$250,399	\$159,719	\$410,118	
2033			\$255,407	\$162,913	\$418,320	
2034			\$260,515	\$166,171	\$426,686	
2035			\$265,725	\$169,495	\$435,220	
2036			\$271,039	\$172,885	\$443,924	
2037			\$276,460	\$176,343	\$452,803	
2038			\$281,989	\$179,870	\$461,859	
2039			\$287,629	\$183,467	\$471,096	
2040			\$293,382	\$187,136	\$480,518	
2041			\$299,249	\$190,879	\$490,128	
2042			\$305,234	\$194,697	\$499,931	
2043			\$311,339	\$198,591	\$509,930	
2044			\$317,566	\$202,562	\$520,128	
2045			\$323,917	\$206,614	\$530,531	
2046			\$330,396	\$210,745	\$541,141	
2047			\$337,003	\$214,961	\$551,964	
2048			\$343,744	\$219,259	\$563,003	
2049			\$350,618	\$223,646	\$574,264	
2050			\$357,631	\$228,118	\$585,749	
2051			\$364,783	\$232,681	\$597,464	
2052			\$372,079	\$237,334	\$609,413	
2053			\$379,521	\$242,080	\$621,601	
2054			\$387,111	\$246,922	\$634,033	

*One-time, first year total cost for 3 FTEs is \$10,188. This cost is included in the Total Cost for 2025, but not shown as a column on this table. See [Appendix D](#) for more information on Program Administration costs.

Summary of Monetized Benefits

The benefits are summarized showing the proposed rule associated with the benefit as well as the affected party type (private versus federal, state, and local government) over a 30-year period.

Fee Revenue

DEQ (state government) receives the revenue (shown as a benefit) from fees described in proposed rule 15A NCAC 01V .0103 since the fee revenue will directly support DEQ's program administration of the new S.L. 2023-58 requirements. The development of the fee structure and the fiscal impact associated with the fees is in [Appendix C](#). The summary of the benefits associated with fees is in [Table 9](#), on page 27. Since DEQ is the recipient of the fees, the private sector, the federal government, and local government will not have benefits associated with the proposed fees

S.L. 2023-58 created the Utility-Scale Solar Management Fund (Fund) (N.C.G.S. 130A-309.242) which consists of revenue credited to the Fund from the proceeds of the fee imposed on owners of USSPs under N.C.G.S. 130A-309.240(h). The funds must be used by DEQ to implement the new provisions for USSPs. Three Full Time Equivalent (FTE) DEQ positions are needed to administer the requirements described in the General Statutes and the proposed rules and these positions will solely support the Utility-Scale Solar Management Program and administer the S General Statute and proposed rule requirements. The fees are proposed in amounts that will reasonably assure that the Utility-Scale Solar Management Program will be fully funded solely by the proposed registration/renewal fees.

Table 9

Summary of Fee Receipts				
Year	Private Sector	Federal Government	State Government	Local Government
2024	N/A	N/A	\$0	N/A
2025			\$1,381,450	
2026			\$208,300	
2027			\$215,400	
2028			\$222,200	
2029			\$230,300	
2030			\$496,066	
2031			\$304,745	
2032			\$317,558	
2033			\$329,777	
2034			\$343,043	
2035			\$655,723	
2036			\$440,381	
2037			\$456,030	
2038			\$470,943	
2039			\$487,136	
2040			\$854,967	
2041			\$612,847	
2042			\$631,856	
2043			\$650,394	
2044			\$669,621	
2045			\$1,018,154	
2046			\$830,328	
2047			\$848,394	
2048			\$871,621	
2049			\$894,848	
2050			\$1,163,535	
2051			\$1,098,925	
2052			\$1,126,039	
2053			\$1,154,034	
2054			\$1,181,982	

Summary of Unmonetized Fiscal Impact

Fiscal Impact to North Carolina Counties

In 2022, 60 of the 100 North Carolina counties had decommissioning/financial assurance requirements associated with solar facilities in county ordinance. S.L. 2023-58 allows local government jurisdictions to have decommissioning/financial assurance requirements more stringent than the statewide minimum standards to be retained by counties. For existing projects constructed prior to November 1, 2025, counties may continue to administer any financial assurance requirements included in county ordinances. For projects that are constructed after that deadline, counties may continue to administer any decommissioning or financial assurance requirements that are more stringent than the new state requirements included in S.L. 2023-58. Counties may also elect to enter into a Memorandum of Agreement (MOA) with DEQ to administer the state-level requirements at the local level.

With the addition of the statewide decommissioning/financial assurance requirements, counties that have decommissioning/financial assurance requirements may decide to discontinue their existing solar program. It is, however, difficult to anticipate if a county will discontinue their program or if a county may pursue an MOA to administer the USSP requirements on the local level, and when this would occur.

It is also difficult to determine the costs and benefits a local government would realize since each county's ordinances are different and the structure of the program overseeing the solar requirements varies from county to county. The number of employees or FTEs spent on the solar program is also variable. Many counties have ordinances that apply to all solar projects and do not differentiate between USSPs (2 MW and more) versus other solar projects.

The fiscal impact on North Carolina counties is largely the result of S.L. 2023-58, but there may be indirect fiscal impact associated with the proposed rules. With so many unknown factors, the fiscal impact that is realized by local governments is unquantified.

Reduction of Financial Assurance by Salvage Value for a Specific Time Period

S.L. 2023-58 requires decommissioning of a USSP and the restoration of the property to its condition before the USSP was sited, as nearly as practicable or an alternative condition agreed upon by the landowner and the project owner. Decommissioning typically includes removal of equipment (PV modules, PV module racking systems, inverters and transformers, steel/concrete foundations, fencing, buildings, and access roads, and then grading and/or vegetating the property to its original condition (or to the condition agreed upon by the landowner). The decommissioning cost is the estimated amount that is needed to complete the decommissioning and includes the labor and transportation for equipment removal, cost for disposal/recycling of equipment, and property restoration.

S.L. 2023-58 created N.C.G.S. 130A-309.240(e)(4) requiring the USSP owner to submit at the initial registration and at subsequent five year registration renewals, an estimate of costs to decommission the project and restore the property. The decommissioning cost estimate is also required to be included in the decommissioning plan in accordance with N.C.G.S. 130A-309.240(c)(5), if a decommissioning plan is required to be submitted.

Decommissioning costs will vary from site to site. Every component of the decommissioning cost estimate will be site specific and depend on conditions like initial design of the USSP, transportation distance to a

suitable disposal/recycling facility, and availability of labor. Review of decommissioning plans for North Carolina counties that have existing solar decommissioning/financial assurance requirements confirmed that decommissioning cost estimates associated with the plans were not standard or set. The decommissioning cost estimates were highly variable as far as complexity, detail, the amount of the cost estimate to decommission, and estimates for salvage value. Some decommissioning costs were fully offset by salvage value resulting in no required financial assurance to be secured.

S.L. 2023-58 stated that the decommissioning plan would describe information on equipment proposed to be salvaged, including estimated salvage value of the equipment for the purpose of determining financial assurance. Salvage value means the value of components that can be reused or recycled resulting in a net benefit instead of a cost. The salvage value is then used to off-set the cost of decommissioning.

The DEQ, Division of Waste Management, Solid Waste Section and the Hazardous Waste Section both have existing financial assurance requirements that are applicable to permitted solid waste and hazardous waste management facilities. These existing rules do not allow salvage value to be considered when determining the closure cost estimate for a permitted solid waste or a hazardous waste management facility. It is important that the closure cost of a waste management facility is not offset by salvage value and that funds are directly available to the State to be able to fund closure in the event that the site becomes insolvent or unable to properly close the site.

The requirement for USSP owners to submit a cost estimate for decommissioning at the time of registration was mandated by S.L. 2023-58. The proposed rule (15A NCAC 01V .0104) provides clarification and logistics for developing the costs associated with the decommissioning cost estimate including an allowance for the project owner to request to reduce the amount of financial assurance based on the salvage value of the equipment. To ensure that the decommissioning cost estimate is not fully offset by the salvage value and enough funds are available in the financial assurance instrument to start the decommissioning process in the event a USSP is abandoned, the proposed rule 15A NCAC 01V .0104(g) states the following:

Beginning at 20 years after the project begins operation or five years prior to the end of the initial power purchase agreement, whichever is earlier, and through the end-of-life of the project, a reduction based on salvage value shall not cause the amount of financial assurance to be less than the total cost estimate to:

- (1) detach the photovoltaic modules from the base;
- (2) transport the photovoltaic modules and any hazardous waste from the USSP to the receiving facility or location; and
- (3) pay the fees charged by the receiving facility or location to accept the photovoltaic modules and any hazardous waste from the USSP.

There is a cost to DEQ (state government) for personnel to review the request to reduce the financial assurance based on salvage value. The cost to state government is accounted for in the Program Administration costs ([Table 8](#)).

The USSP owner is able to offset a cost by being able to request a reduction in the amount of financial assurance based on salvage value and does not need to consider the above three noted line items until the threshold of 20 years after the project begins operation or five years prior to the end of the initial

power purchase agreement. Then at 20 years after the project begins operation or five years prior to the end of the initial power purchase agreement, the USSP owner will have a cost associated with not being able to request a reduction in the amount of financial assurance in the amount of the three line items noted in proposed rule 15A NCAC 01V .0104(g) (excerpted on page 29).

Although the costs associated with financial assurance are uncertain, highly variable, and will be site specific, they are likely to be very high (perhaps in the \$50 million range or more per year, spread across the industry). Similarly uncertain and variable, the salvage value cost offsets are also likely to be very high which will significantly reduce the costs to the regulated community on net. Currently recycling PV modules, especially modules that meet the definition of a hazardous waste, is more expensive than disposal. Since N.C.G.S. 130A-309.240(b)(2) requires all the USSP equipment to be recycled that is practicably capable of being recycled, the costs of both recycling and disposal are a part of the baseline and are not attributed to the proposed rules. Since PV modules have been in service for a long period of time, technology and infrastructure for recycling have not been developed until now. As more dedicated PV module recycling facilities emerge, process improvements are expected to lead to more efficient recovery and reduced recycling costs.

Another point of uncertainty when determining a fiscal impact associated with the proposed rule provision is the number of PV modules that will be hazardous waste at the end-of-life of the USSP. Disposal/recycling and transportation of hazardous waste PV modules will cost more than non-hazardous PV modules. At this time, there is not enough data to accurately predict the number/percent of PV modules used in North Carolina that will be considered hazardous waste at the time of decommissioning of the USSP. A conservative assumption can be made, for purposes of this document, that half of the total volume of solar panel waste generated in North Carolina is/will be a hazardous waste. California Department of Toxic Substances made a similar conservative estimate in their Economic and Fiscal Impact Analysis³ when they included solar panels as California universal waste.

Power purchase agreements are also variable and often range from five years to 20 years but can be longer. Using a 20 year power purchase agreement as an example, the increase in the amount of financial assurance will start at 15 years. If the power purchase agreement was 5 years instead of 20 years, the USSP owner would not realize any benefit of being able to request a reduction in the amount of required financial assurance based on salvage value. The number of USSPs that only have a 5-year power purchase agreement is not known.

The proposed rule provision creates a cap at 20 years so regardless of whether the power purchase agreement term is over 20 years, the cost of not being able to offset financial assurance by the salvage value for the 3 specific line items in 15A NCAC 01V .0104(g) will start at 20 years. Although the exact amount of the fiscal impact cannot be calculated for different power purchase agreement terms, a conceptual view of the costs/benefits can be seen in [Table 10](#), on page 31.

³ California Department of Toxic Substances, Economic and Fiscal Impact Analysis, Final Statement of Reasons (April 2020) <https://dtsc.ca.gov/wp-content/uploads/sites/31/2020/10/l.-FSOR-Final-03.09.2020-PV-Regulations.pdf> (page 4, Assumption 1)

Table 10

Number of Years Costs and Benefits are Realized for the Financial Assurance Reduction by Salvage Value Provision						
	Power Purchase Agreement Term					
	5 years	10 years	15 years	20 years	25 years	30 years
Number of Years Benefit is Realized	0	5	10	15	20	20*
Number of Years Costs are Realized	30	25	20	15	10	10

*15A NCAC 01V .0104(g) requires that beginning at 20 years or five years prior to the end of the initial power purchase agreement, the project owner cannot request a reduction of the financial assurance by the salvage value for the cost associated with the specific 3 items listed in the rule.

There will be variability in the financial mechanism that will be used by the new USSP owners. S.L. 2023-58 requires new USSP owners to establish financial assurance and provides flexibility in the financial assurance mechanism that can be used. Some financial assurance mechanisms (e.g., a trust fund) must be 100% funded -- the full amount of decommissioning cost estimate must be deposited into the trust fund. However, if the project owner uses a letter of credit or bonds, for example, the cost might only be in the amount of fees charged by the financial institution or surety company to establish and maintain the mechanism. Such fees might be based on the amount of financial assurance. If the project owner were to use a corporate test, the cost to establish financial assurance might only be in preparing and submitting the corporate test documentation.

With so many unknown factors, the fiscal impact that is realized for this proposed rule provision is shown as unquantified. The end result of this proposed rule provision is that USSP owners will be able to realize a benefit for the time frame that they can request a reduction in the financial assurance based on salvage value and there will be a cost of not being able to request a reduction to the financial assurance based on salvage value for the specific time period that the site must ensure enough money is available in the financial assurance mechanism to meet the requirements in 15A NCAC 01V .0104(g).

Protection of the Environment

Based on Division of Waste Management knowledge and experience, any potential for an indirect and incremental environmental protection benefit from the increased oversight of USSP decommissioning would be an impact of S.L. 2023-58 and the new associated statutes and would not be a result of the proposed rules. To date, USSP have not had much DEQ regulatory oversight in North Carolina. Since PV modules that meet the definition of a solid or hazardous waste are subject to solid waste or hazardous waste requirements, the increased oversight of this sector at decommissioning could improve compliance with solid and hazardous waste requirements which can potentially result in overall protection to the environment.

The statute references existing solid waste and hazardous waste requirements that apply to PV modules which can raise awareness of proper management of PV modules at the end of life. S.L. 2023-58 mandated the recycling of equipment that can practically be recycled. The requirement to recycle PV modules will reduce the amount of PV modules in landfills. The large quantities of end-of-life solar panels

that will be available in the future and mandated to be recycled when not reused is a potential opportunity for new business development and economic growth. It is anticipated that the cost to recycle PV modules will decrease when more PV modules are available to recycle. Additionally, advances in PV modules recycling technology could theoretically reduce the cost to recycle PV modules. However, again, the cost to dispose of or recycle PV modules is a part of the baseline, and not an impact of the proposed rules.

Benefit to the General Public and/or the Landowner Leasing Land for a USSP

The general public and/or the landowner leasing property to a USSP receives the benefit of increased oversight and assurance that requirements are in place for the USSP to be decommissioned upon cessation of power. The responsibility of decommissioning is placed on the USSP owner. The administration of the USSP requirements is fee funded so the funding of this program does not fall on the taxpayer.

Uncertainty Analysis

Number of Future USSPs and Future Power Capacity

Predicting the number of future USSPs is affected by many factors. Local zoning and development requirements may be restrictive on the number and size of the projects or restrict projects based on other factors like security requirements (e.g., fencing) or screening to visually obstruct the project. Community support of USSPs is important since there can be a public comment period associated with the local authority's permitting process.

The large footprint as far as land needed to site a USSP can impact the number and power capacity of projects. Depending on the technology used for the project; to generate 1 MW of power, this can take anywhere between 4 to 7 acres of PV modules. The number of PV modules it takes to generate 1 MW also varies depending on the make, model, age, and efficiency of the module. PV modules are becoming more efficient and are able to produce more power per panel. However, even with the higher efficiency, USSPs are projected to increase in the higher power capacity ranges which will result in more land needed for the project.

Technical issues like not being to obtain or replace equipment needed for the USSP could affect the number of projects or power capacity. Administrative issues with meeting requirements imposed by NCUC or obtaining a power purchase agreement could also hinder the future number of projects or power capacity.

Incentives like grants or tax rebates as well as legislation and rules can also impact the number of future USSPs and the power capacity. The USSP market could become saturated, and no new projects would be installed, or a new technology could replace USSPs.

Changes to the power capacity of the USSPs is a factor that will affect the fiscal impact of the proposed rules since the fees and decommissioning cost estimate offset are based on a per MW basis. In the past, a change in the number of USSPs could be an indication that there is a change to total power capacity but with the power capacity of each USSP increasing, there is not a direct correlation between the number of projects and the total power capacity. [Chart 1](#) and [Chart 2](#) in this document provide a good example where the overall number of USSPs is slowly increasing while the power capacity has a high growth rate for the same time period.

The future number of USSPs and future power capacity were generated through evaluation of existing data and trends based on prior years. While there is merit to this type of forecasting, outside influences like the factors noted on the previous page were not considered. The estimated future power capacity of new USSPs can be found in [Appendix A](#). There is a possibility that the power capacity of new USSPs is lower than initially projected. Changes in the new project future power capacity will directly affect fees and the ability to support program administration costs. [Table 11](#) on page 34 provides information on the amount of money in the Utility-Scale Solar Management Fund if the new USSP power capacity future projections are changed. The projected estimates for new project power capacity (found in [Table 20](#) in [Appendix A](#)) are compared to future projections for new projects 1) if future projections for new project power capacity was zero (in other words, there were no new future USSPs) and 2) if the new project future power capacity was half of the amount that was initially estimated (in [Table 20](#) in [Appendix A](#)). In both cases, the reduced new project future power capacity estimates (zero and half the power capacity originally estimated) results in a negative balance in the Utility-Scale Solar Management Fund within the first five years.

Table 11

Utility-Scale Solar Management Fund Balance when New Project Power Capacity Future Projections Change			
Year	Projected Estimates for New Project Power Capacity*	New Projects Add Zero MW	New Projects Add 1/2 the Power Capacity that was Projected
2024	\$0	\$0	\$0
2025	\$1,014,249	\$1,014,249	\$1,014,249
2026	\$858,377	\$650,077	\$754,227
2027	\$702,321	\$278,621	\$490,471
2028	\$545,636	(\$100,264)	\$222,686
2029	\$389,473	(\$486,727)	(\$48,627)
2030	\$491,346	(\$657,636)	(\$83,145)
2031	\$394,015	(\$1,059,712)	(\$332,849)
2032	\$301,456	(\$1,469,830)	(\$584,187)
2033	\$212,913	(\$1,888,150)	(\$837,618)
2034	\$129,270	(\$2,314,836)	(\$1,092,783)
2035	\$349,773	(\$2,497,431)	(\$1,073,829)
2036	\$346,230	(\$2,941,356)	(\$1,297,563)
2037	\$349,457	(\$3,394,159)	(\$1,522,351)
2038	\$358,541	(\$3,856,018)	(\$1,748,738)
2039	\$374,581	(\$4,327,114)	(\$1,976,266)
2040	\$749,030	(\$4,522,064)	(\$1,886,517)
2041	\$871,748	(\$5,012,192)	(\$2,070,222)
2042	\$1,003,674	(\$5,512,123)	(\$2,254,225)
2043	\$1,144,139	(\$6,022,053)	(\$2,438,957)
2044	\$1,293,631	(\$6,542,181)	(\$2,624,275)
2045	\$1,781,255	(\$6,834,293)	(\$2,526,519)
2046	\$2,070,441	(\$7,375,434)	(\$2,652,497)
2047	\$2,366,871	(\$7,927,398)	(\$2,780,264)
2048	\$2,675,488	(\$8,490,402)	(\$2,907,457)
2049	\$2,996,073	(\$9,064,666)	(\$3,034,296)
2050	\$3,573,860	(\$9,526,015)	(\$2,976,078)
2051	\$4,075,321	(\$10,123,479)	(\$3,024,079)
2052	\$4,591,947	(\$10,732,892)	(\$3,070,472)
2053	\$5,124,380	(\$11,354,493)	(\$3,115,057)
2054	\$5,672,328	(\$11,988,526)	(\$3,158,099)

*Projected estimates for future power capacity for new USSPs can be found in [Table 20](#) in Appendix A.

Initial Registration Fees Not Paid in 2025

USSP owners are required to register and pay the applicable fee with registration. Existing USSPs owners are required to pay their initial fee in 2025, and this analysis assumes they will meet this requirement. The fees are used to fund the program administration of the S.L. 2023-58 requirements. If existing projects do not meet the requirement to pay the fee in 2025, the amount of money in the Utility-Scale Solar Management Fund (used to fund program administration) will be reduced for the first year. Table 12 shows the reduction in the Fund based on how many existing USSP owners pay the initial fee in 2025. As long as about 1/3 of the existing USSP owners comply with the requirement to pay their initial fee in 2025, the Fund will remain in a positive balance.

Table 12

Utility-Scale Solar Management Fund Balance when Existing Projects Do Not Pay Fee in 2025					
	Amount if all existing projects pay fee	Amount if zero existing projects pay fee	Amount if 1/4 of the existing projects pay fee	Amount if 1/3 of the existing projects pay fee	Amount if 1/2 of the existing projects pay fee
Amount received in fees in 2025	\$1,381,450	\$0	\$345,363	\$460,483	\$690,725
Balance in Utility-Scale Solar Management Fund (end of 2025)	\$1,014,249	(\$367,201)	(\$21,838)	\$93,283	\$323,524

Lifespan of USSPs

Appendix D provides information on the decommissioning schedule for USSPs based on the life expectancy of PV modules. For the purposes of this document, the life expectancy of PV modules is assumed to be 30 years and this time frame is also applied to the lifespan of the USSPs as well as the time period for fiscal impact analysis. Regardless of how long the PV modules last, the life span of the USSP could alternatively be dictated by the term of the power purchase agreement, lease agreement with the landowner, and/or the ability to repower the project.

The power purchase agreement term can be variable, often anywhere from 5 years to over 20 years. At the end of the term, the power purchase agreement can be renewed, or the USSP equipment can be removed. The power purchase agreement can also be transferred with property if the property is sold. It can be difficult to secure a power purchase agreement, which increases the likelihood that once a site has a power purchase agreement, attempts will be made to renew the agreement.

Lease agreements with landowners are not public information. Typical solar land leases initial terms can last for as long as thirty years, and with extensions (e.g., five year) at the option of the developer or its future assignee, such leases can last fifty years.⁴ The net present value of a solar PV facility lease far exceeds any other income source from use of the land. Although the USSP lease exceeds the present market value of rural property, payments from the lease are spread over a long time.⁴

⁴ Solar Leases: Clearing Matters of Title During Solar Developer Due Diligence: <https://farmlaw.ces.ncsu.edu/solar-leases-clearing-matters-of-title-during-solar-developer-due-diligence/>

Repowering is the process of replacing and upgrading aged PV modules and equipment to increase power capacity and efficiency. Repowering can extend the life of the USSP, but there is the expense of removing and replacing and properly managing/recycling/disposing of the removed PV modules and equipment. The new PV modules may not be compatible with the racking system which would lead to additional expense to repower. S.L. 2023-58 created (in N.C.G.S. 130A-309.240(a)) a definition for expansion or expanded that may capture existing USSPs that repowered as a “new” USSPs:

"Expansion" or "expanded," when used in reference to a utility-scale solar project, means adding 2 megawatts AC (MW AC) or more of directly connected solar energy generating capacity to the local or regional electrical grid with the ability to deliver power to the electrical grid, or increasing the ability of the project to deliver power to the electrical grid by thirty-five percent (35%), whichever is larger.

All of the above factors point to a possibility that the lifespan of the USSP could exceed the 30-year time frame that is assumed in this analysis. If the lifespan of a USSP exceeded 30 years, the costs and benefits associated with the decommissioning cost offset would increase. However, N.C.G.S. 150B-21.3A requires a 10-year periodic rule review and in 10 years after the effective date of the proposed rules, the rules will be reviewed and a regulatory impact analysis will be performed, and this process is subject to a public comment period. If the decommissioning time frame were extended beyond the scope that was considered in this fiscal impact analysis, there would be opportunity for evaluation in the future before the initially assumed 30-year time frame is even reached. Since the USSP decommissioning and financial assurance requirements are new, the fiscal analysis performed in 10 years will have better data or more solid conclusions and not rely on assumptions.

Rule Alternatives

In accordance with N.C.G.S. 150B-21.4(b2)(5), the fiscal note for a proposed rulemaking with a substantial economic impact is required to contain a description of at least two alternatives to the proposed rules. As defined in N.C.G.S. 150B-21.4(b1), “substantial economic impact” means an aggregate financial impact on all persons affected of at least one million dollars (\$1,000,000) in a 12-month period. As shown in [Table 1](#) and [Table 2](#) of this fiscal note, the proposed rules have the potential to have a substantial economic impact. Therefore, two alternatives have been evaluated in this section.

Alternative 1: Alternative Fee Amount

The first alternative to the proposed rules is amending the proposed fee amounts to those in bold font in [Table 13](#), on page 37. For reference, the proposed rule fees are also shown in Table 13.

Table 13

Alternative Fee Schedule for 2025		
Type of Project	Initial Registration Fee (per MW)	Renewal Fee (per MW)
Existing	\$150	\$50
New (20 MW or less)	\$500	\$50
New (more than 20 MW)	\$300	\$25
Proposed Rule Fee Schedule for 2025		
Type of Project	Initial Registration Fee (per MW)	Renewal Fee (per MW)
Existing	\$175	\$25
New (20 MW or less)	\$500	\$50
New (more than 20 MW)	\$300	\$25

The initial registration and the renewal fee for the existing utility-scale projects would be changed to \$150 and \$50 respectively in Alternative 1. The result of amending the fees for the existing USSPs is a viable alternative since these fees lead to a positive balance in the Utility-Scales Solar Management Fund which funds the program administration for the S.L 2023-58 requirements.

[Table 14](#) on page 38 provides the fee amount received with the alternative fee schedule, the cost of 3 FTEs to support the program administration, the fiscal impact per year for fees received and program administration cost, and the balance in the Utility-Scale Solar Management Fund each year.

[Appendix C](#) provides additional information on the development of the fee schedule and the complicated nature of only receiving fees every 5 years and setting fees to cover program administration costs for thirty years. N.C.G.S. 150B-21.3A requires state agencies to review existing rules every 10 years so the fees will be required to be reviewed at the 10-year mark of the proposed rules being effective. The periodic rule review process includes a required public comment period. Additionally, proposed rule 15A NCAC 01V .0103(c) states that the fees may also be increased or decreased, or the fee structure may be adjusted every five years to meet the requirements that the fees be used to fund program administration.

Table 14

Fiscal Impact and Balance in Utility-Scale Solar Management Fund with Alternative Fee Schedule					
Year	Fee Amounts Received with Alternative 1	Total Program Administration Cost (3FTEs)	Fiscal Impact per Year (Fees Received - Program Administration Cost)	Carry Over Funds from Previous Year	Utility-Scale Solar Management Fund Balance*
2024	\$0	\$0	\$0	\$0	\$0
2025	\$1,184,100	\$367,201	\$816,899	\$0	\$816,899
2026	\$208,300	\$364,173	(\$155,873)	\$816,899	\$661,027
2027	\$215,400	\$371,456	(\$156,056)	\$661,027	\$504,971
2028	\$222,200	\$378,885	(\$156,685)	\$504,971	\$348,286
2029	\$230,300	\$386,463	(\$156,163)	\$348,286	\$192,123
2030	\$719,349	\$394,192	\$325,157	\$192,123	\$517,280
2031	\$304,745	\$402,076	(\$97,331)	\$517,280	\$419,949
2032	\$317,558	\$410,118	(\$92,560)	\$419,949	\$327,389
2033	\$329,777	\$418,320	(\$88,543)	\$327,389	\$238,846
2034	\$343,043	\$426,686	(\$83,643)	\$238,846	\$155,203
2035	\$908,348	\$435,220	\$473,128	\$155,203	\$628,331
2036	\$440,381	\$443,924	(\$3,543)	\$628,331	\$624,788
2037	\$456,030	\$452,803	\$3,227	\$624,788	\$628,015
2038	\$470,943	\$461,859	\$9,084	\$628,015	\$637,099
2039	\$487,136	\$471,096	\$16,040	\$637,099	\$653,139
2040	\$1,140,535	\$480,518	\$660,017	\$653,139	\$1,313,156
2041	\$612,847	\$490,128	\$122,719	\$1,313,156	\$1,435,875
2042	\$631,856	\$499,931	\$131,925	\$1,435,875	\$1,567,800
2043	\$650,394	\$509,930	\$140,465	\$1,567,800	\$1,708,265
2044	\$669,621	\$520,128	\$149,492	\$1,708,265	\$1,857,757
2045	\$1,256,573	\$530,531	\$726,042	\$1,857,757	\$2,583,800
2046	\$830,328	\$541,141	\$289,187	\$2,583,800	\$2,872,986
2047	\$848,394	\$551,964	\$296,429	\$2,872,986	\$3,169,416
2048	\$871,621	\$563,003	\$308,618	\$3,169,416	\$3,478,033
2049	\$894,848	\$574,264	\$320,585	\$3,478,033	\$3,798,618
2050	\$1,287,935	\$585,749	\$702,186	\$3,798,618	\$4,500,804
2051	\$1,098,925	\$597,464	\$501,462	\$4,500,804	\$5,002,266
2052	\$1,126,039	\$609,413	\$516,626	\$5,002,266	\$5,518,892
2053	\$1,154,034	\$621,601	\$532,432	\$5,518,892	\$6,051,324
2054	\$1,181,982	\$634,033	\$547,949	\$6,051,324	\$6,599,273

10-year Periodic Rule Review

*Note that all Fund Balances reflect the balance remaining AFTER paying for administration costs.

[Table 15](#) on page 41 compares the balance in the Utility-Scale Solar Project Management Fund for the fees set in the proposed rule to the Alternative 1 fee schedule. Even though the balance is lower in 2025 and for the first 5 years for Alternative 1, Alternative 1 was not selected because after the first five years the balance in the fund is higher than the proposed rule fee schedule. The Fund balance in 2054 is high for both the proposed rules and Alternative 1, but the proposed rule fee schedule has the lower amount in 2054.

For comparison purposes and to show sensitivity analysis for fees for the existing projects, 3 other fee schedule options (Alternative 1a, 1b, and 1c) were included on [Table 15](#). Since all 3 of the additional fee schedules resulted in a negative Fund balance these were not selected as alternatives. The 5 fee schedules on Table 15 show the influence of the existing USSPs for the first ten years the proposed rules are effective. [Chart 6](#), on page 40 shows the 3 out of 5 fee combinations of that result in a Utility-Scale Solar Management Fund balance below \$0 which makes the program unsustainable.

Alternative 1 was not selected due to the higher balance amounts in the Utility-Scale Solar Management Fund after the first five years the proposed rules are effective. Alternative 1 also was not selected because the fee amounts do not achieve the concept of front-loading cost as well as the proposed rule fee schedule. The concept of front-loading cost or paying more up front early in the USSP lifespan was expressed as a preference by stakeholders in initial discussions about the proposed rules. The initial fee that is proposed (\$175 per MW) provides a better opportunity to front load costs and then pay less (\$25 per MW) later in the lifespan of the USSP than Alternative 1 with the initial fee of \$150 per MW and renewal fee of \$50.

Chart 6

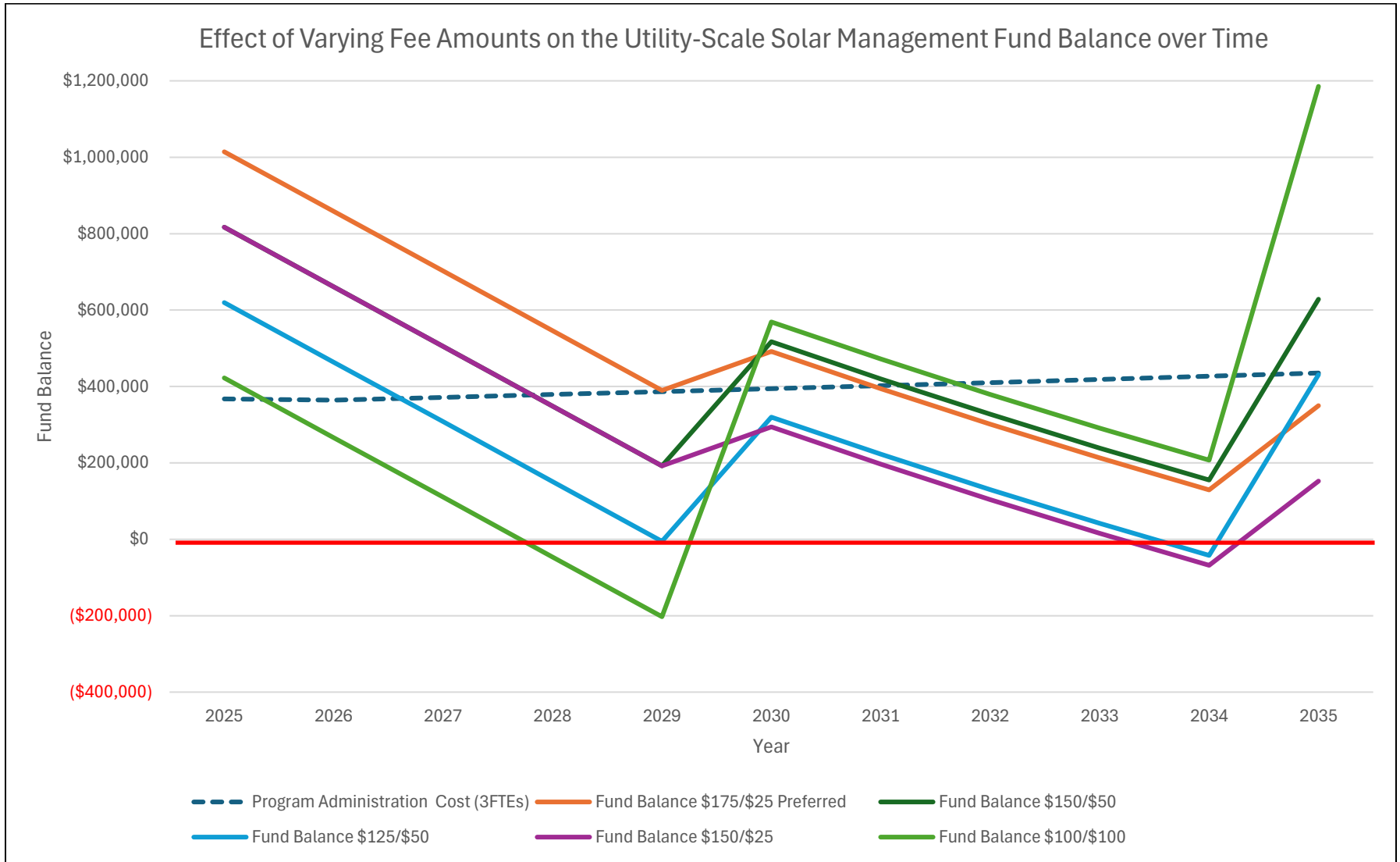


Table 15

Utility-Scale Solar Management Fund Balance* with Different Fees Applied for Existing Projects Initial and Renewal Fees (Initial/Renewal)						
Year	Total Program Administration Costs	Proposed Rule (Preferred)	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	3 FTEs	\$175/\$25	\$150/\$50	\$125/\$50	\$150/\$25	\$100/\$100
2024	\$0	\$0	\$0	\$0	\$0	\$0
2025	\$367,201	\$1,014,249	\$816,899	\$619,549	\$816,899	\$422,199
2026	\$364,173	\$858,377	\$661,027	\$463,677	\$661,027	\$266,327
2027	\$371,456	\$702,321	\$504,971	\$307,621	\$504,971	\$110,271
2028	\$378,885	\$545,636	\$348,286	\$150,936	\$348,286	(\$46,414)
2029	\$386,463	\$389,473	\$192,123	(\$5,227)	\$192,123	(\$202,577)
2030	\$394,192	\$491,346	\$517,280	\$319,930	\$293,996	\$569,147
2031	\$402,076	\$394,015	\$419,949	\$222,599	\$196,665	\$471,815
2032	\$410,118	\$301,456	\$327,389	\$130,039	\$104,106	\$379,256
2033	\$418,320	\$212,913	\$238,846	\$41,496	\$15,563	\$290,713
2034	\$426,686	\$129,270	\$155,203	(\$42,147)	(\$68,080)	\$207,070
2035	\$435,220	\$349,773	\$628,331	\$430,981	\$152,423	\$1,185,447
2036	\$443,924	\$346,230	\$624,788	\$427,438	\$148,880	\$1,181,904
2037	\$452,803	\$349,457	\$628,015	\$430,665	\$152,107	\$1,185,131
2038	\$461,859	\$358,541	\$637,099	\$439,749	\$161,191	\$1,194,215
2039	\$471,096	\$374,581	\$653,139	\$455,789	\$177,231	\$1,210,255
2040	\$480,518	\$749,030	\$1,313,156	\$1,115,806	\$551,680	\$2,441,408
2041	\$490,128	\$871,748	\$1,435,875	\$1,238,525	\$674,398	\$2,564,127
2042	\$499,931	\$1,003,674	\$1,567,800	\$1,370,450	\$806,324	\$2,696,053
2043	\$509,930	\$1,144,139	\$1,708,265	\$1,510,915	\$946,789	\$2,836,517
2044	\$520,128	\$1,293,631	\$1,857,757	\$1,660,407	\$1,096,281	\$2,986,010
2045	\$530,531	\$1,781,255	\$2,583,800	\$2,386,450	\$1,583,905	\$4,188,890
2046	\$541,141	\$2,070,441	\$2,872,986	\$2,675,636	\$1,873,091	\$4,478,076
2047	\$551,964	\$2,366,871	\$3,169,416	\$2,972,066	\$2,169,521	\$4,774,506
2048	\$563,003	\$2,675,488	\$3,478,033	\$3,280,683	\$2,478,138	\$5,083,123
2049	\$574,264	\$2,996,073	\$3,798,618	\$3,601,268	\$2,798,723	\$5,403,708
2050	\$585,749	\$3,573,860	\$4,500,804	\$4,303,454	\$3,376,510	\$6,354,693
2051	\$597,464	\$4,075,321	\$5,002,266	\$4,804,916	\$3,877,971	\$6,856,155
2052	\$609,413	\$4,591,947	\$5,518,892	\$5,321,542	\$4,394,597	\$7,372,781
2053	\$621,601	\$5,124,380	\$6,051,324	\$5,853,974	\$4,927,030	\$7,905,214
2054	\$634,033	\$5,672,328	\$6,599,273	\$6,401,923	\$5,474,978	\$8,453,162

*Note that all Fund Balances reflect the balance remaining AFTER paying for administration costs.

Alternative 2: Not including the specific wording for the financial assurance mechanisms in 15A NCAC 01V .0107

The exact wording of each financial assurance mechanism (e.g., trust agreement, surety bond, letter of credit, insurance, financial test, corporate guarantee) is specified in proposed rule 15A NCAC 01V .0107. This proposed rule is 16 pages and is very detailed. With Alternative 2, 15A NCAC 01V would be shorter, however there would be uncertainty with the wording that needs to be used for the financial assurance mechanism.

Especially with the complicated nature of the requirements associated with financial assurance, the proposed rules are necessary for clarity and to ensure consistency in the application of the requirements. Although DEQ has not previously regulated utility-scale solar project decommissioning and financial assurance, DEQ has a long history of administering and enforcing financial assurance regulatory compliance associated with permitted waste management facilities in accordance with state and federal requirements. Experience with the existing financial assurance rules and regulations used by the Division of Waste Management made it clear that the specific wording for financial assurance mechanism is important and is consistent with the level of detail included in similar existing state and federal financial assurance regulations. The structure and clarity described in the proposed rules reduces uncertainty by the regulated entities as well as the regulators and ensures consistency in the application of the requirements.

Any uncertainty of the wording of the financial assurance mechanism would result in a cost to both USSP owners and DEQ personnel. Including the specific wording of the financial assurance mechanism will reduce the time spent by USSP owners to inquire about the wording as well as time spent by DEQ personnel explaining how the financial assurance mechanism should be worded. The amount of time spent on the process of redoing paperwork will also be reduced. Ultimately, there is a time cost savings to USSP owners and DEQ by providing the exact wording that is required for the financial assurance mechanism.

List of Appendices

- [Appendix A](#): Development of Affected Party Estimates for Utility-Scale Solar Projects
Number of Projects and Power Capacity
- [Appendix B](#): Development of Decommissioning Schedule
- [Appendix C](#): Development of Fee Structure and the Fiscal Impact Associated with Fees
- [Appendix D](#): Development of Program Administration Costs
- [Appendix E](#): Session Law 2023-58
- [Appendix F](#): Proposed Rule Text: 15A NCAC 01V

Appendix A

Development of Affected Party Estimates for Utility-Scale Solar Projects Number of Projects and Power Capacity

S.L. 2023-58 amended N.C.G.S. 130A-309.240(f) and required the North Carolina Utilities Commission (NCUC) to develop and maintain a list of all USSPs operating within North Carolina and provide DEQ with an updated list annually on or before July 1 of each year. The NCUC provided this list of USSPs to DEQ on June 7, 2024 and submitted a revised list to DEQ on August 12, 2024.

Chart 7 summarizes data provided by NCUC showing the number of USSPs and the year the USSP became operational. [Table 17](#) on page 49 provides the data points from the NCUC data used to create the “NCUC Data” portion of the below chart.

Chart 7

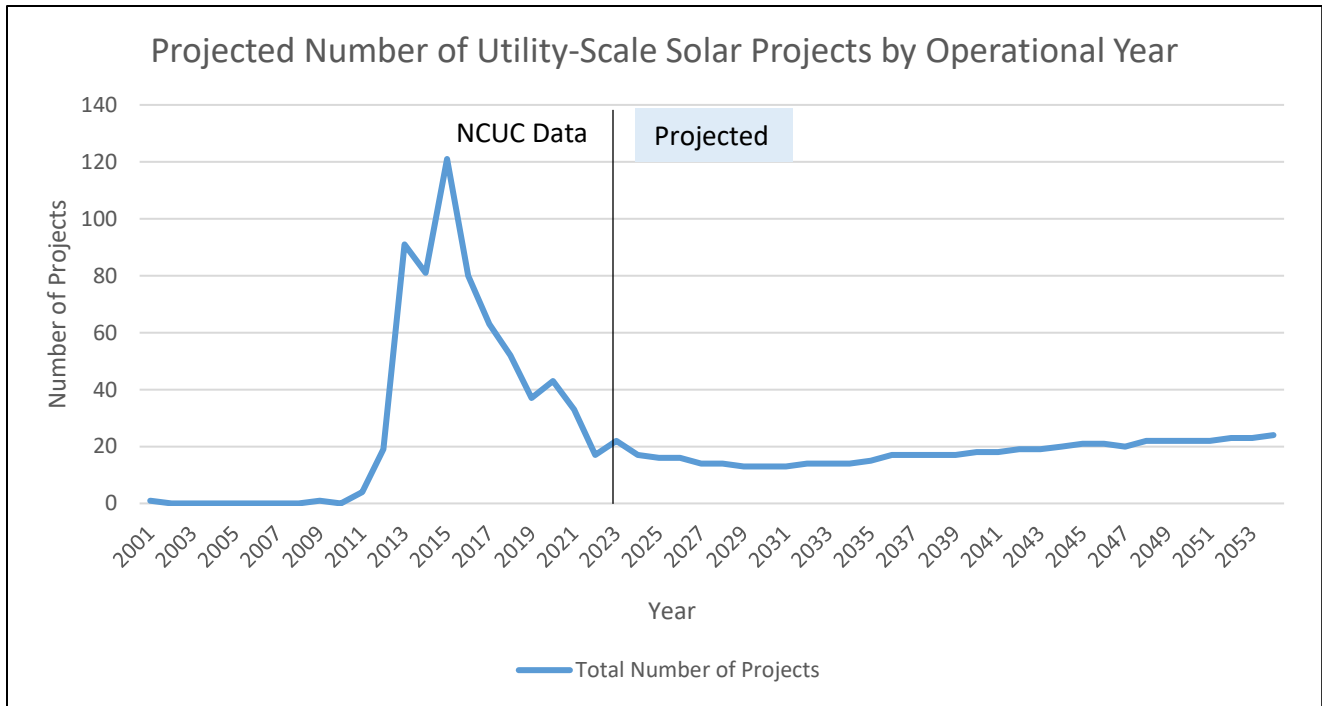
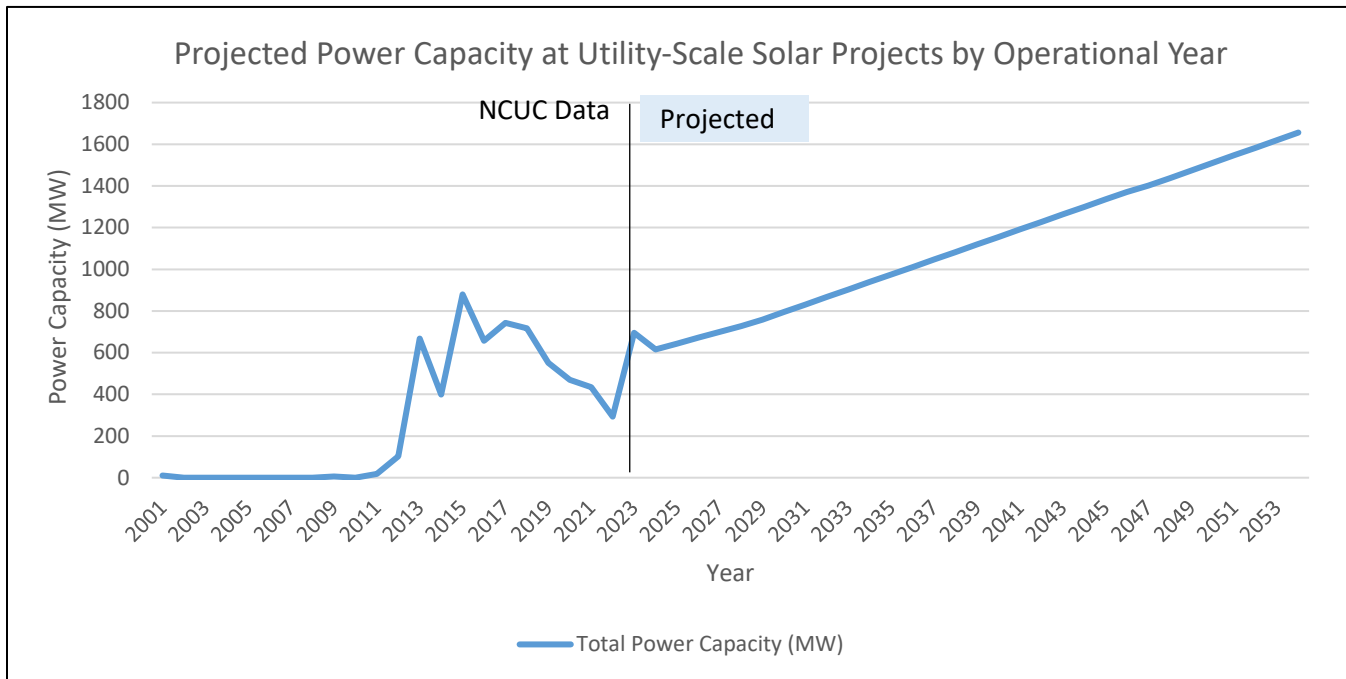


Chart 8, on page 45, summarizes data provided by NCUC showing the power capacity of the USSP in MW and the year the USSP became operational. [Table 19](#) on page 53 provides the data points used to create the “NCUC Data” portion of Chart 8.

Chart 8



The NCUC data was used to project the future number of USSPs that would be operational each year and the corresponding total power capacity for that year.

To be able to analyze and graph data since there were so many individual data points, power capacity was categorized into six power capacity MW ranges:

- 2 MW to less than 5 MW,
- 5 MW to 10 or less MW,
- more than 10 to less than 20 MW,
- 20 MW to less than 50 MW,
- 50 MW to less than 70 MW, and
- 70 to 100 MW.

According to the information provided by NCUC there were a total of 664 USSPs in operation in 2023 with a power capacity of 6,634 MW. The range of time of the data provided by NCUC is from 2001 to 2023. One USSP was reported as becoming operational in 2001, but since no other USSPs were operational until 2009, the 2001 project is an outlier and assumed to be a typo of the operational year. Regardless, the data point is not used in calculations for projections of future number of USSPs or projections of future power capacity. The data point from 2001 is also not used in subsequent fiscal impact calculations. Discounting the USSP reported as operational in 2001, and the subsequent 7 years (2002-2008) when there were zero USSPs becoming operational in those years, the data that was included in the fiscal impact analysis starts in 2009. The initial tables will show the 2001 data point and zeros for 2002-2008, but subsequent charts and tables exclude this information and start tracking data points in 2009.

Since 2009 USSPs grew in number each year, with the number of projects peaking in 2015 with 121 becoming operational in that year. The number of USSPs waned since 2015 with 17 projects becoming operational in 2022. The number of projects had a small increase in 2023 when 22 USSPs became

operational. USSPs are also decreasing in the lower power capacity ranges (2 MW to 10 MW or less). In 2015, when the number of projects peaked, 107 of the 121 projects (88%) added in the 2 MW to 10 MW or less range. By 2022, there were 11 USSPs added in the 2 MW to 10 MW or less range.

All of the USSPs are privately owned and operated. It is assumed that all future USSPs will also be privately owned and operated.

[Table 18](#) and [Chart 10](#) on pages 51 and 52 show the projected estimated future number of USSPs by power capacity range and operational year. [Table 20](#) and [Chart 12](#) on pages 55 and 56 show the projected estimated future solar capacity by power capacity range and operational year. The future estimates are based on past trends and extrapolation of the past 14 years (2009 – 2023) of data through forecasting with Microsoft Excel software. The projected data starts in 2024 and extends thirty years (to 2054) to incorporate the fiscal impact to affected parties for the 30 year lifespan of a USSP. See [Appendix B](#) for more information on life expectancy of PV modules and lifespan of a USSP.

In 2024, it is estimated through projected data that 17 USSPs will become operational adding 616 MW of power capacity to the power grid. The projections show an initial decrease in the number of projects between 2025 and 2035 and a slow but steady overall growth in the number of USSPs from 2036 to 2054. The projected number of projects and total power capacity in the lower power capacity ranges (2 MW through less than 20 MW) will also decrease over time. USSPs in the 2 MW to less than 5 MW range are projected to be zero by 2024 and continue to be zero until 2054. Projects in the 5 MW to 10 MW or less range are estimated to be 8 in 2024 and decrease to zero by 2030. Projects in the more than 10 MW to less than 20 MW range are also estimated to decrease over time but start at 1 project in 2024 and remain 1 until 2047 when the number of projects drops to zero. The projected number of USSPs in the larger power capacity ranges (20 MW to less than 50 MW, 50 MW to less than 70 MW, and 70 MW to 100 MW) show slow but steady growth in the next 30 years. Even though there is a period of time when the number of USSPs will decrease (2025 – 2035), the total power capacity continues to grow over time due to the increase in the power capacity in the larger power capacity ranges of USSPs.

The projected estimates do not account for influences like legislation or financial incentives and grants that may affect USSPs in the future. Even though the projected data is not precise, the data does appear to align with the trend observed in [NCDEQ Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects](#)⁵ that USSPs will increase in power capacity over time.

There is uncertainty on the number of USSPs operating in North Carolina in the future as well as the expected growth rate of the power capacity (MW) of these USSPs. The number of future USSPs and future power capacity are addressed in the Uncertainty Analysis section of this document.

For purposes of this document, a 30 year lifespan of the solar panels is assumed and at the 30 year mark, the USSP is decommissioned. See [Appendix B](#) for more information on life expectancy of PV modules and life expectancy of the USSP. Decommissioning of the USSPs will affect the number of projects as well as the total solar capacity. [Table 23](#), in Appendix B summarizes the projected number of USSPs and power

⁵ NCDEQ Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects, March 1, 2022: [Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects](#)

capacity over time showing the number of sites and solar capacity that are anticipated to be lost over time when USSPs are decommissioned.

The six power capacity ranges that were used to initially categorize data points (2 MW to less than 5 MW, 5 MW to 10 or less MW, more than 10 to less than 20 MW, 20 MW to less than 50 MW, 50 MW to less than 70 MW, and 70 to 100 MW) was useful to evaluate trends with the data. After reviewing data in the six categories of power capacity ranges and creating the projections for future number of USSPs and future total power capacity by operational year, the data was divided into two power capacity ranges for the purposes of administering fees. The two power capacity ranges that will be utilized for purposes of administering fees are: 2 MW to less than 20 MW and 20 MW to 100 MW. These two categories were selected since data on projected number of future USSPs indicated that three of the six categories of power capacity ranges (2 MW to less than 5 MW, 5 MW to 10 MW or less, and more than 10 MW to less than 20 MW) were all projected to decrease in the future and by 2047 were predicted to not have any growth in this category. Additional information on the development of fiscal impact associated with fees can be found in [Appendix C](#).

[Table 21](#) and [Table 22](#) and [Chart 13](#) and [Chart 14](#) on pages 57 through 60 show the projected data on number of projects and power capacity when categorized in two power capacity ranges instead of six. The total number of sites and total power capacity are the same as when the six categories were used. Using two power capacity ranges with a 20 MW threshold between the categories for billing purposes is anticipated to be more straightforward and easier to administer fees.

The information in this Appendix focuses on the number of USSPs and the power capacity of the projects based on data provided by NCUC. The data provided by NCUC covered the time period from 2009 to 2023. Projections of future number of USSPs and future power capacity were made using the NCUC data for the time period of 2024–2054. S.L. 2023-58 set an effective date of November 1, 2025 for most of the requirements. The proposed rules are anticipated to also be effective in 2025. The proposed rules use the terms “new” and “existing” USSPs for the purposes of the fees. Existing USSPs are ones that are constructed before November 1, 2025 and new USSPs are constructed on or after November 1, 2025. The tables and charts in this Appendix showing the line of demarcation of NCUC provided data and projected data do not correspond or align with the terms existing and new. [Table 16](#), on page 48, demonstrates the difference between projected data and new and existing project time frames. [Appendix C](#) has information on the fiscal impact of the fees.

Table 16

Time Frame for Projected Data versus New and Existing Projects		
Year	NCUC Data and Projected Data	New and Existing Projects
2009-2016	<p>NCUC data (January 1, 2009 through December 31, 2023)</p>	<p>Existing Projects (Before November 1, 2025)</p>
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025	<p>Projected Information from NCUC data (January 1, 2024 – December 31, 2054)</p>	<p>New Projects (On November 1, 2025 and after)</p>
2026		
2027		
2028		
2029		
2030		
2031		
2032 – 2054...		

Table 17

Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year							
Year	2 - < 5 MW	5 - ≤ 10 MW	> 10 - < 20 MW	20 - < 50 MW	50 - < 70 MW	70 - 100 MW	Total
2001	0	1*	0	0	0	0	1*
2002	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0
2009	0	1	0	0	0	0	1
2010	0	0	0	0	0	0	0
2011	2	2	0	0	0	0	4
2012	14	3	1	1	0	0	19
2013	26	52	8	4	0	1	91
2014	30	50	0	1	0	0	81
2015	51	56	5	7	1	1	121
2016	35	36	2	5	0	2	80
2017	32	21	2	2	4	2	63
2018	30	14	0	2	3	3	52
2019	15	17	0	0	0	5	37
2020	27	10	1	2	1	2	43
2021	16	10	1	2	2	2	33
2022	5	6	1	2	3	0	17
2023	4	9	1	2	1	5	22
Total	287	288	22	30	15	23	664

* This USSP (2001) is an outlier and assumed to be a typo as far as operational year. This data point was not used in calculations for projections of future number of USSPs or in subsequent fiscal impact calculations.

Chart 9

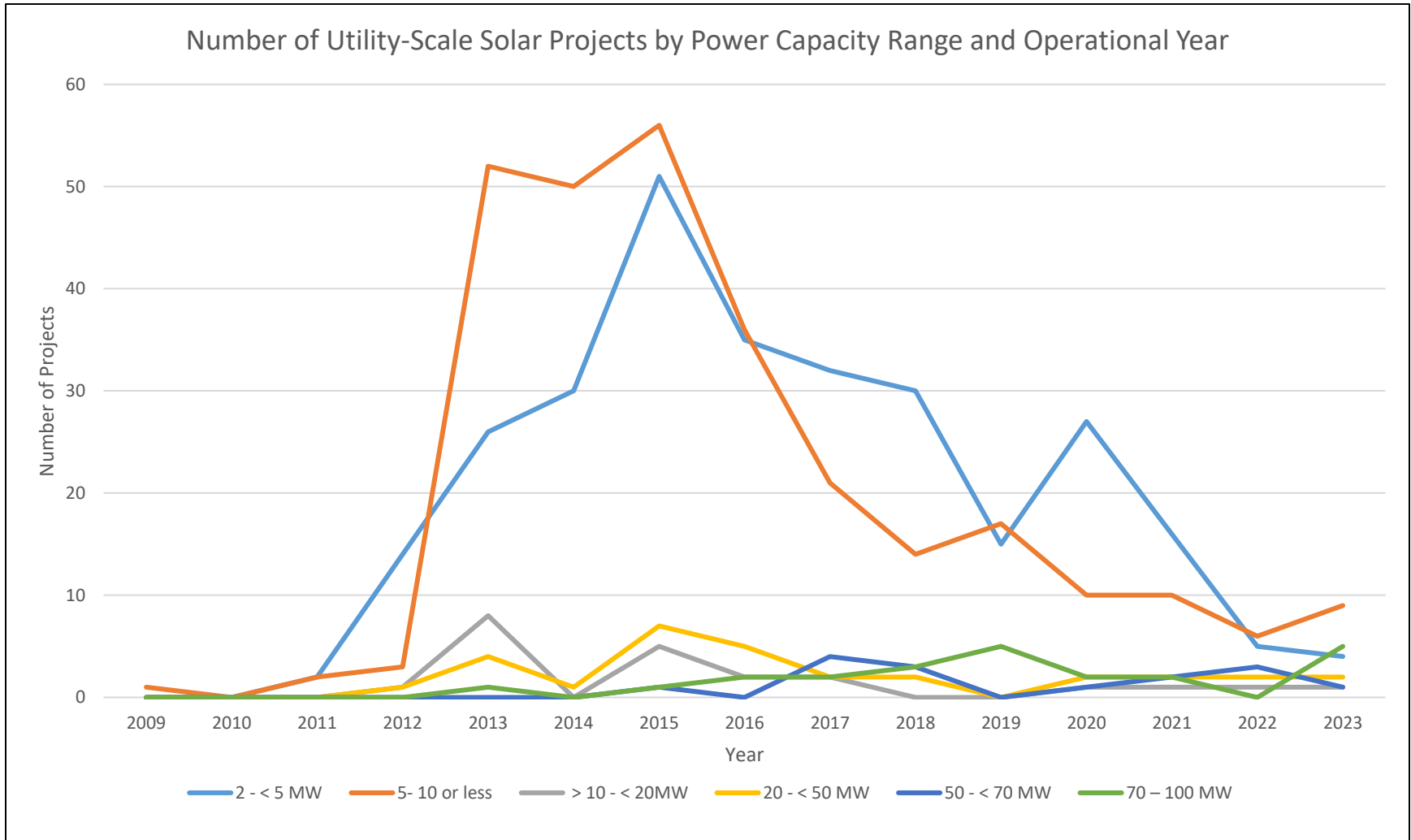


Table 18

Projected Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year								
Year	2 - < 5 MW	5 - ≤ 10 MW	> 10 - < 20MW	20 - < 50 MW	50 - < 70 MW	70 – 100 MW	Total	
2009	0	1	0	0	0	0	1	Data provided by NCUC
2010	0	0	0	0	0	0	0	
2011	2	2	0	0	0	0	4	
2012	14	3	1	1	0	0	19	
2013	26	52	8	4	0	1	91	
2014	30	50	0	1	0	0	81	
2015	51	56	5	7	1	1	121	
2016	35	36	2	5	0	2	80	
2017	32	21	2	2	4	2	63	
2018	30	14	0	2	3	3	52	
2019	15	17	0	0	0	5	37	
2020	27	10	1	2	1	2	43	
2021	16	10	1	2	2	2	33	
2022	5	6	1	2	3	0	17	
2023	4	9	1	2	1	5	22	
2024	0	8	1	2	3	4	17	
2025	0	6	1	3	3	4	16	
2026	0	5	1	3	3	4	16	
2027	0	3	1	3	3	4	14	
2028	0	2	1	3	3	5	14	
2029	0	1	1	3	3	5	13	
2030	0	0	1	3	4	5	13	
2031	0	0	1	3	4	5	13	
2032	0	0	1	3	4	6	14	
2033	0	0	1	3	4	6	14	
2034	0	0	1	3	4	6	14	
2035	0	0	1	4	4	6	15	
2036	0	0	1	4	5	7	17	
2037	0	0	1	4	5	7	17	
2038	0	0	1	4	5	7	17	
2039	0	0	1	4	5	7	17	
2040	0	0	1	4	5	8	18	
2041	0	0	1	4	5	8	18	
2042	0	0	1	4	6	8	19	
2043	0	0	1	4	6	8	19	
2044	0	0	1	4	6	9	20	
2045	0	0	1	5	6	9	21	
2046	0	0	1	5	6	9	21	
2047	0	0	0	5	6	9	20	
2048	0	0	0	5	7	10	22	
2049	0	0	0	5	7	10	22	
2050	0	0	0	5	7	10	22	
2051	0	0	0	5	7	10	22	
2052	0	0	0	5	7	11	23	
2053	0	0	0	5	7	11	23	
2054	0	0	0	5	8	11	24	

Chart 10

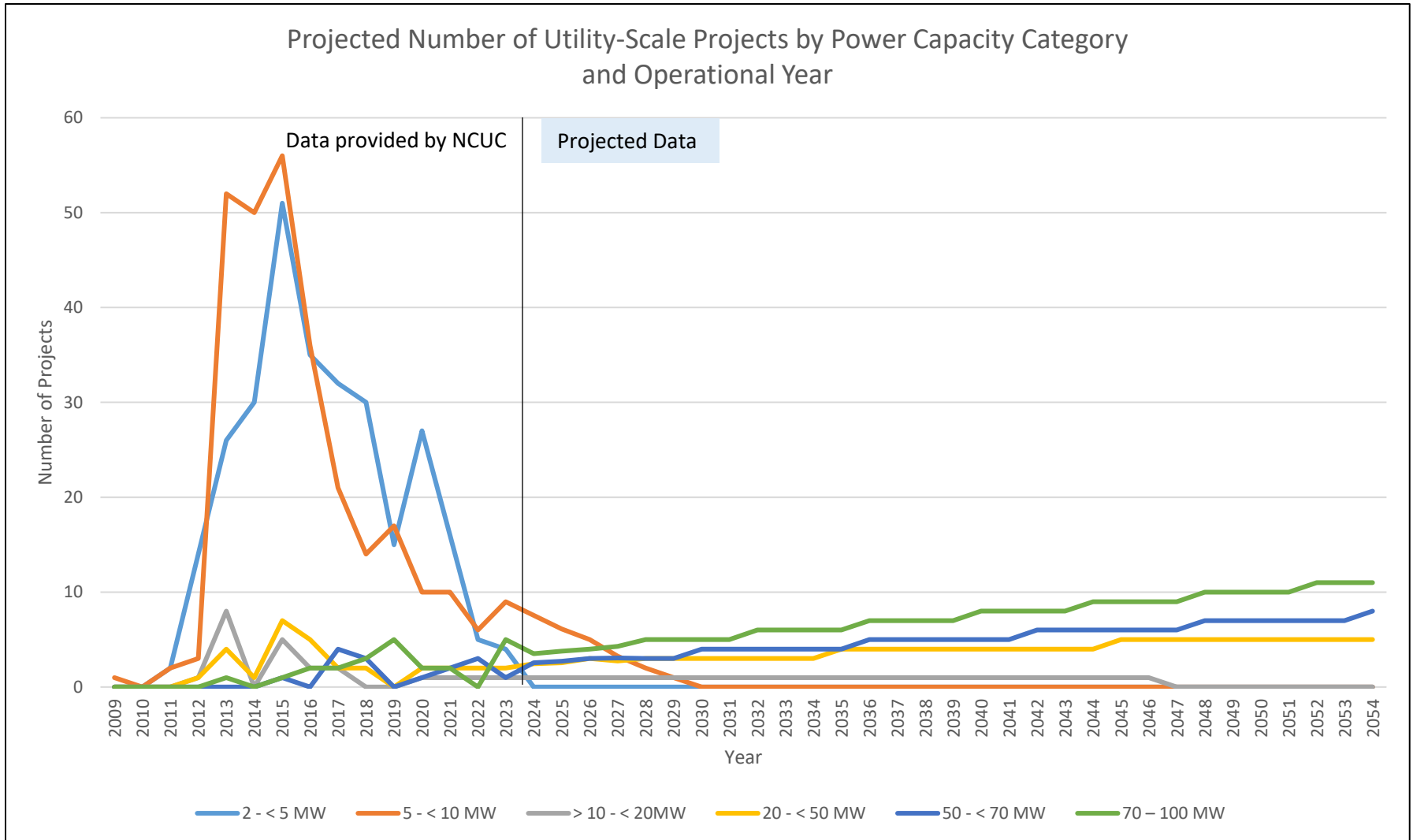


Table 19

Total Power Capacity by Power Capacity Range and Operational Year							
Year	2 - < 5 MW	5 - ≤ 10 MW	> 10 - < 20MW	20 - < 50 MW	50 - < 70 MW	70 – 100 MW	Total MW
2001	0	10*	0	0	0	0	10*
2002	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0
2009	0.00	6.50	0.00	0.00	0.00	0.00	6.50
2010	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	8.50	10.00	0.00	0.00	0.00	0.00	18.50
2012	55.60	15.00	12.50	20.00	0.00	0.00	103.10
2013	112.82	265.00	134.70	80.00	0.00	74.90	667.42
2014	127.62	251.50	0.00	20.00	0.00	0.00	399.12
2015	198.84	285.00	77.05	173.80	64.80	80.00	879.49
2016	154.11	180.00	31.00	138.90	0.00	153.30	657.31
2017	127.88	135.00	35.56	68.00	224.48	151.60	742.52
2018	136.68	75.00	0.00	83.10	152.50	269.80	717.08
2019	65.54	86.00	0.00	0.00	0.00	398.80	550.34
2020	106.12	50.00	16.00	47.00	70.00	180.00	469.12
2021	65.17	51.36	11.00	42.60	115.00	148.80	433.93
2022	16.48	30.00	16.00	71.30	160.00	0.00	293.78
2023	15.99	45.00	17.00	58.40	50.00	509.00	695.39
Total	1,191.32	1,485.36	350.81	803.10	836.78	1,966.20	6,633.57

* This USSP power capacity (2001) is an outlier and assumed to be a typo as far as operational year. This data point was not used in calculations for projections of future total power capacity of USSPs or in subsequent fiscal impact calculations.

Chart 11

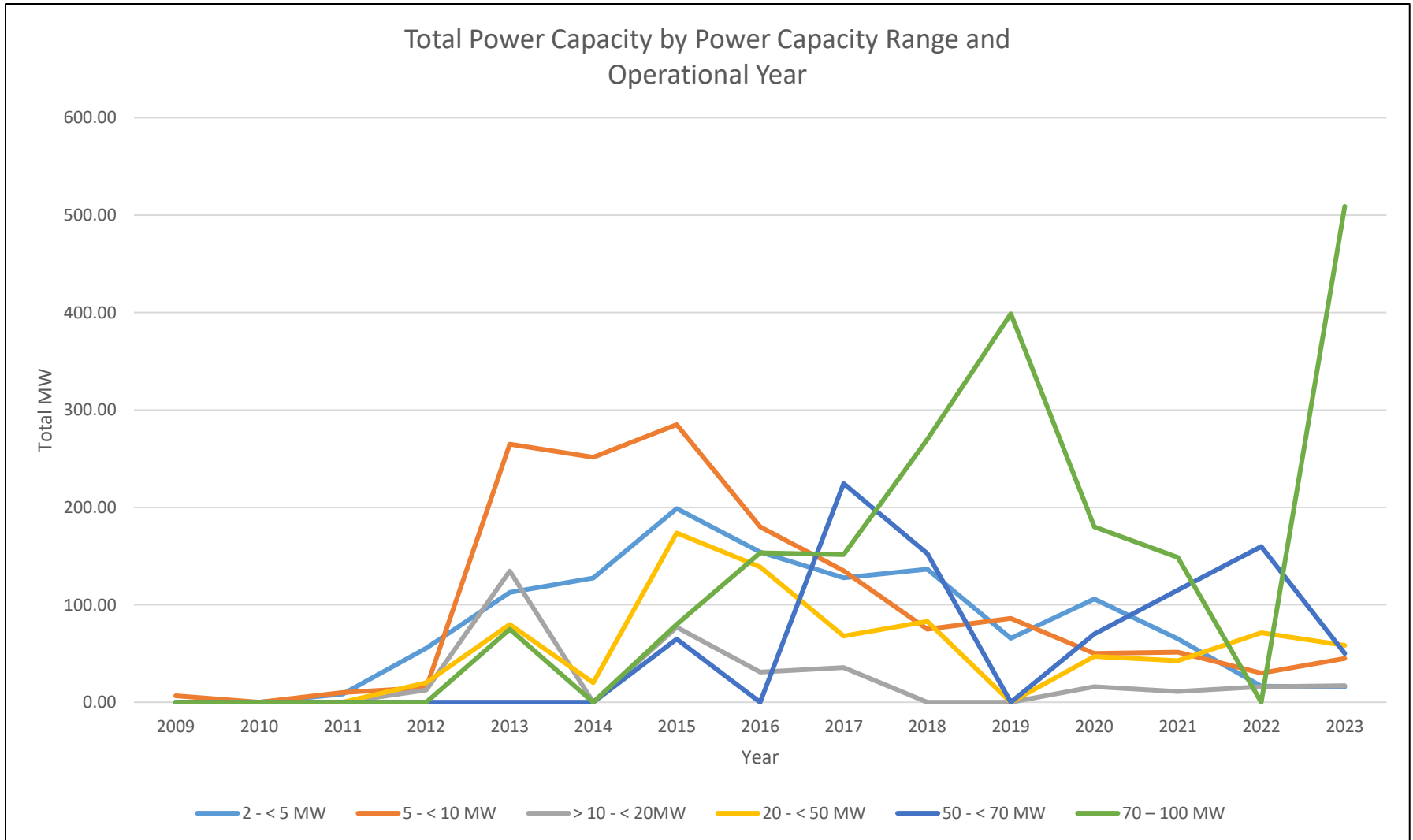


Table 20

Projected Total Power Capacity by Power Capacity Range and Operational Year								
Year	2 - < 5 MW	5 - ≤ 10 MW	> 10 - < 20MW	20 - < 50 MW	50 - < 70 MW	70 – 100 MW	Total MW	
2009	0.00	6.50	0.00	0.00	0.00	0.00	6.50	Data provided by NCUC
2010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2011	8.50	10.00	0.00	0.00	0.00	0.00	18.50	
2012	55.60	15.00	12.50	20.00	0.00	0.00	103.10	
2013	112.82	265.00	134.70	80.00	0.00	74.90	667.42	
2014	127.62	251.50	0.00	20.00	0.00	0.00	399.12	
2015	198.84	285.00	77.05	173.80	64.80	80.00	879.49	
2016	154.11	180.00	31.00	138.90	0.00	153.30	657.31	
2017	127.88	135.00	35.56	68.00	224.48	151.60	742.52	
2018	136.68	75.00	0.00	83.10	152.50	269.80	717.08	
2019	65.54	86.00	0.00	0.00	0.00	398.80	550.34	
2020	106.12	50.00	16.00	47.00	70.00	180.00	469.12	
2021	65.17	51.36	11.00	42.60	115.00	148.80	433.93	
2022	16.48	30.00	16.00	71.30	160.00	0.00	293.78	
2023	15.99	45.00	17.00	58.40	50.00	509.00	695.39	
2024	0.00	37.04	15.03	74.18	139.44	350.00	615.71	
2025	0.00	29.15	14.63	77.75	148.69	373.60	643.82	
2026	0.00	21.25	14.22	81.31	157.95	397.20	671.94	
2027	0.00	13.36	13.82	84.88	167.20	420.80	700.05	
2028	0.00	5.46	13.41	88.44	176.45	444.40	728.17	
2029	0.00	0.00	13.01	92.00	185.70	468.00	758.72	
2030	0.00	0.00	12.60	95.57	194.95	491.61	794.73	
2031	0.00	0.00	12.20	99.13	204.20	515.21	830.74	
2032	0.00	0.00	11.80	102.70	213.45	538.81	866.75	
2033	0.00	0.00	11.39	106.26	222.70	562.41	902.76	
2034	0.00	0.00	10.99	109.83	231.95	586.01	938.77	
2035	0.00	0.00	10.58	113.39	241.21	609.61	974.79	
2036	0.00	0.00	10.18	116.96	250.46	633.21	1,010.80	
2037	0.00	0.00	9.77	120.52	259.71	656.81	1,046.81	
2038	0.00	0.00	9.37	124.09	268.96	680.41	1,082.82	
2039	0.00	0.00	8.96	127.65	278.21	704.01	1,118.83	
2040	0.00	0.00	8.56	131.22	287.46	727.61	1,154.84	
2041	0.00	0.00	8.15	134.78	296.71	751.21	1,190.85	
2042	0.00	0.00	7.75	138.34	305.96	774.81	1,226.87	
2043	0.00	0.00	7.34	141.91	315.21	798.41	1,262.88	
2044	0.00	0.00	6.94	145.47	324.47	822.01	1,298.89	
2045	0.00	0.00	6.53	149.04	333.72	845.61	1,334.90	
2046	0.00	0.00	6.13	152.60	342.97	869.21	1,370.91	
2047	0.00	0.00	0.00	156.17	352.22	892.82	1,401.20	
2048	0.00	0.00	0.00	159.73	361.47	916.42	1,437.62	
2049	0.00	0.00	0.00	163.30	370.72	940.02	1,474.03	
2050	0.00	0.00	0.00	166.86	379.97	963.62	1,510.45	
2051	0.00	0.00	0.00	170.43	389.22	987.22	1,546.87	
2052	0.00	0.00	0.00	173.99	398.47	1,010.82	1,583.28	
2053	0.00	0.00	0.00	177.55	407.73	1,034.42	1,619.70	
2054	0.00	0.00	0.00	181.12	416.98	1,058.02	1,656.12	

Chart 12

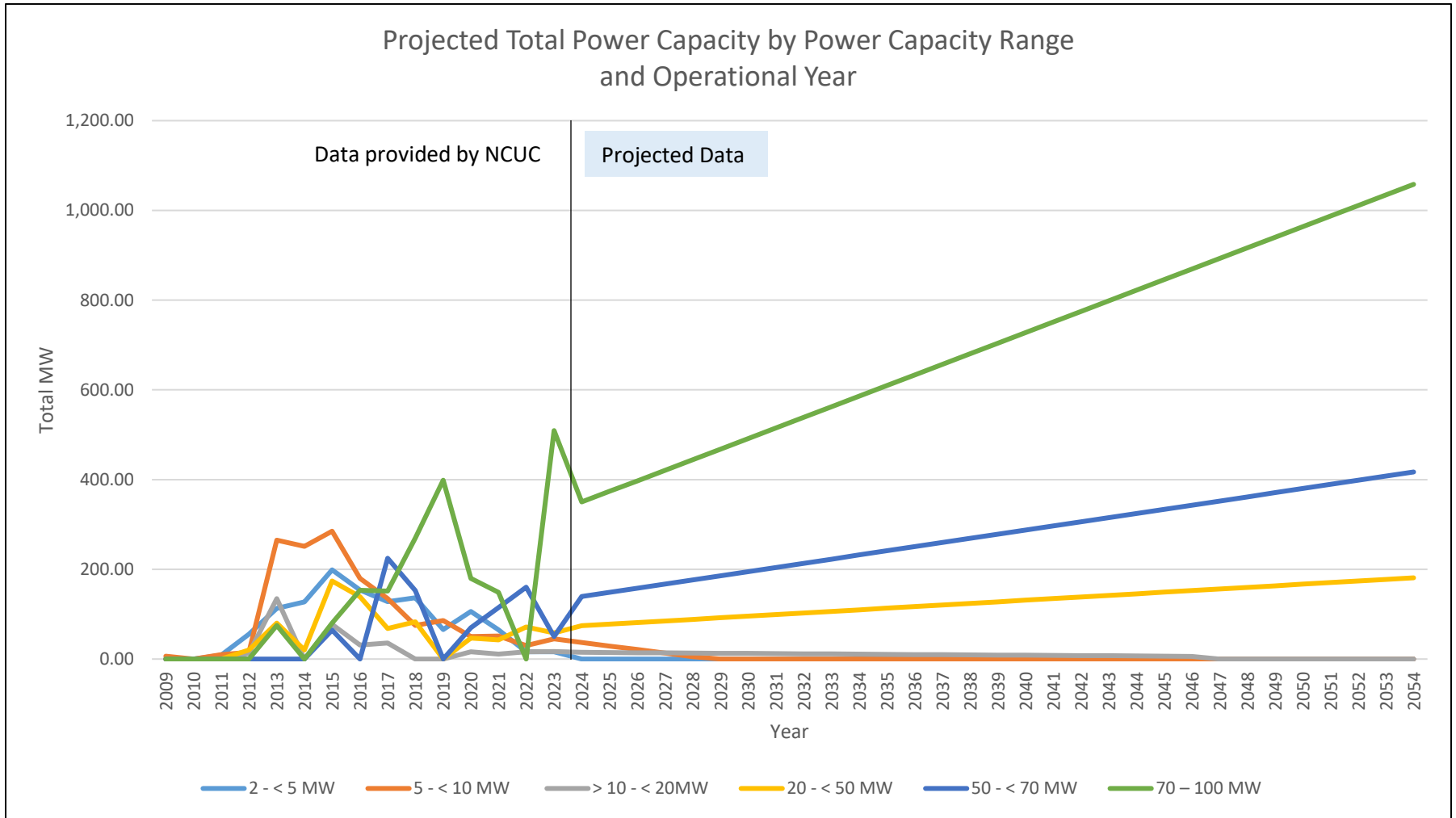


Table 21

Projected Number of Utility-Scale Solar Projects by Power Capacity Range and Operational Year with 20 MW Threshold			
Year	2 - < 20 MW	20 - 100 MW	Total
2009	1	0	1
2010	0	0	0
2011	4	0	4
2012	18	1	19
2013	86	5	91
2014	80	1	81
2015	112	9	121
2016	73	7	80
2017	55	8	63
2018	44	8	52
2019	32	5	37
2020	38	5	43
2021	27	6	33
2022	12	5	17
2023	14	8	22
2024	9	8	17
2025	7	9	16
2026	6	10	16
2027	4	10	14
2028	3	11	14
2029	2	11	13
2030	1	12	13
2031	1	12	13
2032	1	13	14
2033	1	13	14
2034	1	13	14
2035	1	14	15
2036	1	16	17
2037	1	16	17
2038	1	16	17
2039	1	16	17
2040	1	17	18
2041	1	17	18
2042	1	18	19
2043	1	18	19
2044	1	19	20
2045	1	20	21
2046	1	20	21
2047	0	20	20
2048	0	22	22
2049	0	22	22
2050	0	22	22
2051	0	22	22
2052	0	23	23
2053	0	23	23
2054	0	24	24

Data provided by NCUC

Projected

Chart 13

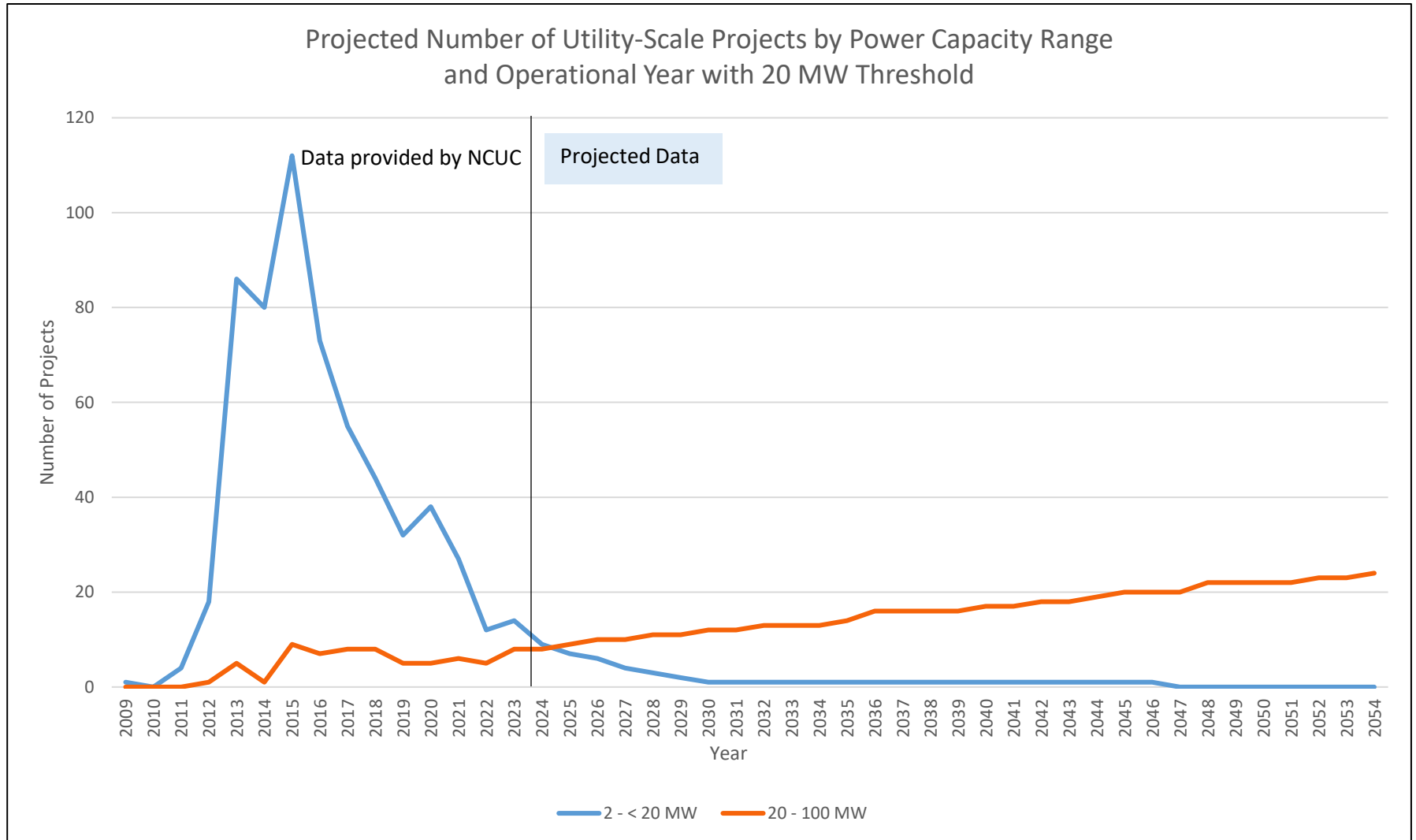


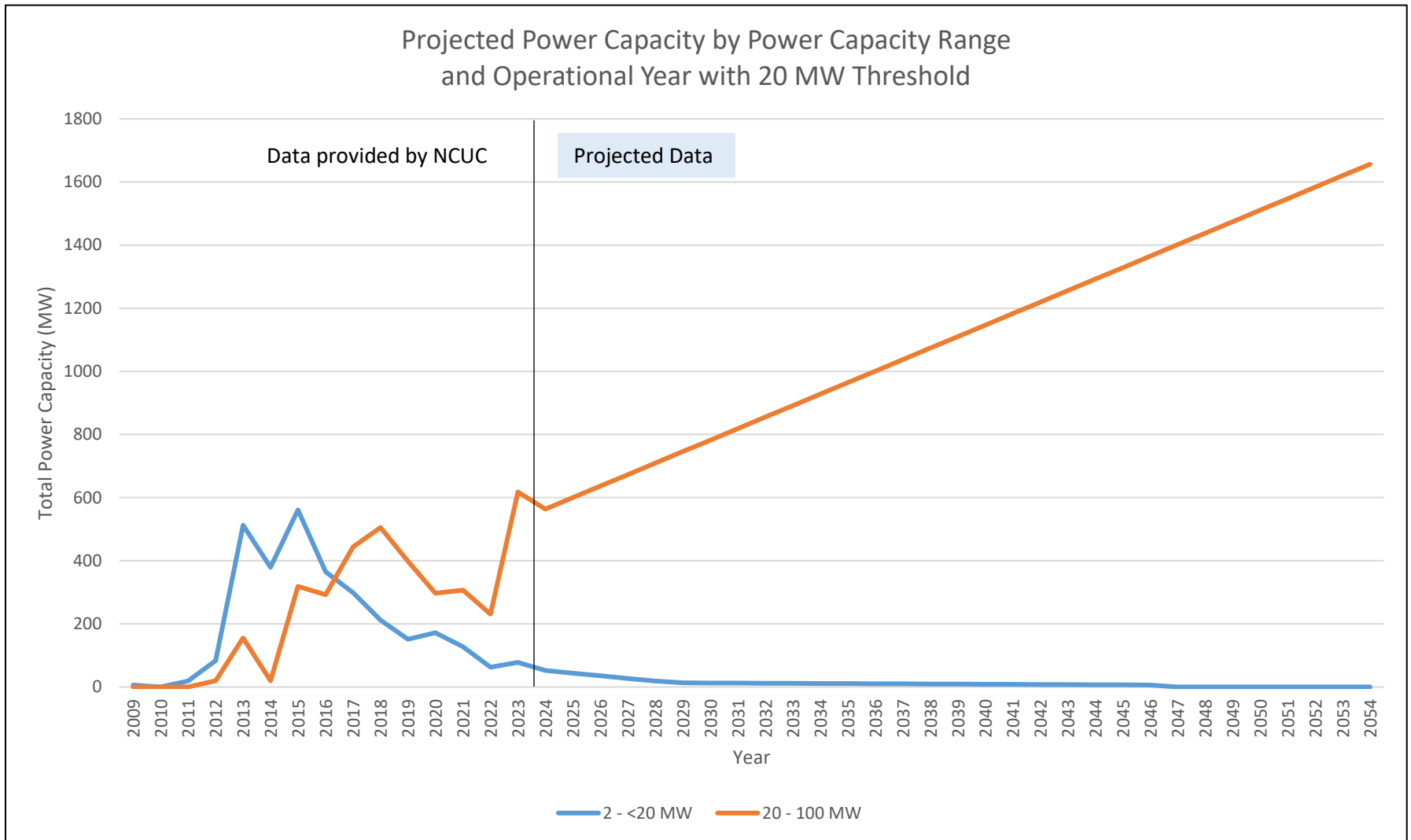
Table 22

Projected Total Power Capacity by Power Capacity Range and Operational Year with 20 MW Threshold			
Year	2 - < 20 MW	20 - 100 MW	Total
2009	6.5	0	6.50
2010	0	0	0.00
2011	18.5	0	18.50
2012	83.1	20	103.10
2013	512.52	154.9	667.42
2014	379.12	20	399.12
2015	560.89	318.6	879.49
2016	365.11	292.2	657.31
2017	298.44	444.08	742.52
2018	211.68	505.4	717.08
2019	151.54	398.8	550.34
2020	172.12	297	469.12
2021	127.53	306.4	433.93
2022	62.48	231.3	293.78
2023	77.99	617.4	695.39
2024	52.08	563.63	615.71
2025	43.78	600.04	643.82
2026	35.48	636.46	671.94
2027	27.18	672.88	700.05
2028	18.88	709.29	728.17
2029	13.01	745.71	758.72
2030	12.60	782.12	794.73
2031	12.20	818.54	830.74
2032	11.80	854.96	866.75
2033	11.39	891.37	902.76
2034	10.99	927.79	938.77
2035	10.58	964.21	974.79
2036	10.18	1000.62	1010.80
2037	9.77	1037.04	1046.81
2038	9.37	1073.45	1082.82
2039	8.96	1109.87	1118.83
2040	8.56	1146.29	1154.84
2041	8.15	1182.70	1190.85
2042	7.75	1219.12	1226.87
2043	7.34	1255.54	1262.88
2044	6.94	1291.95	1298.89
2045	6.53	1328.37	1334.90
2046	6.13	1364.79	1370.91
2047	0.00	1401.20	1401.20
2048	0.00	1437.62	1437.62
2049	0.00	1474.03	1474.03
2050	0.00	1510.45	1510.45
2051	0.00	1546.87	1546.87
2052	0.00	1583.28	1583.28
2053	0.00	1619.70	1619.70
2054	0.00	1656.12	1656.12

Data provided by NCUC

Projected

Chart 14



Appendix B

Development of Decommissioning Schedule

Two DEQ reports (the 2021 [Final Report on the Activities Conducted to Establish a Regulatory Program for the Management and Decommissioning of Renewable Energy Equipment](#)⁶ and the 2022 [Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects](#)⁷) assumed solar facilities would retire after 20 years. However, studies are showing that PV modules may last longer than their initial 20-year life expectancy with some studies showing they could last 40 or 50 years⁸. In 2022, the National Renewable Energy Laboratory stated the following:

Reliability plays a huge role in the lifetime costs and performance of solar modules and systems. These high-tech semiconductor devices must continue generating electricity for 30 to 40 years of sun, wind, hail, snow, and heat.

We expect modules to slowly degrade and produce slightly less electricity over time as they are exposed to outdoor conditions over the years. A major question in the solar energy industry is exactly how much we should expect solar modules to degrade each year (generally 0.5%–1%) and when they will eventually degrade so much that they no longer produce adequate power (often about 20% loss from their original output) or become unsafe.

For modules built today, it is probably 30 years.⁹

The U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy notes:

The estimated operational lifespan of a PV module is about 30-35 years, although some may produce power much longer.¹⁰

⁶ NCDEQ and NC Environmental Management Commission's Final Report on the Activities Conducted to Establish a Regulatory Program for the Management and Decommissioning of Renewable Energy Equipment, January 1, 2021: <https://www.deq.nc.gov/environmental-management-commission/gwwmc-committee/gwwmc2022mar09if-03attb12019-132h329finalreport2021-01-01/open>

⁷ NCDEQ Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects, March 1, 2022: [Plan and Recommendations for Financial Resources for Decommissioning of Utility-Scale Solar Panel Projects](#)

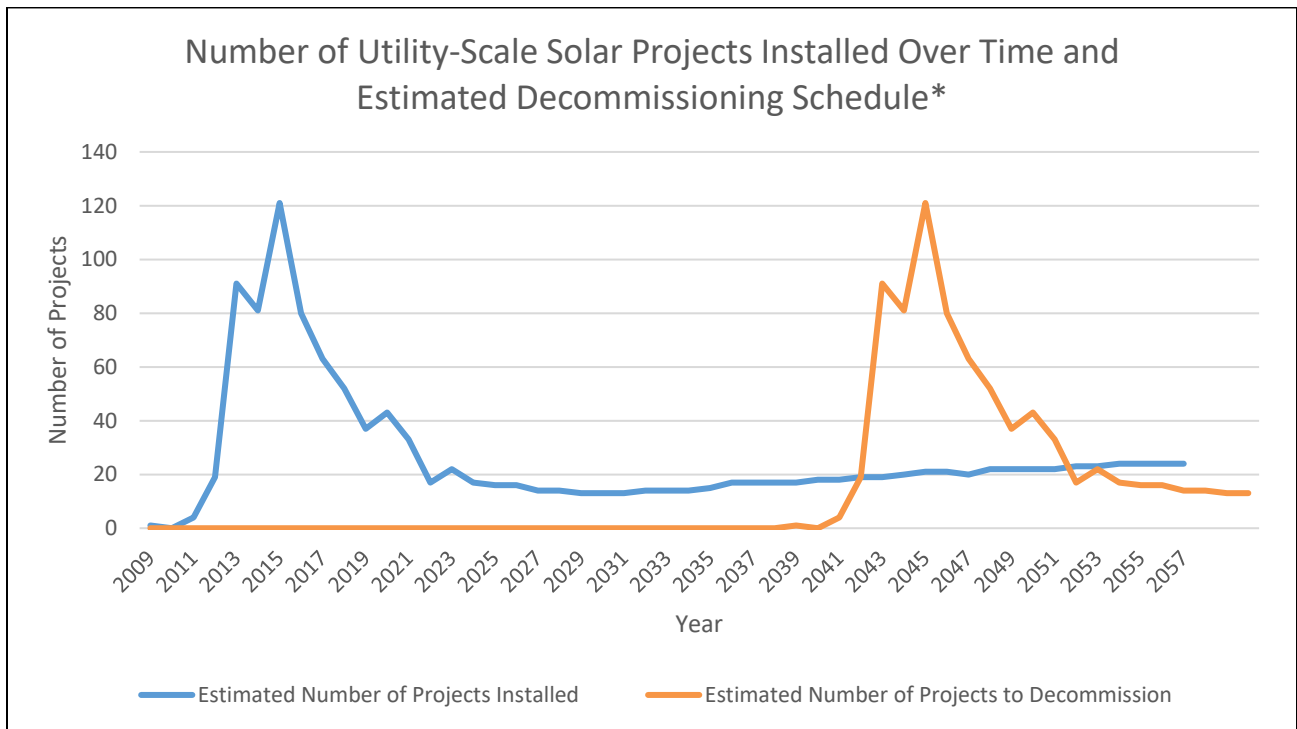
⁸ Circular economy priorities for photovoltaics in the energy transition. Mirlitz, Ovaitt, Sridhar, Barnes; September 9, 2022: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0274351>

⁹ National Renewable Energy Laboratory (NREL); March 15, 2022: <https://www.nrel.gov/news/features/2022/aging-gracefully-how-nrel-is-extending-the-lifetime-of-solar-modules.html>

¹⁰ U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy; End-of-Life Management for Solar Photovoltaics: <https://www.energy.gov/eere/solar/end-life-management-solar-photovoltaics>

For purposes of this document, the life expectancy of the PV modules is estimated at 30 years. This value will also be used as the lifespan of the USSP. [Chart 15](#) shows the estimated number of USSPs installed over time and the estimated decommissioning schedule when based on a 30 year life expectancy of the PV modules. [Chart 16](#) on page 63 shows the USSP power capacity installed over time and the estimated decommissioning schedule.

Chart 15

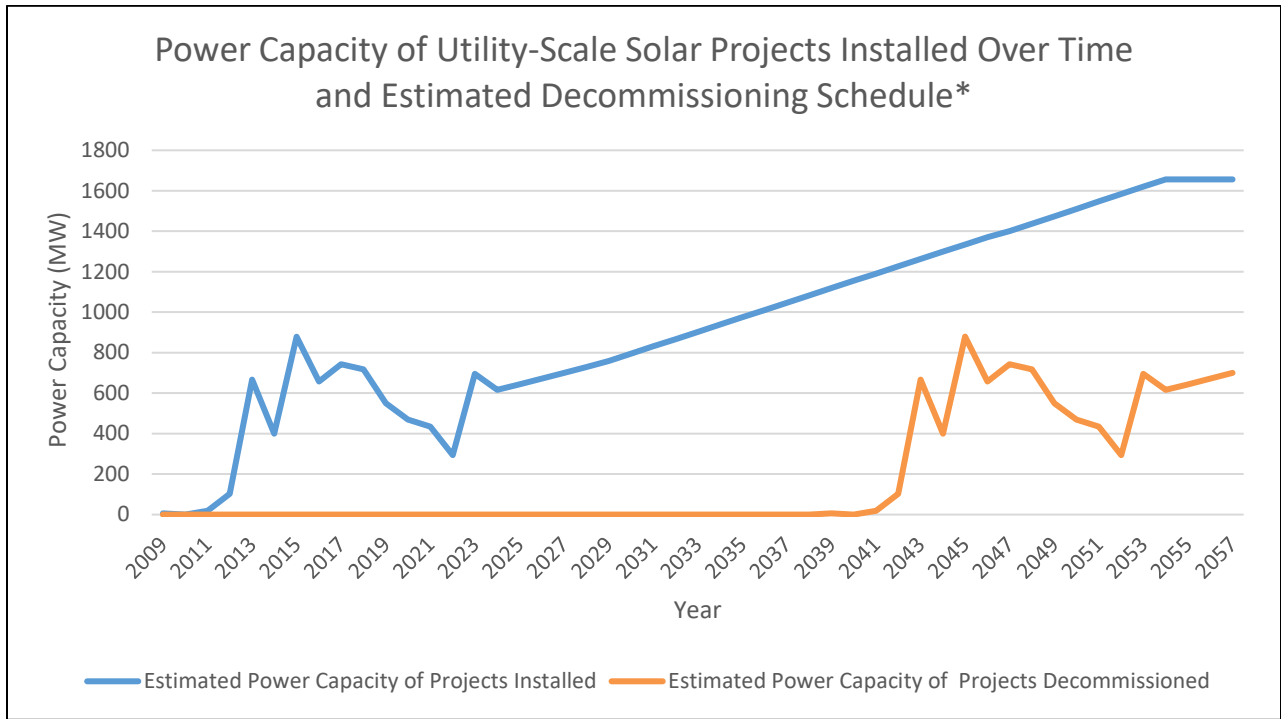


*Assuming a 30-year life expectancy of the PV modules.

Decommissioning of the USSPs will affect the number of projects as well as the total solar capacity. [Table 23](#), on page 64, summarizes the projected number of USSPs and power capacity over time showing the number of sites and solar capacity that are anticipated to be lost over time when USSPs are decommissioned. The number of USSPs that will decommission each year is equivalent to the number of projects that began operation 30 years prior. For instance, one USSP became operational in 2009, it is anticipated for purposes of this document that the same project will decommission in 2039.

Regardless of how long the PV modules last, the life span of the USSP could alternatively be dictated by the term of the power purchase agreement, lease agreement with the landowner, and/or the ability to repower the project. Uncertainty exists in the decommissioning schedule and is addressed further in the Uncertainty Analysis section of this document.

Chart 16



*Assuming a 30-year life expectancy of the PV modules.

Table 23

Summary of Projected Number of North Carolina Utility-Scale Solar Projects and Power Capacity Over Time						
Year	Number of Utility-Scale Solar Projects			Power Capacity (MW)		
	Added Throughout Year	Decommissioned Throughout Year	Total Number at End of Year	Added Throughout Year	Decommissioned Throughout Year	Total MW at End of Year
2023*			664			6,634
2024	17	0	681	616	0	7,250
2025	16	0	697	644	0	7,894
2026	16	0	713	672	0	8,566
2027	14	0	727	700	0	9,266
2028	14	0	741	728	0	9,994
2029	13	0	754	759	0	10,753
2030	13	0	767	795	0	11,547
2031	13	0	780	831	0	12,378
2032	14	0	794	867	0	13,245
2033	14	0	808	903	0	14,148
2034	14	0	822	939	0	15,086
2035	15	0	837	975	0	16,061
2036	17	0	854	1,011	0	17,072
2037	17	0	871	1,047	0	18,119
2038	17	0	888	1,083	0	19,202
2039	17	1	904	1,119	7	20,314
2040	18	0	922	1,155	0	21,469
2041	18	4	936	1,191	19	22,641
2042	19	19	936	1,227	103	23,765
2043	19	91	864	1,263	667	24,360
2044	20	81	803	1,299	399	25,260
2045	21	121	703	1,335	879	25,716
2046	21	80	644	1,371	657	26,429
2047	20	63	601	1,401	743	27,088
2048	22	52	571	1,438	717	27,808
2049	22	37	556	1,474	550	28,732
2050	22	43	535	1,510	469	29,773
2051	22	33	524	1,547	434	30,886
2052	23	17	530	1,583	294	32,176
2053	23	22	531	1,620	695	33,100
2054	24	15	540	1,656	616	34,141

* 2023 information is provided as a reference. 2023 data waste provided by NCUC and is not projected.

Appendix C

Development of Fee Structure and the Fiscal Impact Associated with Fees

S.L. 2023-58 mandated through N.C.G.S. 130A-309.240(h) that DEQ shall collect fees from the owner of a USSP at the time of initial registration and at registration recurrence (“renewal”) every five years and that the fees collected shall be applied to DEQ's cost of administering the program. Even though the requirement to collect fees was mandated through S.L. 2023-58, the amount of the fee was not provided in statute. Proposed fees are described in 15A NCAC 01V .0103.

The proposed rule has two different fee schedules for existing USSP (constructed before November 1, 2025) and new USSPs (constructed on or after November 1, 2025). See [Appendix A, Table 16](#) for additional information on the terms existing and new.

Proposed fees for new projects are set higher than those for the existing projects since new projects can more easily incorporate the fees into the planning and financing for the project while existing projects were not able to plan for this additional cost. Proposed fees for both new and existing projects are also higher at the initial registration than in subsequent five-year registration renewals to be able to front load higher expenses earlier in the project lifespan. The concept of front-loading cost or paying more up front early in the USSP lifespan was expressed as a preference by stakeholders in initial discussions about the proposed rules. Fees for new projects are further divided into two categories with the threshold being less than 20 MW and more than 20 MW so the projects that are more than 20 MW have a cap on both initial registration fee and renewal fees. [Appendix A](#) has additional information on the development of the 20 MW threshold for fees.

Table 24

Proposed Fee Schedule for 2025		
Type of Project	Initial Registration Fee (per MW)	Renewal Fee (per MW)
Existing	\$175	\$25
New (20 MW or less)	\$500	\$50
New (more than 20 MW)	\$300	\$25

To date, the Utility-Scale Solar Management Program has no funded positions. The only funding associated with the program is available after the collection of the registration fees effective November 1, 2025. The mandated fees are recurring only every five years. The fees must be able to support the positions required to operate the program. [Appendix D](#) provides additional information on the development costs associated with program administration.

S.L. 2023-58 created the Utility-Scale Solar Management Fund (Fund) (N.C.G.S. 130A-309.242) which consists of revenue credited to the Fund from the proceeds of the fee imposed on owners USSPs under N.C.G.S. 130A-309.240(h). The funds shall be used by DEQ to implement the new provisions for USSPs and must be set such that they fully fund the program.

The fees for the USSPs were modeled after the fees for North Carolina wind energy facilities. Table 25 provides an example of how the wind energy facility fees are structured. In addition to the below fees, wind energy facilities also have a permit fee of \$3,500.

Table 25

North Carolina Wind Energy Facility Fees				
Permit	Activity	Category	Fee	Statutory Authority
Wind Energy Facility Fees	Construction, operation, or expansion of a wind energy facility	New facility or expansion of facility	Lesser of \$200 per MW or \$50,000	North Carolina General Statute 143-215.119 and 143-215.125A (updated by SL 2023-134)
		Annual fee	\$75 per permitted MW	

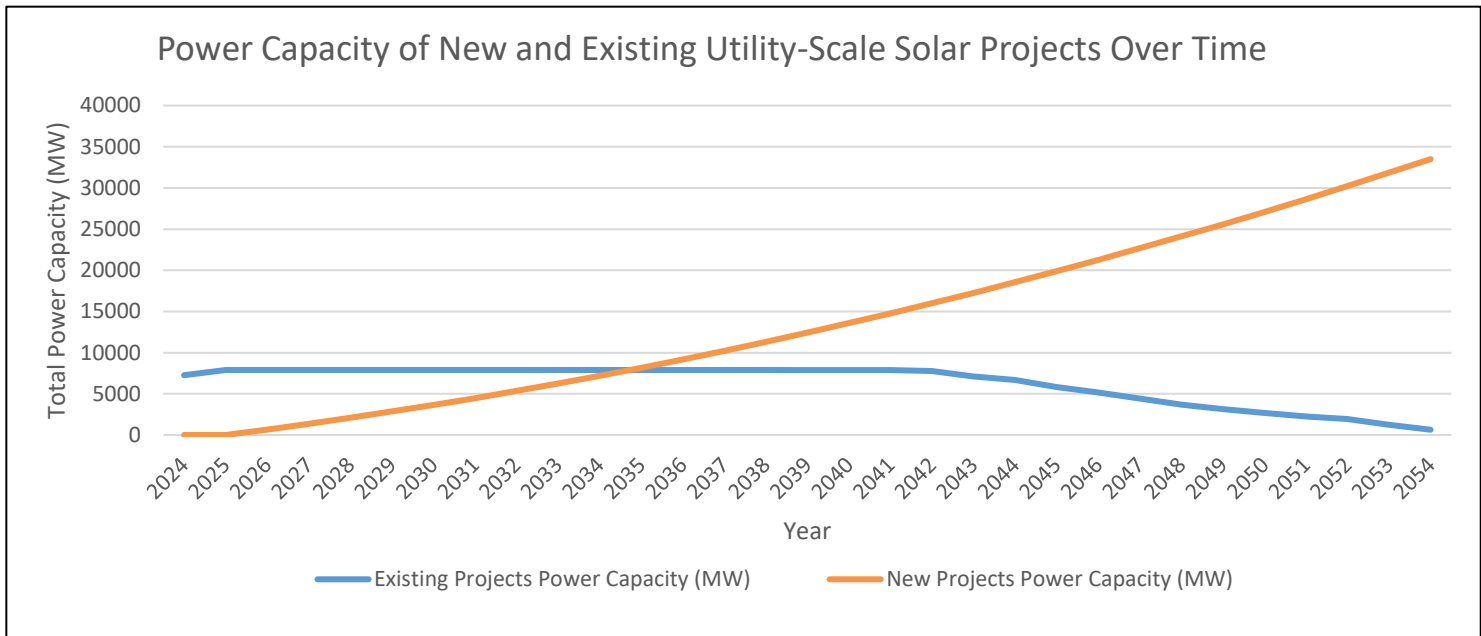
In accordance with 15A NCAC 01V .0103(c) and N.C.G.S. 143B-279.18 (see S.L. 2023-134, s. 12.14.(p)), the fees will be adjusted based on the Consumer Price Index computed by the Bureau of Labor Statistics beginning July 1, 2029 and every five years thereafter. [Table 27](#) on page 69 is an example of the fees (per MW) adjusted for inflation (estimated at 2.5% per year) as described above. The proposed rule 15A NCAC 01V .0103(c) states that the fees may also be increased or decreased, or the fee structure may be adjusted on the five year registration schedule in order to be able to meet the requirements that the fees fully fund program administration.

The USSP owners (private entities) will be subject to the cost of the fees while DEQ (state government) will receive the benefit of the fees to be used for the administration of the new requirements. Although the registration and fee requirements are effective on November 1, 2025, for purposes of this analysis, it is assumed that there will be no new projects registering or paying a fee for the two months the requirements are effective in 2025. Existing USSPs are required to pay the initial fee in 2025, so it is assumed they will comply.

As the statute states, the fees were calculated to be able to fund DEQ’s administration of the provisions mandated in S.L. 2023-58. The fees are directly tied to the timeframe for the registration requirement (G.S. 130A-309.240(e)) and fees are due at the time of initial registration and every five years thereafter. Collecting fees only every five years leads to a large influx of money from existing projects in the first year (anticipated 2025) and this money is used to substantially fund the subsequent four years until the fees are collected from existing projects again.

Another challenge is the power capacity of existing USSPs will decrease over time while the power capacity of new projects will increase over time. In 2025, it is estimated there will be 7,894 MW of power capacity, but this will only be from existing projects. The power capacity of existing projects will decrease to close to zero by 2054. The solar capacity of new USSPs will be zero in 2025 and grow to an estimated 33,498 MW by 2054. [Chart 17](#) on page 67 shows the future power capacity of both new and existing USSPs over time.

Chart 17



As a result of the assumption that the lifespan of a USSP is 30 years, for purposes of this document, the fiscal impact for all associated costs and benefits needs to be reviewed for the same time frame. A 30-year time frame for budgeting purposes, fees, and cost to administer a program is not a typical timeline for projections in fiscal impact analysis. Fiscal impact analysis time frame varies depending on the evaluation, but often the timeframe is shorter – closer to 10 years. It is acknowledged that on paper, the revenues received from the fees grows well beyond the cost to fund the personnel administering the provisions in 10 years after the effective date of the proposed rules. However, if fees were set lower initially, to keep from having a large excess of funds after the 10 year mark, there is not enough money to fund the first 10 years of the program.

This is a brand new DEQ program with a dynamic industry that as shown in Appendix A can change drastically from year to year. There is uncertainty on the future power capacity of USSPs that would affect the fees and the ability to fund the program administration of the USSP requirements. This is further discussed in the Uncertainty Analysis section of this document.

To be clear, the ideal goal is to collect fees and precisely and consistently fund the program administration costs year after year. The goal is not to have a large excess reserve of money in the Utility-Scale Solar Management Fund that is more than what is needed to fund the program administration costs. The challenges previously noted make it impossible to precisely set fees to cover costs for program administration for a 30 year period of time.

Although the fees need to initially be set as they are in the proposed rule, N.C.G.S. 150B-21.3A requires state agencies to review existing rules every 10 years so the fees will be required to be reviewed at the 10 year mark of the proposed rules being effective. The periodic rule review process includes a required public comment period. Additionally, proposed rule 15A NCAC 01V .0103(c) states that the fees may also be increased or decreased, or the fee structure may be adjusted every five years to meet the requirements that the fees be used to fund program administration.

[Table 26](#) shows an example of calculated fees for new and existing USSPs in 2025. With inflation, this table may not be relevant for future fees. This is to provide an example of the scale of the initial fees. Fees are applied initially and then every five years. This is not an annual fee. [Table 27](#) on page 69 provides fees per power capacity adjusted by the inflation rate over time. [Table 28](#) on page 70 describes the USSP power capacity over time for fee calculations. [Table 29](#) on page 71 shows the USSP fee summary over time.

Table 26

Estimated Five Year Fees for New and Existing Utility-Scale Solar Projects in 2025						
	Existing		New			
	Initial	Renewal	Less than 20 MW		20 MW or more	
			Initial	Renewal	Initial	Renewal
Fee Per MW	\$175	\$25	\$500	\$50	\$300	\$25
2 - < 5 MW	\$350 - \$874	\$50 - \$124	\$1,000 - \$2,495	\$100 - \$249		
5 - ≤ 10 MW	\$875 - \$1,750	\$125 - \$250	\$2,500 - \$5,000	\$250 - \$500		
> 10 - < 20 MW	\$1,751 - \$3,499	\$251 - \$499	\$5,005 - \$9,995	\$501 - \$999		
20 - < 50 MW	\$3,500 - \$8,749	\$500 - \$1,249			\$6,000 - \$14,997	\$500 - \$1,249
50 - < 70 MW	\$8,750 - \$12,249	\$2,250 - \$1,749			\$15,000 - \$20,997	\$1,250 - \$1,749
70 – 100 MW	\$12,250 - \$17,500	\$1,750 - \$2,500			\$21,000 - \$30,000	\$1,750 - \$2,500

Table 27

Fees per Power Capacity (MW) with Inflation Rate Over Time						
Year	Existing Projects*		New Projects*			
	Initial Fee (per MW)	Renewal Fee (per MW)	20 MW or less		More than 20 MW	
			Initial Fee (per MW)	Renewal Fee (per MW)	Initial Fee (per MW)	Renewal Fee (per MW)
2024	\$0	\$0	\$0	\$0	\$0	\$0
2025	\$175	\$25	\$500	\$50	\$300	\$25
2026			\$500	\$50	\$300	\$25
2027			\$500	\$50	\$300	\$25
2028			\$500	\$50	\$300	\$25
2029			\$500	\$50	\$300	\$25
2030		\$28	\$566	\$57	\$339	\$28
2031			\$566	\$57	\$339	\$28
2032			\$566	\$57	\$339	\$28
2033			\$566	\$57	\$339	\$28
2034			\$566	\$57	\$339	\$28
2035		\$32	\$640	\$64	\$384	\$32
2036			\$640	\$64	\$384	\$32
2037			\$640	\$64	\$384	\$32
2038			\$640	\$64	\$384	\$32
2039			\$640	\$64	\$384	\$32
2040		\$36	\$724	\$72	\$434	\$36
2041			\$724	\$72	\$434	\$36
2042			\$724	\$72	\$434	\$36
2043			\$724	\$72	\$434	\$36
2044			\$724	\$72	\$434	\$36
2045		\$41	\$819	\$82	\$492	\$41
2046			\$819	\$82	\$492	\$41
2047			\$819	\$82	\$492	\$41
2048			\$819	\$82	\$492	\$41
2049			\$819	\$82	\$492	\$41
2050		\$46	\$927	\$93	\$556	\$46
2051			\$927	\$93	\$556	\$46
2052			\$927	\$93	\$556	\$46
2053			\$927	\$93	\$556	\$46
2054			\$927	\$93	\$556	\$46

*Existing USSPs = constructed before November 1, 2025
 New USSPs = constructed on/after November 1, 2025.

Table 28

Utility-Scale Solar Project Power Capacity Over Time for Fees						
Year	Existing Projects* (Total MW)	New Projects* (Total MW)	New Projects - 20 MW or less		New Projects – More than 20 MW	
			Initial Billing (MW added/year)	Renewal Billing (Total MW)	Initial Billing (MW added/year)	Renewal Billing (Total MW)
2024	7,250	0	0	0	0	0
2025	7,894	0	0	0	0	0
2026	7,894	671	35	0	636	0
2027	7,894	1,371	27	0	673	0
2028	7,894	2,099	19	0	709	0
2029	7,894	2,858	13	0	746	0
2030	7,894	3,653	13	0	782	0
2031	7,894	4,484	12	35	819	636
2032	7,894	5,351	12	27	855	673
2033	7,894	6,254	11	19	891	709
2034	7,894	7,193	11	13	928	746
2035	7,894	8,168	11	13	964	782
2036	7,894	9,179	10	47	1,001	1,455
2037	7,894	10,226	10	39	1,037	1,528
2038	7,894	11,309	9	30	1,073	1,600
2039	7,887	12,428	9	24	1,110	1,674
2040	7,887	13,583	9	24	1,146	1,746
2041	7,868	14,774	8	57	1,183	2,456
2042	7,765	16,001	8	49	1,219	2,565
2043	7,098	17,264	7	39	1,256	2,673
2044	6,699	18,563	7	33	1,292	2,784
2045	5,820	19,898	7	33	1,328	2,892
2046	5,163	21,269	6	65	1,365	3,639
2047	4,420	22,670	0	57	1,401	3,784
2048	3,703	24,108	0	46	1,438	3,929
2049	3,153	25,582	0	40	1,474	4,076
2050	2,684	27,092	0	40	1,510	4,220
2051	2,250	28,639	0	71	1,547	5,004
2052	1,956	30,222	0	57	1,583	5,185
2053	1,261	31,842	0	46	1,620	5,367
2054	645	33,498	0	40	1,656	5,550

*Existing USSPs = constructed before November 1, 2025

New USSPs = constructed on/after November 1, 2025.

Table 29

Utility-Scale Solar Project Fee Summary Over Time									
Year	Existing Projects*			New Projects*				Total Fees	
	Initial Fees	Renewal Fees	Total Fees for Existing Projects	Less than 20 MW		20 MW or More			Total Fees for New Projects
				Initial Fees	Renewal Fees	Initial Fees	Renewal Fees		
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2025	\$1,381,450		\$1,381,450	\$0	\$0	\$0	\$0	\$0	\$1,381,450
2026			\$0	\$17,500	\$0	\$190,800	\$0	\$208,300	\$208,300
2027			\$0	\$13,500	\$0	\$201,900	\$0	\$215,400	\$215,400
2028			\$0	\$9,500	\$0	\$212,700	\$0	\$222,200	\$222,200
2029			\$0	\$6,500	\$0	\$223,800	\$0	\$230,300	\$230,300
2030		\$223,283	\$223,283	\$7,354	\$0	\$265,428	\$0	\$272,783	\$496,066
2031			\$0	\$6,788	\$1,980	\$277,987	\$17,989	\$304,745	\$304,745
2032			\$0	\$6,788	\$1,527	\$290,206	\$19,036	\$317,558	\$317,558
2033			\$0	\$6,223	\$1,075	\$302,425	\$20,054	\$329,777	\$329,777
2034			\$0	\$6,223	\$735	\$314,984	\$21,101	\$343,043	\$343,043
2035		\$252,625	\$252,625	\$7,040	\$832	\$370,200	\$25,026	\$403,099	\$655,723
2036			\$0	\$6,400	\$3,008	\$384,409	\$46,563	\$440,381	\$440,381
2037			\$0	\$6,400	\$2,496	\$398,234	\$48,899	\$456,030	\$456,030
2038			\$0	\$5,760	\$1,920	\$412,059	\$51,203	\$470,943	\$470,943
2039			\$0	\$5,760	\$1,536	\$426,268	\$53,572	\$487,136	\$487,136
2040		\$285,568	\$285,568	\$6,517	\$1,738	\$497,925	\$63,218	\$569,398	\$854,967
2041			\$0	\$5,793	\$4,128	\$514,001	\$88,926	\$612,847	\$612,847
2042			\$0	\$5,793	\$3,548	\$529,643	\$92,872	\$631,856	\$631,856
2043			\$0	\$5,069	\$2,824	\$545,719	\$96,783	\$650,394	\$650,394
2044			\$0	\$5,069	\$2,390	\$561,360	\$100,802	\$669,621	\$669,621
2045		\$238,419	\$238,419	\$5,735	\$2,704	\$652,825	\$118,472	\$779,736	\$1,018,154
2046			\$0	\$4,916	\$5,326	\$671,013	\$149,073	\$830,328	\$830,328
2047			\$0	\$0	\$4,670	\$688,710	\$155,013	\$848,394	\$848,394
2048			\$0	\$0	\$3,769	\$706,899	\$160,953	\$871,621	\$871,621
2049			\$0	\$0	\$3,277	\$724,596	\$166,975	\$894,848	\$894,848
2050		\$124,400	\$124,400	\$0	\$3,708	\$839,837	\$195,591	\$1,039,136	\$1,163,535
2051			\$0	\$0	\$6,582	\$860,415	\$231,928	\$1,098,925	\$1,098,925
2052			\$0	\$0	\$5,284	\$880,438	\$240,318	\$1,126,039	\$1,126,039
2053			\$0	\$0	\$4,264	\$901,017	\$248,753	\$1,154,034	\$1,154,034
2054			\$0	\$0	\$3,708	\$921,039	\$257,235	\$1,181,982	\$1,181,982

*Existing USSPs = constructed before November 1, 2025
 New USSPs = constructed on/after November 1, 2025.

Appendix D

Development of Program Administration Cost Estimates

Three Full Time Equivalents (FTEs) will be needed to administer the provisions set forth in S.L. 2023-58. The DEQ positions best suited to administer the proposed new requirements are an Engineer I, an Environmental Program Consultant, and a Financial Analyst. North Carolina state employee estimated salary data with benefits and annual recurring operating cost for 2025 was provided by the DEQ, Division of Waste Management Budget Officer. The salary is the mid-point range for the position. For Fiscal Year 2025, benefits are calculated as follows for each salary: Federal Insurance Contributions Act (FICA) is 7.65%, Retirement is 23.82%, and Medical is \$8,092 pay period/year. Recurring Operational Costs for each position are \$15,383/year. The DEQ estimated salaries with benefits and annual operating costs for positions involved in this analysis are included in Table 30.

Table 30

DEQ Annual Salary with Benefits and Annual Operating Cost Estimates for 2025							
Position	Annual Midpoint Salary	Federal Insurance Contributions	Retirement	Medical	Recurring Operating Costs	Annual Loaded Wage	Hourly Loaded Wage
Engineer I	\$74,520.00	\$5,700.78	\$17,750.66	\$8,092.00	\$15,383.00	\$121,446.44	\$58.39
Environmental Program Consultant	\$82,159.00	\$6,285.16	\$19,570.27	\$8,092.00	\$15,383.00	\$131,489.44	\$63.22
Financial Analyst	\$61,308.00	\$4,690.06	\$14,603.57	\$8,092.00	\$15,383.00	\$104,076.63	\$50.04

Annual wages were calculated by multiplying the hourly wage by 2,080 hours.

Based on the average North Carolina legislative increase for 2005-2024, wages increase 2% per year. The Cost and Benefit Summaries also incorporate the wage increase over time. For this document, the example wage rate estimates are provided in [Table 31](#), page 73.

In addition to the annual salaries with benefits and annual operating cost, each position will have a one-time/first year operating cost for each position of \$3,396. This amounts to a total one-time cost of \$10,188 on the first year of the proposed rules being effective (anticipated 2025).

S.L. 2023-58 created the Utility-Scale Solar Management Fund (Fund) (N.C.G.S. 130A-309.242) which consists of revenue credited to the Fund from the proceeds of the fee imposed on owners of USSPs under N.C.G.S. 130A-309.240(h). The funds shall be used by DEQ to implement the new provisions for USSPs.

[Table 32](#), on page 74 provides a summary of program administration costs for state government. The amounts in the table include salary, benefits, and recurring operating costs.

[Table 33](#), on page 75 shows the fiscal impact and balance in Utility-Scale Solar Management Fund with proposed fees and program administration costs. The amount in the Fund grows very large after 10 years. N.C.G.S. 150B-21.3A requires state agencies to review existing rules every 10 years so the fees will be required to be reviewed at the 10 year mark of the proposed rules being effective. The periodic rule

review process includes a required public comment period. Additionally, proposed rule 15A NCAC 01V .0103(c) states that the fees may also be increased or decreased, or the fee structure may be adjusted every five years to meet the requirements that the fees be used to fund program administration. See Appendix C for more information on the development of the fee structure.

Table 31

Hourly Loaded Wage Rate Estimated Over Time for Utility-Scale Solar Management Program Positions*			
Year	Engineer I	Environmental Program Consultant	Financial Analyst
2024	\$0	\$0	\$0
2025	\$58.39	\$63.22	\$50.04
2026	\$59.56	\$64.48	\$51.04
2027	\$60.75	\$65.77	\$52.06
2028	\$61.96	\$67.09	\$53.10
2029	\$63.20	\$68.43	\$54.16
2030	\$64.47	\$69.80	\$55.25
2031	\$65.76	\$71.20	\$56.35
2032	\$67.07	\$72.62	\$57.48
2033	\$68.41	\$74.07	\$58.63
2034	\$69.78	\$75.55	\$59.80
2035	\$71.18	\$77.06	\$61.00
2036	\$72.60	\$78.61	\$62.22
2037	\$74.05	\$80.18	\$63.46
2038	\$75.53	\$81.78	\$64.73
2039	\$77.04	\$83.42	\$66.03
2040	\$78.59	\$85.09	\$67.35
2041	\$80.16	\$86.79	\$68.69
2042	\$81.76	\$88.52	\$70.07
2043	\$83.40	\$90.29	\$71.47
2044	\$85.06	\$92.10	\$72.90
2045	\$86.76	\$93.94	\$74.36
2046	\$88.50	\$95.82	\$75.84
2047	\$90.27	\$97.74	\$77.36
2048	\$92.08	\$99.69	\$78.91
2049	\$93.92	\$101.69	\$80.49
2050	\$95.79	\$103.72	\$82.10
2051	\$97.71	\$105.79	\$83.74
2052	\$99.67	\$107.91	\$85.41
2053	\$101.66	\$110.07	\$87.12
2054	\$103.69	\$112.27	\$88.86

*Based on the average North Carolina legislative increase for 2005-2024, wages increase 2% per year.

Table 32

Summary of Program Administration Costs for State Government* (includes salary, benefits, recurring operating costs)								
Year	Engineer I		Environmental Program Consultant		Financial Analyst		One Time/First Year Operating Cost for Each Position	Total Cost for State Government
	Salary	Benefits & Recurring Costs	Salary	Benefits & Recurring Costs	Salary	Benefits & Recurring Costs		
2024	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2025	\$74,520	\$46,926	\$82,159	\$49,330	\$61,308	\$42,769	\$10,188	\$367,201
2026	\$76,010	\$47,870	\$83,802	\$50,325	\$62,534	\$43,631		\$364,173
2027	\$77,531	\$48,827	\$85,478	\$51,332	\$63,785	\$44,503		\$371,456
2028	\$79,081	\$49,804	\$87,188	\$52,359	\$65,061	\$45,393		\$378,885
2029	\$80,663	\$50,800	\$88,932	\$53,406	\$66,362	\$46,301		\$386,463
2030	\$82,276	\$51,816	\$90,710	\$54,474	\$67,689	\$47,227		\$394,192
2031	\$83,922	\$52,852	\$92,524	\$55,563	\$69,043	\$48,172		\$402,076
2032	\$85,600	\$53,909	\$94,375	\$56,675	\$70,424	\$49,135		\$410,118
2033	\$87,312	\$54,987	\$96,262	\$57,808	\$71,832	\$50,118		\$418,320
2034	\$89,058	\$56,087	\$98,188	\$58,964	\$73,269	\$51,120		\$426,686
2035	\$90,839	\$57,209	\$100,151	\$60,143	\$74,734	\$52,143		\$435,220
2036	\$92,656	\$58,353	\$102,154	\$61,346	\$76,229	\$53,186		\$443,924
2037	\$94,509	\$59,520	\$104,197	\$62,573	\$77,753	\$54,249		\$452,803
2038	\$96,400	\$60,711	\$106,281	\$63,825	\$79,308	\$55,334		\$461,859
2039	\$98,328	\$61,925	\$108,407	\$65,101	\$80,895	\$56,441		\$471,096
2040	\$100,294	\$63,163	\$110,575	\$66,403	\$82,512	\$57,570		\$480,518
2041	\$102,300	\$64,426	\$112,787	\$67,731	\$84,163	\$58,721		\$490,128
2042	\$104,346	\$65,715	\$115,042	\$69,086	\$85,846	\$59,896		\$499,931
2043	\$106,433	\$67,029	\$117,343	\$70,468	\$87,563	\$61,094		\$509,930
2044	\$108,562	\$68,370	\$119,690	\$71,877	\$89,314	\$62,315		\$520,128
2045	\$110,733	\$69,737	\$122,084	\$73,315	\$91,100	\$63,562		\$530,531
2046	\$112,947	\$71,132	\$124,526	\$74,781	\$92,922	\$64,833		\$541,141
2047	\$115,206	\$72,555	\$127,016	\$76,276	\$94,781	\$66,130		\$551,964
2048	\$117,511	\$74,006	\$129,556	\$77,802	\$96,677	\$67,452		\$563,003
2049	\$119,861	\$75,486	\$132,148	\$79,358	\$98,610	\$68,801		\$574,264
2050	\$122,258	\$76,996	\$134,791	\$80,945	\$100,582	\$70,177		\$585,749
2051	\$124,703	\$78,536	\$137,486	\$82,564	\$102,594	\$71,581		\$597,464
2052	\$127,197	\$80,106	\$140,236	\$84,215	\$104,646	\$73,012		\$609,413
2053	\$129,741	\$81,708	\$143,041	\$85,900	\$106,739	\$74,473		\$621,601
2054	\$132,336	\$83,343	\$145,902	\$87,618	\$108,873	\$75,962		\$634,033

*Due to rounding, numbers presented in this table may not add up exactly.

Table 33

Fiscal Impact and Balance in Utility-Scale Solar Management Fund with Proposed Fees					
Year	Fee Amounts Received	Program Administration Cost (3FTEs)*	Fiscal Impact per Year (Fees Received - Program Administration Cost)	Carry Over Funds from Previous Year	Utility-Scale Solar Management Fund Balance
2024	\$0	\$0	\$0	\$0	\$0
2025	\$1,381,450	\$367,201	\$1,014,249	\$0	\$1,014,249
2026	\$208,300	\$364,173	(\$155,873)	\$1,014,249	\$858,377
2027	\$215,400	\$371,456	(\$156,056)	\$858,377	\$702,321
2028	\$222,200	\$378,885	(\$156,685)	\$702,321	\$545,636
2029	\$230,300	\$386,463	(\$156,163)	\$545,636	\$389,473
2030	\$496,066	\$394,192	\$101,874	\$389,473	\$491,346
2031	\$304,745	\$402,076	(\$97,331)	\$491,346	\$394,015
2032	\$317,558	\$410,118	(\$92,560)	\$394,015	\$301,456
2033	\$329,777	\$418,320	(\$88,543)	\$301,456	\$212,913
2034	\$343,043	\$426,686	(\$83,643)	\$212,913	\$129,270
2035	\$655,723	\$435,220	\$220,503	\$129,270	\$349,773
2036	\$440,381	\$443,924	(\$3,543)	\$349,773	\$346,230
2037	\$456,030	\$452,803	\$3,227	\$346,230	\$349,457
2038	\$470,943	\$461,859	\$9,084	\$349,457	\$358,541
2039	\$487,136	\$471,096	\$16,040	\$358,541	\$374,581
2040	\$854,967	\$480,518	\$374,449	\$374,581	\$749,030
2041	\$612,847	\$490,128	\$122,719	\$749,030	\$871,748
2042	\$631,856	\$499,931	\$131,925	\$871,748	\$1,003,674
2043	\$650,394	\$509,930	\$140,465	\$1,003,674	\$1,144,139
2044	\$669,621	\$520,128	\$149,492	\$1,144,139	\$1,293,631
2045	\$1,018,154	\$530,531	\$487,624	\$1,293,631	\$1,781,255
2046	\$830,328	\$541,141	\$289,187	\$1,781,255	\$2,070,441
2047	\$848,394	\$551,964	\$296,429	\$2,070,441	\$2,366,871
2048	\$871,621	\$563,003	\$308,618	\$2,366,871	\$2,675,488
2049	\$894,848	\$574,264	\$320,585	\$2,675,488	\$2,996,073
2050	\$1,163,535	\$585,749	\$577,786	\$2,996,073	\$3,573,860
2051	\$1,098,925	\$597,464	\$501,462	\$3,573,860	\$4,075,321
2052	\$1,126,039	\$609,413	\$516,626	\$4,075,321	\$4,591,947
2053	\$1,154,034	\$621,601	\$532,432	\$4,591,947	\$5,124,380
2054	\$1,181,982	\$634,033	\$547,949	\$5,124,380	\$5,672,328

10-year Periodic Rule Review

*Program Administration costs include salary, benefits, and recurring costs for 3FTEs.

Appendix E

North Carolina Session Law 2023-58

**GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2023**

**SESSION LAW 2023-58
HOUSE BILL 130**

AN ACT TO (I) LIMIT CITIES AND COUNTIES FROM PROHIBITING CONSUMER CHOICE OF ENERGY SERVICE BASED UPON THE TYPE OR SOURCE OF ENERGY TO BE DELIVERED AND (II) REQUIRE RESPONSIBLE DECOMMISSIONING OF NEWLY SITED UTILITY-SCALE SOLAR PROJECTS UPON CESSATION OF OPERATIONS.

The General Assembly of North Carolina enacts:

PART I. PRESERVING CHOICES FOR CONSUMERS

SECTION 1.(a) Article 8 of Chapter 160A of the General Statutes is amended by adding a new section to read:

"§ 160A-203.3. Limitations on regulation of energy choice.

(a) A city shall not adopt an ordinance that prohibits, or has the effect of prohibiting, either of the following:

- (1) The connection, reconnection, modification, or expansion of an energy service based upon the type or source of energy to be delivered to an individual or any other person as the end-user of the energy service.
- (2) The sale, purchase, or installation of an appliance utilized for cooking, space heating, water heating, or any other appliance included under the definition of "white goods" pursuant to G.S. 130A-290(a).

(b) As used in this section, "energy service" means the energy source that a consumer may choose to use to illuminate, heat, or cool buildings; produce hot water; operate equipment; operate appliances; or any other similar activities, where the energy source is derived from one or more of a variety of sources such as natural gas, renewable gas, hydrogen, liquified petroleum gas, renewable liquified petroleum gas, or other liquid petroleum products and that is delivered to the consumer by an entity legally authorized to provide such service or electricity that is derived from one or more sources of electric generation and is delivered to the consumer by an entity legally authorized to provide such service and the distribution of the electricity occurs according to the territorial rights established by G.S. 62-110.2, 160A-331.2, or 160A-332. For purposes of this section, the terms "renewable gas" and "renewable liquified petroleum gas" shall mean gas derived from a renewable energy resource, as that term is defined by G.S. 62-133.8(a)(8).

(c) Nothing in this section shall be construed to (i) limit the ability of a city to choose the energy service for property owned by the city, (ii) prohibit a city from recovering reasonable costs associated with reviewing and issuing a permit, (iii) affect the authority of a city to manage or operate a city-owned utility, including a city's authority to require persons residing within their jurisdictions to obtain energy service from a city-owned utility or a joint municipal power agency of which they are a member, or (iv) impair a contract executed pursuant to G.S. 160A-322 prior to the effective date of this section for the supply of electric service.

(d) Notwithstanding any authority granted to municipalities to adopt local ordinances, any local ordinance that prohibits or has the effect of prohibiting the activities described in subsection (a) of this section shall be invalid."



SECTION 1.(b) Article 6 of Chapter 153A of the General Statutes is amended by adding a new section to read:

"§ 153A-145.11. Limitations on regulation of energy choice.

(a) A county shall not adopt an ordinance that prohibits, or has the effect of prohibiting, either of the following:

- (1) The connection, reconnection, modification, or expansion of an energy service based upon the type or source of energy to be delivered to an individual or any other person as the end-user of the energy service.
- (2) The sale, purchase, or installation of an appliance utilized for cooking, space heating, water heating, or any other appliance included under the definition of "white goods" pursuant to G.S. 130A-290(a).

(b) As used in this section, "energy service" means the energy source that a consumer may choose to use to illuminate, heat, or cool buildings; produce hot water; operate equipment; operate appliances; or any other similar activities, where the energy source is derived from one or more of a variety of sources such as natural gas, renewable gas, hydrogen, liquified petroleum gas, renewable liquified petroleum gas, or other liquid petroleum products and that is delivered to the consumer by an entity legally authorized to provide such service or electricity that is derived from one or more sources of electric generation and is delivered to the consumer by an entity legally authorized to provide such service and the distribution of the electricity occurs according to the territorial rights established by G.S. 62-110.2, 160A-331.2, or 160A-332. For purposes of this section, the terms "renewable gas" and "renewable liquified petroleum gas" shall mean gas derived from a renewable energy resource, as that term is defined by G.S. 62-133.8(a)(8).

(c) Nothing in this section shall be construed to (i) limit the ability of a county to choose the energy service for property owned by the county, (ii) prohibit a county from recovering reasonable costs associated with reviewing and issuing a permit, or (iii) affect the authority of a county to manage or operate a county-owned utility, including a county's authority to require persons residing within their jurisdictions to obtain energy service from a county-owned utility.

(d) Notwithstanding any authority granted to counties to adopt local ordinances, any local ordinance that prohibits or has the effect of prohibiting the activities described in subsection (a) of this section shall be invalid."

PART II. DECOMMISSIONING OF UTILITY-SCALE SOLAR PROJECTS UPON CESSATION OF OPERATIONS

SECTION 2.(a) Article 9 of Chapter 130A of the General Statutes is amended by adding a new Part to read:

"Part 2J. Management of Solar Energy Equipment.

"§ 130A-309.240. Decommissioning and restoration requirements for utility-scale solar projects; recycling of project components required; financial assurance requirements.

(a) Definitions. – For purposes of this Part, the following definitions apply:

- (1) "Cessation of operations" means a utility-scale solar project has not produced power for a period of 12 months. This 12-month period shall not, however, include a period in which the (i) project fails to produce power due to an event of force majeure or (ii) owner has retained legal control of the project's footprint and has commenced rebuilding the facility.
- (2) "Expansion" or "expanded," when used in reference to a utility-scale solar project, means adding 2 megawatts AC (MW AC) or more of directly connected solar energy generating capacity to the local or regional electrical grid with the ability to deliver power to the electrical grid, or increasing the

ability of the project to deliver power to the electrical grid by thirty-five percent (35%), whichever is larger.

- (3) "Photovoltaic module" or "PV module" means the smallest nondivisible, environmentally protected assembly of photovoltaic cells or other photovoltaic collector technology and ancillary parts intended to generate electrical power under sunlight, which is part of a utility-scale solar project.
- (4) "Rebuild" or "rebuilt" when used in reference to a utility-scale solar project means a utility-scale solar project for which more than fifty percent (50%) of the original photovoltaic modules have been replaced with a different type of photovoltaic module or other fuel source and the project is deemed to be new for income tax purposes.
- (5) "Recycle" means the processing, including disassembling, dismantling, and shredding of PV modules or other equipment from utility-scale solar projects, or their components, to recover a usable product. Recycle does not include any process that results in the incineration of such equipment. PV modules determined to be hazardous shall comply with applicable hazardous waste requirements even when recycled.
- (6) "Utility-scale solar project" means a ground-mounted PV, concentrating PV (CPV), or concentrating solar power (CSP or solar thermal) project capable of generating 2 megawatts AC (MW AC) or more directly connected to the local or regional electrical grid with the ability to deliver power to the electrical grid. The term includes the solar arrays, accessory buildings, battery storage facilities, transmission facilities, and any other infrastructure necessary for the operation of the project. For purposes of this section, a utility-scale solar project does not include renewable energy facilities owned or leased by a retail electric customer intended primarily for the customer's own use or to offset the customer's own retail electrical energy consumption at the premises or for net metering.

(b) Decommissioning Requirement. – The owner of a utility-scale solar project shall be responsible for proper decommissioning of the project upon cessation of operations and restoration of the property in compliance with subdivision (3) of this subsection, including all costs associated therewith, no later than one year following cessation of operations. The owner shall notify the Department within 30 days of cessation of operations, which notice shall include a detailed description of the steps to be taken to properly decommission the project and for restoration of the site. At a minimum, an owner shall take all of the following steps in decommissioning a project:

- (1) Disconnect the solar project from the power grid.
- (2) Remove all equipment from the solar project, and collect and ship equipment for reuse, or recycle all of the components thereof practicably capable of being recycled, including the PV modules; the entire solar module racking system; aboveground electrical interconnection and distribution cables that are no longer deemed necessary; subsurface cable no longer deemed necessary; any metal fencing; electrical and electronic devices, including transformers and inverters; and energy storage system batteries, as that term is defined under subsection (a) of this section. Components that will not be shipped for reuse, are incapable of being recycled, and do not meet the definition of hazardous waste shall be properly disposed of in (i) an industrial landfill or (ii) a municipal solid waste landfill. PV modules that meet the definition of a hazardous waste shall comply with hazardous waste requirements for recycling and disposal as applicable.

- (3) Restore the property (i) as nearly as practicable to its condition before the utility-scale solar project was sited or (ii) to an alternative condition agreed upon in a written contract or lease agreement between the landowner and the project owner. A copy of the agreement signed by both parties shall be provided to the Department prior to decommissioning. The condition of the property shall otherwise comply with any applicable statutory requirements, rules adopted thereunder, and requirements in local ordinance. Land that was cleared of trees for the solar project may be revegetated or reforested with seedlings.

(c) Decommissioning Plan. – The owner of a utility-scale solar project shall submit a decommissioning plan to the Department for approval, which shall be prepared, signed, and sealed by a professional engineer licensed in the State and shall contain all of the following information:

- (1) The name, address, and contact information for the owner of the project, and name, address, and contact information for the landowner of the property on which the project is sited, if different than the owner.
- (2) A narrative description of how the decommissioning will be conducted, including the decommissioning sequencing; the disposition of materials to be used upon decommissioning, such as landfilling, reuse, or recycling of project equipment, which shall specifically delineate methods to be used for solid and hazardous waste; and a schedule for completion of the decommissioning activities.
- (3) Information on equipment proposed to be salvaged, including estimated salvage value of the equipment for the purpose of determining financial assurance.
- (4) Information on steps to be taken to restore the property in compliance with subdivision (3) of subsection (b) of this section.
- (5) A cost estimate for decommissioning the project and restoration of the property in compliance with subdivision (3) of subsection (b) of this section.
- (6) The proposed mechanism to satisfy the financial assurance requirements established under subsection (d) of this section, including information on which legal entity will establish the mechanism, when it will be established in accordance with the requirements of this section, and how the Department will access the funds from the mechanism if needed.

(d) Financial Assurance Requirement. –

- (1) The owner of a utility-scale solar project shall establish financial assurance in an amount acceptable to the Department that will ensure that sufficient funds are available for decommissioning of the project and restoration of the property in compliance with subdivision (3) of subsection (b) of this section, even if the owner becomes insolvent or ceases to reside in, be incorporated, do business, or maintain assets in the State. To establish sufficient availability of funds under this section, the owner of a utility-scale solar project may use insurance, financial tests, third-party guarantees by persons who can pass the financial test, guarantees by corporate parents who can pass the financial test, irrevocable letters of credit, trusts, surety bonds, or any other financial device, or any combination of the foregoing, shown to provide protection equivalent to the financial protection that would be provided by insurance if insurance were the only mechanism used.
- (2) Financial assurance shall be established by an owner of a utility-scale solar project and maintained until such time as the project is decommissioned and restoration of the property has been completed in compliance with this section.

Documentation of financial assurance established shall be submitted to the Department at the time of registration and at the time of required update every five years, as required by subsection (e) of this section.

(e) Registration. – Each owner of a utility-scale solar project shall register with the Department and update such registration every five years. At the time of registration, or periodic required update, the owner shall provide all of the following information:

- (1) Identification of the owner and any other legal entity that will be responsible for (i) decommissioning the project and (ii) establishment of financial assurance, if applicable.
- (2) Summary of project equipment that will be subject to decommissioning requirements under this section, including the location, size, number, and type of PV modules, as well as identification of any per- and poly-fluoroalkyl substances (PFAS) associated with the project, and a determination as to whether the PV modules are likely to be characterized as hazardous waste upon decommissioning. The hazardous waste determination must be made in compliance with rules adopted by the Department of Environmental Quality or the Environmental Management Commission.
- (3) Summary of project time line, including actual or anticipated initiation and completion of construction, initiation of operations, and expected service life of the project.
- (4) Estimates of costs to decommission the project and restore the property.
- (5) Proposed financial assurance mechanism to be used to meet the requirements of this section, if applicable.
- (6) Copies of any decommissioning plan executed, or documentation of financial assurance established, pursuant to local government ordinance or agreement with a landowner, prior to registration under this subsection.
- (7) Any other information the Department may require.

(f) Annual List. – The Utilities Commission shall develop and maintain a list of all utility-scale solar projects operating within the State and shall provide the Department with an updated list annually on or before July 1 of each year.

(g) Landowner and Local Authority Not Preempted for Adoption of More Stringent Requirements. – Nothing in this section shall be construed as limiting the authority of any:

- (1) Local government to establish and implement requirements that are more stringent than those set forth in this section for decommissioning and financial assurance for utility-scale solar projects located within its jurisdiction.
- (2) Landowner to enter into an agreement with an owner to lease property on which a utility-scale solar project will be sited that expressly establishes requirements that are more stringent than those set forth in this section for decommissioning and financial assurance for utility-scale solar projects to be located on the landowner's property.

(h) Fees. – The Department shall collect fees from the owner of a utility-scale solar project subject to the requirements of this section at the time of registration and periodic update, as required by subsection (e) of this section. Fees collected under this subsection shall be applied to the Department's cost of administering the program.

(i) Department Report. – Information regarding implementation of the requirements of this section shall be included in the annual report required under G.S. 130A-309.06(c).

(j) Rules Required. – The Department of Environmental Quality shall adopt rules establishing criteria to set the amount of financial assurance required for utility-scale solar projects as set forth in subsection (d) of this section. These rules shall consider, at a minimum, the solar technology to be employed, i.e., PV, CPV, CSP, or other technology; the approximate number and size of PV modules included in the solar arrays to be constructed; any ancillary

facilities to be constructed in association with the project; the condition of the property prior to construction of a utility-scale solar project; the amount of acreage that would be impacted by the proposed project; and any other factors designed to enable establishment of adequate financial assurance for decommissioning and restoration on a site-by-site basis. In establishing requirements for financial assurance for a utility-scale solar project, the Department shall consider the salvage value of the project's equipment. The rules shall require periodic updates to be provided by owners with respect to financial assurance maintained. In addition, the Department shall adopt rules as necessary to implement other requirements of this section, including rules to address the following matters:

- (1) Requirements for decommissioning plans, including required information, and processes for submittal and review of plans.
- (2) Fees to be assessed upon registration.
- (3) Any other matter the Department deems necessary.

"§ 130A-309.241. Grants and incentives for recycling of solar panels.

The Department of Commerce, in consultation with the Department of Environmental Quality, shall identify existing incentives and grant programs that may be used to encourage research and development on recycling and reuse of PV modules and to facilitate growth of the State's PV module recycling and reuse industry.

"§ 130A-309.242. Utility-Scale Solar Management Fund.

(a) Creation. – The Utility-Scale Solar Management Fund is created as a special fund within the Department. The Fund consists of revenue credited to the Fund from the proceeds of the fee imposed on owners of utility-scale solar projects under G.S. 130A-309.240.

(b) Use and Distribution. – Moneys in the Fund shall be used by the Department to implement the provisions of this Part concerning proper decommissioning of utility-scale solar projects.

"§ 130A-309.243. Enforcement and appeals.

(a) This Part may be enforced as provided by Part 2 of Article 1 of this Chapter.

(b) Appeals concerning the enforcement of rules, the imposition of administrative penalties, or any other action taken by the Department under authority of this Part shall be governed by the provisions for appeals set forth in Part 2 of Article 1 of this Chapter."

SECTION 2.(b) G.S. 130A-309.06(c) reads as rewritten:

"§ 130A-309.06. Additional powers and duties of the Department.

...

(c) The Department shall report to the Environmental Review Commission and the Fiscal Research Division on or before April 15 of each year on the status of solid waste management efforts in the State. The report shall include all of the following:

...

- (21) A report on the management of solar energy equipment pursuant to Part 2J of this Article."

DEPARTMENT OF ENVIRONMENTAL QUALITY TO ADOPT RULES AND REPORT

SECTION 2.(c) The Department of Environmental Quality shall adopt permanent rules implementing the requirements of this section no later than August 1, 2025.

SECTION 2.(d) Beginning December 1, 2023, through December 1, 2025, the Department of Environmental Quality shall submit quarterly reports to the Environmental Review Commission and the Joint Legislative Commission on Energy Policy on implementation of the requirements of this section, including program development and the status of the rulemaking.

APPLICABILITY TO EXISTING CONTRACTS

SECTION 2.(e) Nothing in Section 2(a) of this act shall be construed to abrogate or impair a contractual provision executed on or before the effective date of this act that is binding on an owner, or their successors in interests, that expressly requires decommissioning and/or restoration activities in direct conflict with the requirements of those sections, such as a contractual provision granting a landowner the right to retain project equipment after cessation of operations, as that term is defined under G.S. 130A-309.240, as enacted by Section 2(a) of this act. In such case, compliance with the provisions of Section 2(a) of this act shall be required to the maximum extent that decommissioning and/or restoration activities are not in direct conflict with the terms of such a contractual provision.

PUBLIC STAFF OF THE UTILITIES COMMISSION TO PROVIDE INFORMATION CONCERNING DECOMMISSIONING COSTS FOR EXISTING UTILITY-SCALE SOLAR PROJECTS NOT SUBJECT TO FINANCIAL ASSURANCE REQUIREMENTS

SECTION 2.(f) The Public Staff of the Utilities Commission shall, in an effort to ensure proper decommissioning of all utility-scale solar projects:

- (1) Identify existing laws, which do not require ratepayer contribution or governmental appropriations, that would enable recovery of the costs of decommissioning for utility-scale solar projects that are not subject to a financial assurance requirement pursuant to (i) Section 2(a) of this act, (ii) a requirement of a local government with jurisdiction over the property on which the project is sited, or (iii) a lease or other binding contract with the landowner of the property on which the project is sited.
- (2) In consultation with the Department of Environmental Quality as needed, compile a list of all utility-scale solar projects operating within the State as of the effective date of this act.

The Public Staff shall report the information required by this section to the General Assembly no later than January 1, 2025.

PART III. SEVERABILITY CLAUSE AND EFFECTIVE DATE

SEVERABILITY CLAUSE

SECTION 3. If any section or provision of this act is declared unconstitutional or invalid by the courts, it does not affect the validity of this act as a whole or any part other than the part declared to be unconstitutional or invalid.

EFFECTIVE DATE

SECTION 4. This act becomes effective as follows:

- (1) Section 2(a) of this act is effective when it becomes law, except as follows:
 - a. The requirements for decommissioning and registration established under G.S. 130A-309.240(b) and (e), respectively, as enacted by Section 2(a) of this act, become effective November 1, 2025, and apply to utility-scale solar projects constructed prior to or after that date. The owner of a utility-scale solar project shall register with the Department as follows: (i) by November 1, 2025, or at least 90 days prior to the commencement of construction of the project if the project is constructed after November 1, 2025; and (ii) at least 90 days prior to commencement of rebuild or expansion of a utility-scale solar project.
 - b. The requirements for submittal of a decommissioning plan and financial assurance established under G.S. 130A-309.240(c) and (d), respectively, as enacted by Section 2(a) of this act, become effective November 1, 2025, and shall only apply to (i) utility-scale solar

projects for which applications for certificates of public convenience and necessity are pending or submitted on or after the effective date of this act and (ii) utility-scale solar projects that are generating solar energy or are interconnected to a transmission facility on the date this act becomes effective, only if the project is rebuilt or expanded, as those terms are defined by G.S. 130A-309.240(a)(2) and (a)(4), after the effective date of this act, in which case the project shall be subject to the requirements of G.S. 130A-309.240(c) and (d). The owner of a utility-scale solar project shall submit a decommissioning plan and establish financial assurance (i) by November 1, 2025, or prior to commencement of construction of the project if the project is constructed after November 1, 2025, and (ii) prior to commencement of rebuild or expansion of a utility-scale solar project.

(2) The remainder of this act is effective when it becomes law.
In the General Assembly read three times and ratified this the 14th day of June, 2023.

s/ Phil Berger
President Pro Tempore of the Senate

s/ Tim Moore
Speaker of the House of Representatives

This bill having been presented to the Governor for signature on the 15th day of June, 2023 and the Governor having failed to approve it within the time prescribed by law, the same is hereby declared to have become a law.

This 26th day of June, 2023,

s/ Olwen Blessing
Enrolling Clerk

Appendix F

North Carolina Utility-Scale Solar Program Management

15A NCAC 01V

Draft Rule Text

1 **SUBCHAPTER 01V – DECOMMISSIONING AND FINANCIAL ASSURANCE REQUIREMENTS FOR**
2 **UTILITY-SCALE SOLAR PROJECTS**

3
4 15A NCAC 01V .0101 is proposed for adoption as follows:

5
6 **SECTION .0100 DECOMMISSIONING AND FINANCIAL ASSURANCE REQUIREMENTS FOR**
7 **UTILITY-SCALE SOLAR PROJECTS**

8
9 **15A NCAC 01V .0101 APPLICABILITY AND DEFINITIONS**

10 (a) The project owners of a utility-scale solar project (USSP) shall comply with Part 2J of Article 9 of Chapter 130A
11 of the General Statutes, “Management of Solar Energy Equipment,” in accordance with the applicability and effective
12 dates of S.L. 2023-58, s. 2.(e) and s. 4 and the requirements of this Section. Non-compliance shall be addressed through
13 penalties issued in accordance with Part 2 of Article 1 of Chapter 130A of the General Statutes, as provided in G.S.
14 130A-309.243, including G.S. 130A-22 for the issuance of penalties and G.S. 130A-24 for the appeal of enforcement
15 decisions.

16 (b) The definitions found in G.S. 130A-290, G.S. 130A-309.240(a), and the following definitions shall apply to the
17 rules of this Section:

- 18 (1) “Corporation,” “fiscal year,” “parent,” and “subsidiary” mean these terms as defined in G.S. 105-
19 130.2.
- 20 (2) “Project Owner” means the legal entity or entities that own the personal property that has been
21 constructed or assembled for a USSP, which may be a different legal entity than the owner of the
22 real property (landowner) on which the USSP has been constructed.
- 23 (3) “Substantial Business Relationship” means the extent of a business relationship necessary under
24 applicable State law to make a guarantee contract issued incident to that relationship valid and
25 enforceable. A “substantial business relationship” shall arise from a pattern of recent or ongoing
26 business transactions, in addition to the guarantee itself, that demonstrates to the satisfaction of the
27 Department that a business relationship between the guarantor and the project owner exists.

28
29 *History Note: Authority G.S. 130A-309.240(j);*
30 *Eff. TBD.*

1 15A NCAC 01V .0102 is proposed for adoption as follows:

2
3 **15A NCAC 01V .0102 REGISTRATION AND FEE REQUIREMENTS**

4 (a) In accordance with the applicability and effective dates established in S.L. 2023-58, s. 4, the project owner of a
5 USSP shall submit the registration information, periodic updates, and registration fee required by G.S. 130A-
6 309.240(e) and (h) in a registration form prescribed by the Department. The registration form may be accessed from
7 the Department’s USSP Management Program website at <https://www.deq.nc.gov/about/divisions/waste->
8 management/utility-scale-solar-management-program.

9 (b) The initial registration and fee shall be submitted by the deadlines established in S.L. 2023-58, s. 4. The subsequent
10 registration updates and fees shall be submitted to the Department every five years in accordance with G.S. 130A-
11 309.240(e) and (h). The deadline for submittal of the five-year registration updates and registration fee shall be the
12 last day of the month in which the five-year anniversary of the initial submittal occurs for each USSP.

13 (c) The Department shall not be required to provide notice to the project owner that the initial registration, periodic
14 updates, or registration fee are due. The project owner shall be responsible for submittal of the registration, periodic
15 updates, and fees by the deadlines established in this Rule.

16 (d) In accordance with G.S. 130A-309.240(c) and the effective dates and applicability of S.L. 2023-58, s. 4, the
17 project owner of a USSP shall submit a decommissioning plan, and subsequent updates to the plan, with the
18 registration required to be submitted by this Rule. The Department shall review the plan and shall inform the project
19 owner in writing of deficiencies in the plan, if any, within 60 days of submittal. The project owner shall correct the
20 deficiencies identified by the Department and submit the corrected decommissioning plan to the Department no more
21 than 30 days after the Department issued the notification of deficiencies. The project owner shall not commence
22 construction, rebuild, or expansion of the project until the Department has received the decommissioning plan that
23 complies with the requirements of G.S. 130A-309.240 and the rules of this Section.

24 (e) In accordance with G.S. 130A-309.240(d) in accordance with the effective dates and applicability of S.L. 2023-
25 58, s. 4, the project owner of a USSP shall submit a draft copy of the financial mechanism, or updates to the
26 mechanism, with the registration required to be submitted by this Rule. The Department shall review the draft
27 mechanism and shall inform the project owner in writing of deficiencies in the draft mechanism, if any, within 60 days
28 of submittal. The project owner shall correct the deficiencies identified by the Department and submit the corrected
29 and executed financial mechanism to the Department no more than 30 days after the Department issued the notification
30 of deficiencies. The project owner shall not commence construction, rebuild, or expansion of the project until the
31 Department has received the executed financial assurance mechanism that complies with the requirements of G.S.
32 130A-309.240 and the rules of this Section.

33 (f) In accordance with G.S. 130A-309.240(e)(6) and the effective dates and applicability of S.L. 2023-58, s. 4, project
34 owners shall submit copies of the decommissioning plans and financial assurance documentation required by G.S.
35 130A-309.240 and the rules of this Section with the registration required to be submitted by this Rule.

1 (f) In accordance with G.S. 130A-309.240(g) and the effective dates and applicability of S.L. 2023-58, s. 4, the project
2 owner shall also upload with the registration a copy of any additional documentation required by the local government
3 to comply with any more stringent local government requirements.

4 (g) The project owner of a USSP that is constructed on more than one parcel of land shall include with the registration
5 the following information for each parcel on which the project is or will be constructed:

6 (1) landowner name, address, and contact information;

7 (2) parcel identification number; and

8 (3) copies of agreements with the landowner as required by G.S. 130A-309.240(e)(6) for each parcel.

9

10 *History Note: Authority G.S. 130A-309.240(j);*

11 *Eff. TBD.*

1 15A NCAC 01V .0103 is proposed for adoption as follows:

2
3 **15A NCAC 01V .0103 REGISTRATION FEE AMOUNT**

4 (a) Existing USSPs. The amount of the registration fee required by G.S. 130A-309.240(h) submitted to the Department
5 in accordance with Rule .0102 of this Section for each USSP that was required to be included in the report submitted
6 to the General Assembly in accordance with S.L. 2023-58, s. 2.(f)(2) shall be as follows, and shall be adjusted in
7 accordance with Paragraph (c) of this Rule:

8 (1) The amount of the first registration fee shall be one hundred and seventy-five dollars (\$175.00) per
9 megawatt alternating current (MW AC) of nameplate capacity.

10 (2) The amount of the second registration fee and all subsequent registration fees shall be twenty-five
11 dollars (\$25.00) per MW AC of nameplate capacity.

12 (b) New USSPs. The amount of the registration fees required by G.S. 130A-309.240(h) submitted to the Department
13 in accordance with Rule .0102 of this Section for each USSP that is not subject to the fee established in Paragraph (a)
14 of this Rule shall be as follows, and shall be adjusted in accordance with Paragraph (c) of this Rule:

15 (1) USSPs capable of generating 20 MW AC or less:

16 (A) The amount of the first registration fee shall be five hundred dollars (\$500.00) per MW AC
17 of nameplate capacity.

18 (B) The amount of the second registration fee and all subsequent registration fees shall be fifty
19 dollars (\$50.00) per MW AC of nameplate capacity.

20 (2) USSPs capable of generating more than 20 MW AC:

21 (A) The amount of the first registration fee shall be the lesser of three hundred dollars (\$300.00)
22 per MW AC of nameplate capacity or fifty thousand dollars (\$50,000).

23 (B) The amount of the second registration fee and all subsequent registration fees shall be the
24 lesser of twenty-five dollars (\$25.00) per MW AC of nameplate capacity for the USSP or
25 twenty-five thousand dollars (\$25,000).

26 (c) Adjustment for Legislatively Mandated Salaries and Benefits Consistent with G.S. 143B-279.18 (see S.L. 2023-
27 134, s. 12.14.(p)). Beginning July 1, 2029, and every five years thereafter, the Department may adjust the fee amounts
28 in Paragraphs (a) and (b) of this Rule in accordance with the Consumer Price Index computed by the Bureau of Labor
29 Statistics during the prior two bienniums. The Department may also increase or decrease the fees or adjust the fee
30 structures in Paragraphs (a) and (b) of this Rule on the same five-year schedule to meet the requirements in G.S. 130A-
31 309.240(h) and G.S. 130A-309.242 that the fees be used to fund program administration. No amendment to this Rule
32 shall be necessary for the Department to adjust the fees in accordance with this Paragraph. The adjustment to the fee
33 amounts shall be rounded to the nearest dollar (\$1.00). No less than 180 days prior to a registration fee adjustment,
34 the Department shall publish the adjusted fee amounts on the Department's website at
35 <https://www.deq.nc.gov/about/divisions/waste-management/utility-scale-solar-management-program>.

36 (d) The Department may charge the project owner a late fee of seventy-five dollars (\$75.00) per month per USSP for
37 every month or partial month that payment of the registration fee is delinquent.

1

2 *History Note:* *Authority G.S. 130A-309.240(j);*

3 *Eff. TBD.*

1 15A NCAC 01V .0104 is proposed for adoption as follows:

2
3 **15A NCAC 01V .0104 DECOMMISSIONING COST ESTIMATE REQUIREMENTS**

4 (a) The project owner of a USSP shall submit a cost estimate for decommissioning with the registration required by
5 Rule .0102 of this Section in accordance with G.S. 130A-309.240(e)(4). The cost estimate shall also be included in
6 the decommissioning plan in accordance with G.S. 130A-309.240(c)(5), if a decommissioning plan is required to be
7 submitted in accordance with the applicability and effective dates of S.L. 2023-58, s. 4.

8 (b) The calculation of the cost estimate for decommissioning shall meet the following requirements:

9 (1) The cost estimate shall be based on costs for a third-party to conduct the decommissioning of the
10 project in accordance with G.S. 130A-309.240(b) and the decommissioning plan for the USSP,
11 where required in accordance with the applicability and effective dates of S.L. 2023-58, s. 4.

12 (2) The cost estimate shall be based on the costs at the time of submittal of the estimate.

13 (3) The cost estimate shall be itemized to show how the total amount was determined, including
14 itemizing costs for:

15 (A) personnel time and expenses;

16 (B) transportation of materials to the receiving facility or location, such as the nearest existing
17 recycling or disposal facility; and

18 (C) the fees charged by the receiving facility or location to accept the materials, such as the
19 nearest existing recycling or disposal facility.

20 (4) During decommissioning, photovoltaic modules shall be managed in a manner that prevents
21 breakage, and shall not be disassembled, deconstructed, or removed from the frame at the USSP
22 location or at a facility or location other than the facility or location that receives the modules for
23 management, such as the recycling or disposal facility. Decommissioning activities and the
24 management of all equipment, materials, and waste from the USSP shall comply with Article 9 of
25 Chapter 130A of the General Statutes and 15A NCAC 13A and 13B which are incorporated by
26 reference including subsequent amendments.

27 (5) The cost estimate shall be adjusted in accordance with Paragraphs (d) and (e) of this Rule.

28 (c) The project owner shall also include with the decommissioning cost estimate a separate estimate of the salvage
29 value of the project equipment in accordance with G.S. 130A-309.240(c)(3). The salvage value estimate shall meet
30 the following requirements:

31 (1) The salvage value estimate shall be based on values for a third party to salvage the equipment. If
32 salvage values were considered in the cost estimate provided by a third party as provided in
33 Subparagraph (b)(1) of this Rule, the salvage value estimate shall refer to the estimate from the third
34 party.

35 (2) The salvage value estimate shall be based on the current values at the time of each submittal of the
36 decommissioning cost estimate.

1 (3) The salvage value estimate shall clarify which tasks required for decommissioning would be
2 completed by the third-party salvage company, and whether that company would also be providing
3 the transportation costs and paying the fees, if any, for the receiving facility or location in accordance
4 with Paragraph (b) of this Rule.

5 An estimate of salvage value shall not be required for equipment, or a subset of equipment, if the value is not included
6 in the request to reduce the amount of financial assurance based on salvage value in accordance with Paragraph (g) of
7 this Rule.

8 (d) The project owner shall update the decommissioning cost estimate every five years to reflect changes in costs
9 over time, even if there are no other changes to the status, size, or operation of the USSP. The adjusted
10 decommissioning cost estimate shall be submitted with the registration submitted in accordance with Rule .0102 of
11 this Section.

12 (e) If changes to the decommissioning plan or project conditions increase the decommissioning cost estimate at any
13 time during the active life of the project, the project owner shall increase the amount of financial assurance accordingly
14 and shall submit the adjusted financial mechanism to the Department during their next scheduled registration update
15 in accordance with Rule .0102 of this Section.

16 (f) The project owner may request to decrease the amount of financial assurance if changes to the decommissioning
17 plan or project conditions over time decrease the decommissioning cost estimate during the active life of the project.
18 The request shall comply with Paragraph (h) of this Rule.

19 (g) The project owner may request to reduce the amount of financial assurance based on the salvage value of the
20 equipment submitted in accordance with Paragraph (c) of this Rule. The request shall comply with Paragraph (h) of
21 this Rule. Beginning at 20 years after the project begins operation or five years prior to the end of the initial power
22 purchase agreement, whichever is earlier, and through the end-of-life of the project, a reduction based on salvage
23 value shall not cause the amount of financial assurance to be less than the total cost estimate to:

24 (1) detach the photovoltaic modules from the base;

25 (2) transport the photovoltaic modules and any hazardous waste from the USSP to the receiving facility
26 or location; and

27 (3) pay the fees charged by the receiving facility or location to accept the photovoltaic modules and any
28 hazardous waste from the USSP.

29 (h) If the project owner requests to decrease the amount of financial assurance in accordance with Paragraphs (f) or
30 (g) of this Rule, the request and a written justification shall be submitted with the registration submitted in accordance
31 with Rule .0102 of this Section. The reduction to the financial assurance amount shall not be executed until the
32 Department has issued a written approval that the adjusted cost estimates, financial assurance amount, and financial
33 assurance mechanism comply with G.S. 130A-309.240 and the rules of this Section. No reduction of the amount of
34 financial assurance shall be approved until the project owner has resolved any unresolved violations issued by the
35 Department for non-compliance with Article 9 of Chapter 130A of the General Statutes, 15A NCAC 13B or 13C, or
36 the rules of this Section.

1 If the Department approves the request to reduce the amount of financial assurance, the Department shall provide
2 written notice of the approval to the project owner. Upon receipt of approval, the project owner may adjust the amount
3 of financial assurance and submit the adjusted financial assurance mechanism to the Department.

4

5 *History Note: Authority G.S. 130A-309.240(j);*

6 *Eff. TBD.*

1 15A NCAC 01V .0105 is proposed for adoption as follows:

2
3 **15A NCAC 01V .0105 GENERAL REQUIREMENTS FOR FINANCIAL ASSURANCE**

4 (a) Project owners of a USSP that are required by G.S. 130A-309.240 to establish financial assurance in accordance
5 with the effective dates and applicability of S.L. 2023-58, s. 4 shall establish, submit, and update an allowable financial
6 mechanism, or a combination of mechanisms, provided in Rule .0106 of this Section to ensure sufficient funds are
7 available to cover the cost of decommissioning in accordance with G.S. 130A-309.240(d)(1).

8 (b) The language of the mechanism shall be identical to the instrument templates provided in Rule .0107 of this
9 Section, and shall ensure that the instruments satisfy the following criteria:

10 (1) the financial assurance mechanism shall ensure that the amount of funds assured is sufficient to
11 cover the cost of decommissioning at any time;

12 (2) the financial assurance mechanism shall ensure that the funds will be available to the Department at
13 the time of decommissioning; and

14 (3) the financial assurance mechanism shall be legally valid, binding, and enforceable in accordance
15 with State and federal law.

16 The project owner may submit a request in writing to the Department to revise the language of the mechanism if it is
17 necessary to accommodate USSP-specific circumstances. The request shall be submitted to the Department in the draft
18 mechanism for approval by the Department prior to submittal of the executed mechanism.

19 (c) The project owner of a USSP may use one financial assurance mechanism to ensure sufficient funds are available
20 for decommissioning of more than one USSP located in North Carolina and owned by the same project owner.

21 (d) A project owner may demonstrate financial assurance for decommissioning by establishing more than one
22 mechanism per project. The mechanism shall be as specified in Rule .0106 of this Section, except that financial
23 assurance for an amount no less than the current cost estimate for decommissioning may be provided by a combination
24 of mechanisms rather than a single mechanism. When multiple financial assurance mechanisms are established, no
25 more than one allowable mechanism shall be provided by the same financial institution or its corporate entities. The
26 financial test provided by a corporation and the corporate guarantee provided by a corporate parent, sibling, or
27 grandparent or a substantial business relationship shall not be combined if the financial statements of the two firms
28 are consolidated.

29 (e) The amount of the financial mechanism shall be the amount of the cost estimate calculated in accordance with
30 Rule .0104 of this Section.

31 (f) In accordance with G.S. 130A-309.240(d)(2), the project owner of a USSP shall not be released from the
32 requirement to provide continuous financial assurance for decommissioning until the Department has provided the
33 project owner with written notification that the decommissioning and restoration requirements for the USSP set forth
34 in Part 2J of Article 9 of Chapter 130A of the General Statutes, the requirements of this Section, and the requirements
35 of the decommissioning plan for the USSP have been met.

36 (g) If the project owner elects to change the type of financial mechanism selected at any time, the project owner shall
37 submit a proposal for the new mechanism and a draft copy of the new financial assurance mechanism to the

1 Department for approval that the mechanism complies with the rules of this Section. The existing executed mechanism
2 shall not be cancelled until after the Department issues written notice to the project owner that the new mechanism
3 complies with the requirements of the rules of this Section and the project owner has executed the new mechanism.

4 (h) If there is a change in project ownership, the new project owner shall establish financial assurance for the USSP
5 and submit the executed financial assurance mechanism to the Department no more than 30 days after the change in
6 ownership. The prior project owner shall maintain the financial assurance mechanism until the Department releases
7 them from the requirement in writing, and upon confirmation that the financial assurance established by the new
8 project owner meets the requirements of Part 2J of Article 9 of Chapter 130A of the General Statutes and the rules of
9 this Section.

10 (i) Maintenance of financial assurance in the amounts required by the rules of this Section does not limit the
11 responsibility of project owners for the full cost of decommissioning of the USSP, the expenses of any on-site or off-
12 site environmental restoration necessitated by activities at the USSP, or liability for all damages to third parties or
13 private or public properties caused by the establishment and operation of the USSP.

14 (j) A corporate seal shall be required to complete the financial assurance mechanism as part of the certification of
15 acknowledgement required in the mechanism language in Rule .0107 of this Section for a corporate project owner
16 using a trust fund, surety bond guaranteeing payment, financial test, and corporate guarantee as set forth in Rule .0106
17 of this Section. When a corporate seal is required to certify a financial assurance mechanism but the corporation does
18 not have a corporate seal, a member of the corporation's senior management or a representative of the board of
19 directors shall submit to the Department a copy of the corporation's bylaws, a corporate ownership organization chart
20 describing the relationship of the project owner to the corporation and its parent companies, contact information for
21 the board of directors or senior management for the corporation, and a statement on corporate letterhead stating the
22 signee has the authority to execute correspondence and financial assurance mechanism on behalf of the corporation,
23 pursuant to G.S. 130A-309.240. The documentation shall be submitted to the Department of Environmental Quality,
24 care of the Division of Waste Management at 1646 Mail Service Center, Raleigh, NC 27699. Senior management for
25 the corporation shall be one of the following positions: the Chief Executive Officer or President, the Chief Operating
26 Officer or Vice President, or the Chief Financial Officer or Treasurer.

27 (k) The executed mechanism shall be submitted to the Department as original signed hard copies.

28 (l) Financial assurance established for a USSP shall be an environmental liability for accounting purposes.

29 (m) If the local government requires financial assurance, the project owner may request that the Department accept
30 evidence of executed financial assurance provided to and approved by the local government, in lieu of making the
31 financial assurance accessible directly to the Department, to satisfy the explanation as to how the funds will be
32 available to the Department in accordance with G.S. 130A-309.240(c)(6). In making such a request, the project owner
33 shall demonstrate that the local government financial assurance mechanism otherwise meets the requirements of G.S.
34 130A-309.240 and Rules .0101 through .0105 of this Section. The project owner shall submit the request and
35 demonstration with the registration required by Rule .0102 of this Section, and the request shall include a copy of the
36 local government financial assurance mechanism and a written justification for Department approval that the local

1 government financial assurance mechanism meets the requirements of G.S. 130A-309.240 and Rules .0101 through
2 .0105 of this Section.

3

4 *History Note: Authority G.S. 130A-309.240(j);*

5 *Eff. TBD.*

1 15A NCAC 01V .0106 is proposed for adoption as follows:

2
3 **15A NCAC 01V .0106 ALLOWABLE MECHANISMS FOR FINANCIAL ASSURANCE**

4 The following mechanisms may be used to meet the requirements of this Section for financial assurance.

5 (1) Trust Fund.

6 (a) A project owner may satisfy the rules of this Section by establishing a trust fund that
7 conforms to the requirements of this Item. The trustee shall be an entity that has the
8 authority to act as a trustee and whose trust operations are regulated and examined by a
9 federal or State agency.

10 (b) The trust fund shall be fully funded for the entire amount of decommissioning established
11 by Rule .0104 of this Section, except as provided in Rule .0105(d) of this Section.

12 (c) The trust agreement shall be effective prior to submittal of the initial executed financial
13 mechanism pursuant to Rule .0102(e) of this Section.

14 (d) The project owner or a third party authorized by the Department to conduct
15 decommissioning may request reimbursement from the trustee for these expenditures.
16 Requests for reimbursement shall be granted only if sufficient funds are remaining in the
17 trust fund to cover the remaining costs of decommissioning, and if justification and
18 documentation of the cost is submitted to the Department and approved by the Department
19 as complying with G.S. 130A-309.240, the rules of this Section, and the decommissioning
20 plan.

21 (e) The trust fund may be terminated by the project owner only if the project owner has
22 substituted alternate financial assurance as specified in this Rule, or if the project owner
23 receives written notice from the Department that they are no longer required to provide
24 continuous financial assurance for decommissioning in accordance with the requirements
25 of Rule .0105(f) of this Section.

26 (f) The trust fund may be elected as a standby trust mechanism to accompany the surety bond
27 mechanism in Item (2) of this Rule, or the letter of credit mechanism in Item (3) of this
28 Rule; or may be elected as a standalone funded trust mechanism.

29 (g) The trust agreement shall be accompanied by a certification of acknowledgement as
30 specified following the language of the trust agreement in Rule .0107(1) of this Section.

31 (h) Schedule A of the trust agreement shall be updated no less than 60 days after any change
32 in the amount of the current cost estimate covered by the agreement.

33 (2) Surety Bond Guaranteeing Payment into a Trust Fund.

34 (a) A project owner may demonstrate financial assurance for decommissioning by obtaining a
35 payment surety bond that conforms to the requirements of this Item. The surety bond shall
36 be effective prior to submittal of the initial executed financial mechanism pursuant to Rule
37 .0102(e) of this Section. The surety company issuing the bond shall be among those listed

1 as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the
2 Treasury and shall be licensed to do business in North Carolina.

3 (b) The project owner who uses a surety bond to satisfy the requirements of the rules of this
4 Section shall also establish a standby trust fund prior to submittal of the initial executed
5 financial mechanism pursuant to Rule .0102(e) of this Section. Under the terms of the bond,
6 all payments shall be deposited by the surety directly into the standby trust fund. An
7 originally signed duplicate of the trust agreement shall be submitted to the Department with
8 the surety bond. This standby trust fund shall meet the requirements specified in Item (1)
9 of this Rule, except that the following are not required until the standby trust fund is funded
10 pursuant to the requirements of this Item:

11 (i) payment into the trust fund as specified in Sub-Item (1)(b) of this Rule;

12 (ii) updating of Schedule A of the trust agreement as specified in Sub-Item (1)(h) of
13 this Rule;

14 (iii) annual valuations as required by the trust agreement outlined in Rule .0107(1) of
15 this Section; and

16 (iv) notices of nonpayment as required by the trust agreement outlined in Rule
17 .0107(1) of this Section.

18 (c) The bond shall guarantee that the project owner shall:

19 (i) Fund the standby trust fund in an amount equal to the penal sum of the bond prior
20 to initiating final decommissioning of the USSP, and no more than one year after
21 cessation of operations of the USSP;

22 (ii) Fund the standby trust fund in an amount equal to the penal sum of the bond within
23 15 days after an order to decommission the USSP is issued by a U.S. district court
24 or other court of competent jurisdiction; or

25 (iii) Provide alternate financial assurance that complies with the rules of this Section
26 within 90 days after receipt by both the project owner and the Department of a
27 notice of cancellation of the bond from the surety.

28 (d) Under the terms of the bond, the surety shall become liable on the bond obligation when
29 the project owner fails to perform as guaranteed by the bond.

30 (e) The penal sum of the bond shall be in an amount equal to the entire amount of
31 decommissioning established by Rule .0104 of this Section, except as provided in Rule
32 .0105(d) of this Section.

33 (f) Under the terms of the bond, the surety may cancel the bond by sending notice of
34 cancellation by certified mail to the project owner and to the Department. Cancellation
35 shall not occur, however, during the 120 days beginning on the date of receipt of the notice
36 of cancellation by both the project owner and the Department, as evidenced by the certified

1 mail return receipts. If the surety cancels the bond, the project owner shall obtain alternate
2 financial assurance that complies with the rules of this Section prior to cancellation.

3 (g) The penal sum of the surety bond shall be adjusted for any increase or decrease in the
4 amount of financial assurance in accordance with Rule .0104 of this Section.

5 (h) The surety bond may be terminated by the project owner only if the project owner has
6 substituted alternate financial assurance that complies with the rules of this Section, or if
7 the project owner receives written notice from the Department that they are no longer
8 required to provide continuous financial assurance for decommissioning in accordance
9 with Rule .0105(f) of this Section.

10 (3) Letter of Credit.

11 (a) A project owner may satisfy the requirements of this section by obtaining an irrevocable
12 standby letter of credit that conforms to the requirements of this Item. The letter of credit
13 shall be effective prior to submittal of the initial executed financial mechanism pursuant to
14 Rule .0102(e) of this Section. The issuing institution shall be an entity that has the authority
15 to issue letters of credit and whose letter-of-credit operations are regulated and examined
16 by a federal or State agency.

17 (b) A letter from the project owner referring to the letter of credit by number, issuing
18 institution, and date, and providing the following information: name, project identification
19 number, and address of the USSP and the amount of funds assured shall be included with
20 the letter of credit submitted to the Department.

21 (c) The letter of credit shall be irrevocable and issued for a period of no less than one year in
22 an amount no less than the entire amount of decommissioning established by Rule .0104
23 of this Section, except as provided in Rule .0105(d) of this Section. The letter of credit shall
24 provide that the expiration date will be automatically extended for a period of no less than
25 one year unless the issuing institution has cancelled the letter of credit by sending notice
26 of cancellation by certified mail to the project owner and to the Department 120 days in
27 advance of cancellation. If the letter of credit is cancelled by the issuing institution, the
28 project owner shall obtain alternate financial assurance prior to cancellation.

29 (d) The project owner shall establish a standby trust fund. The standby trust fund shall meet
30 the requirements of Item (1) of this Rule, except for the requirement to fully fund the trust
31 as specified in Sub-Item (1)(b) of this Rule. Payments made under the terms of the letter
32 of credit shall be deposited by the financial institution directly into the standby trust fund.

33 (e) No payments shall be made from the trust fund unless approved by the trustee and the
34 Department.

35 (f) The letter of credit shall be adjusted for any increase or decrease in the amount of financial
36 assurance in accordance with Rule .0104 of this Section.

1 (g) The letter of credit and standby trust fund may be terminated by the project owner only if
2 the project owner has substituted alternate financial assurance as specified in this Rule, or
3 if the project owner receives written notice from the Department that they are no longer
4 required to provide continuous financial assurance for decommissioning in accordance
5 with the requirements of Rule .0105(f) of this Section.

6 (4) Insurance.

7 (a) A project owner may demonstrate financial assurance for decommissioning by obtaining
8 insurance that conforms to the requirements of this Item. The insurance shall be effective
9 prior to submittal of the initial executed financial mechanism pursuant to Rule .0102(e) of
10 this Section. The insurer shall be licensed to transact the business of insurance, or eligible
11 to provide insurance as an excess or surplus lines insurer, in North Carolina.

12 (b) The decommissioning insurance policy shall guarantee that funds will be available to
13 decommission the USSP by cessation of operations. The policy shall also guarantee that
14 once decommissioning begins, the insurer shall be responsible for the paying out of funds
15 to the project owner or a third party authorized by the Department to conduct
16 decommissioning, up to an amount equal to the face amount of the policy.

17 (c) The insurance policy shall be issued for a face amount no less than the entire amount of
18 decommissioning established by Rule .0104 of this Section, except as provided in Rule
19 .0105(d) of this Section. The term face amount means the total amount the insurer is
20 obligated to pay under the policy. Actual payments by the insurer shall not change the face
21 amount, although the insurer's future liability will be lowered by the amount of the
22 payments.

23 (d) A project owner or a third party authorized by the Department to conduct decommissioning
24 may receive reimbursements for decommissioning expenditures. Requests for
25 reimbursement shall be granted by the insurer only if the remaining value of the policy is
26 sufficient to cover the remaining costs of decommissioning, and if justification and
27 documentation of the itemized cost is submitted to the Department, and the Department
28 provides written approval that this requirement has been met. The project owner or third
29 party shall notify the Department that reimbursement has been received.

30 (e) Each policy shall contain a provision allowing assignment of the policy to a successor
31 project owner.

32 (f) The insurance policy shall provide that the insurer shall not cancel, terminate, or fail to
33 renew the policy except for failure to pay the premium. The automatic renewal of the policy
34 shall provide the insured with the option of renewal at the face amount of the expiring
35 policy. If there is a failure to pay the premium, the insurer may cancel, terminate, or fail to
36 renew the policy by sending notice by certified mail to the project owner and to the
37 Department 120 days in advance of cancellation, termination, or failure to renew the policy.

1 If the insurer cancels the policy, the project owner shall obtain alternate financial assurance
2 as specified in this Rule prior to cancellation.

3 (g) The insurance policy may be terminated by the project owner only if the project owner has
4 substituted alternate financial assurance as specified in this Rule, or if the project owner
5 receives written notice from the Department that they are no longer required to provide
6 continuous financial assurance for decommissioning in accordance with the requirements
7 of Rule .0105(f) of this Section.

8 (5) Financial Test. A project owner that satisfies the requirements of this Item may demonstrate
9 financial assurance using a financial test. To pass this test the project owner shall meet the criteria
10 of either Sub-Item (a) or (b) of this Item.

11 (a) The project owner shall have:

12 (i) two of the following three ratios: a ratio of total liabilities to net worth less than
13 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization
14 to total liabilities greater than 0.1; and a ratio of current assets to current liabilities
15 greater than 1.5;

16 (ii) net working capital and tangible net worth each no less than six times the sum of
17 the decommissioning cost estimate established by Rule .0104 of this Section;

18 (iii) tangible net worth of no less than \$10 million; and

19 (iv) assets located in the United States amounting to no less than 90 percent of their
20 total assets or no less than six times the sum of the decommissioning cost estimate
21 established by Rule .0104 of this Section.

22 (b) The project owner shall have:

23 (i) a current rating for their most recent bond issuance of AAA, AA, A, or BBB as
24 issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's;

25 (ii) tangible net worth no less than six times the sum of the decommissioning cost
26 estimate established by Rule .0104 of this Section;

27 (iii) tangible net worth of no less than \$10 million; and

28 (iv) assets located in the United States amounting to no less than 90 percent of their
29 total assets or no less than six times the sum of the decommissioning cost estimate
30 established by Rule .0104 of this Section.

31 (c) To pass this test, the project owner shall submit the following items to the Department with
32 the registration and subsequent updates required by Rule .0102 of this Section:

33 (i) a letter signed by the project owner's chief financial officer and as specified in
34 Rule .0107(5) of this Section;

35 (ii) a copy of the independent certified public accountant's report of the project
36 owner's financial statements for the latest completed fiscal year; and

1 (iii) a special report from the project owner's independent certified public accountant
2 to the project owner. The special report shall be based upon an agreed upon
3 procedures engagement in accordance with professional auditing standards and
4 shall describe the procedures performed in comparing the data in the chief
5 financial officer's letter derived from the independently audited, year-end
6 financial statements for the latest fiscal year with the amounts in such financial
7 statements, the findings of that comparison, and the reasons for any differences.

8 (d) The project owner is no longer required to submit the documentation specified in Sub-Item
9 (c) of this Item or comply with the requirements of this Item when:

10 (i) the project owner substitutes alternate financial assurance as specified in the rules
11 of this Section; or

12 (ii) the project owner receives written notice from the Department that they are no
13 longer required to provide continuous financial assurance for decommissioning in
14 accordance with the requirements of Rule .0105(f) of this Section.

15 (e) If at any time the project owner no longer meets the requirements of Sub-Item (a) or (b) of
16 this Item, the project owner shall send notice to the Department of intent to establish
17 alternate financial assurance as specified in the rules of this Section. The notice shall be
18 sent by certified mail within 90 days after the end of the fiscal year for which the year-end
19 financial data show that the project owner no longer meets the requirements. The project
20 owner shall provide the alternate financial assurance that meets the rules of this Section to
21 the Department within 120 days after the end of such fiscal year.

22 (f) The Department may, based on a reasonable belief that the project owner may no longer
23 meet the requirements of Sub-Item (a) or (b) of this Item, require reports of financial
24 condition at any time from the project owner in addition to the documentation specified in
25 Sub-Item (c) of this Item. If the Department finds, on the basis of such reports and
26 documentation, that the project owner no longer meets the requirements of Sub-Item (a) or
27 (b) of this Item, the Department shall provide written notice to the project owner of this
28 determination. The project owner shall obtain alternate financial assurance that meets the
29 requirements of this Rule and submit that alternate financial assurance that complies with
30 the rules of this Section to the Department within 90 days of the issuance of the written
31 notice from the Department.

32 (g) When calculating the amount of financial assurance, the project owner shall include the
33 cost estimates for all USSPs owned by the project owner and for which they are required
34 to obtain financial assurance. The amount of financial assurance for the financial test shall
35 be adjusted in accordance with Rule .0104 of this Section.

36 (h) The Department may disallow use of this test on the basis of qualifications in the opinion
37 expressed by the independent certified public accountant in their report on examination of

1 the project owner's financial statements pursuant to Sub-Item (c)(ii) of this Item. An
2 adverse opinion or a disclaimer of opinion shall be cause for disallowance. The Department
3 may evaluate other qualifications on an individual basis. The project owner shall provide
4 alternate financial assurance that complies with the rules of this Section within 90 days of
5 the issuance of the written notice from the Department.

6 (6) Corporate Guarantee:

7 (a) A project owner may also meet the requirements of the financial test in Item (5) of this
8 Rule by obtaining a written guarantee. The guarantor shall be the direct or higher-tier parent
9 corporation of the project owner, a firm whose parent corporation is also the parent
10 corporation of the project owner, or a firm with a substantial business relationship with the
11 project owner. The guarantor shall meet the requirements for project owners in Item (5) of
12 this Rule and shall comply with the terms of the guarantee. A certified copy of the
13 guarantee shall be submitted to the Department with the copies of the letter from the
14 guarantor's chief financial officer and the independent certified public accountant's opinion
15 for the guarantor as required by Item (5) of this Rule. If the guarantor's parent corporation
16 is also the parent corporation of the project owner, the letter from the guarantor's chief
17 financial officer shall describe the value received in consideration of the guarantee. If the
18 guarantor is a firm with a substantial business relationship with the project owner, this letter
19 shall describe this substantial business relationship and the value received in consideration
20 of the guarantee. The project owner shall submit a corporate ownership organization chart
21 describing the relationship of the project owner to the guarantor with the submittal of the
22 initial executed financial mechanism, and during periodic registration updates thereafter.

23 (b) The guarantee shall be effective prior to submittal of the initial executed financial
24 mechanism and all submissions required pursuant to this Item and Rule .0102(e) of this
25 Section.

26 (c) The terms of the guarantee shall provide that:

27 (i) If the project owner fails to perform decommissioning of a USSP covered by the
28 corporate guarantee in accordance with the requirements and timelines of G.S.
29 130A-309.240, the rules of this Section, the decommissioning plan, the guarantor
30 shall either perform, or pay a third party to perform, decommissioning; or
31 establish a fully funded trust fund as specified in Item (1) of this Rule in the name
32 of the project owner.

33 (ii) The corporate guarantee shall remain in force for as long as the project owner is
34 required to comply with the applicable financial assurance requirements in the
35 rules of this Section unless the guarantor sends prior notice of cancellation by
36 certified mail to the project owner and to the Department. Cancellation shall not
37 occur, however, during the 120 days beginning on the date of receipt of the notice

1 of cancellation by both the project owner and the Department, as evidenced by
2 the return receipts.

3 (iii) If notice of cancellation is given, the project owner shall, within 90 days following
4 receipt of the cancellation notice by the project owner and the Department, obtain
5 alternate financial assurance that complies with the rules of this Section and obtain
6 written approval from the Department that the alternate financial assurance
7 complies with the rules of this Section. If the project owner fails to provide
8 alternate financial assurance within the 90-day period, the guarantor shall obtain
9 alternate financial assurance in the name of the project owner that complies with
10 the rules of this Section within 120 days of the cancellation notice and obtain
11 written approval from the Department that the alternate financial assurance
12 complies with the rules of this Section.

13
14 *History Note: Authority G.S. 130A-309.240(j);*
15 *Eff. TBD.*

1 15A NCAC 01V .0107 is proposed for adoption as follows:

2
3 **15A NCAC 01V .0107 REQUIRED LANGUAGE FOR FINANCIAL ASSURANCE MECHANISMS**

4 The financial assurance mechanisms set forth in Rule .0106 of this Section shall use the language provided in this
5 Rule unless otherwise approved by the Department as provided in Rule .0105(b) of this Section, and shall be in
6 accordance with the rules of this Section.

7 (1) Trust Agreement. A trust agreement for a trust fund, as specified in Rule .0106(1) of this Section,
8 shall be worded as follows unless otherwise approved by the Department as provided in Rule
9 .0105(b) of this Section, except that instructions in brackets are to be replaced with the relevant
10 information and the brackets deleted:

11 TRUST AGREEMENT

12 Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the project owner], a [name of
13 State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate
14 trustee], [insert "incorporated in the State of [name of state]" or "a national bank"], the "Trustee."

15 Whereas, the Department of Environmental Quality, the "Department," an agency of the State of North Carolina, has
16 established certain regulations applicable to the Grantor, requiring that a project owner of a utility-scale solar project
17 (USSP) shall provide assurance that funds shall be available when needed for decommissioning of the USSP,

18 Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the USSPs
19 identified herein,

20 Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this
21 agreement, and the Trustee is willing to act as trustee.

22 Now, therefore, the Grantor and the Trustee agree as follows:

23 Section 1. Definitions. As used in this Agreement:

24 (a) The term "Grantor" means the project owner who enters into this Agreement and any successors or assigns of the
25 Grantor.

26 (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

27 Section 2. Identification of Projects and Cost Estimates. This Agreement pertains to the USSPs and cost estimates
28 identified on schedule A [on schedule A, for each USSP list the name, address, project identification number, and the
29 current decommissioning, or portions thereof, for which financial assurance is demonstrated by this Agreement].

30 Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit
31 of the Department. The Grantor and the Trustee intend that no third party have access to the Fund except as herein
32 provided. The Fund is established initially as consisting of the property that is acceptable to the Trustee described in
33 Schedule B. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund,
34 together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this
35 Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be
36 responsible, nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the
37 Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

1 Section 4. Payment for Decommissioning. The Trustee shall make payments from the Fund as the Department shall
2 direct, in writing, to provide for the payment of the costs of decommissioning of the USSPs covered by this Agreement.
3 The Trustee shall reimburse the Grantor or other persons as specified by the Department from the Fund for
4 decommissioning expenditures in such amounts as the Department shall direct in writing. In addition, the Trustee shall
5 refund to the Grantor such amounts as the Department specifies in writing. upon refund, such funds shall no longer
6 constitute part of the Fund as defined herein.

7 Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or
8 securities acceptable to the Trustee.

9 Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep
10 the Fund invested as a single fund, without distinction between principal and income, in accordance with general
11 investment policies and guidelines that the Grantor may communicate in writing to the Trustee from time to time,
12 subject to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the
13 Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the
14 care, skill, prudence, and diligence under the circumstances then prevailing that persons of prudence, acting in a like
15 capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like
16 aims; except that:

- 17 (i) Securities or other obligations of the Grantor, or any other project owners, or any of their affiliates
18 as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be
19 acquired or held, unless they are securities or other obligations of the Federal or State government;
20 (ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent
21 insured by an agency of the Federal or State government; and
22 (iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a
23 reasonable time and without liability for the payment of interest thereon.

24 Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

25 (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust
26 fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be
27 commingled with the assets of other trusts participating therein; and

28 (b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C.
29 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered
30 or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

31 Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the
32 Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

33 (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No
34 person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the
35 validity or expediency of any such sale or other disposition;

36 (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all
37 other instruments that may be necessary or appropriate to carry out the powers herein granted;

1 (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security
2 in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same
3 issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a
4 qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the
5 name of the nominee of such depository with other securities deposited therein by another person, or to deposit or
6 arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality
7 thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such
8 securities are part of the Fund;

9 (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the
10 Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent
11 insured by an agency of the Federal or State government; and

12 (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

13 Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund
14 and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the
15 Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee,
16 the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and
17 disbursements of the Trustee shall be paid from the fund.

18 Section 10. Annual Valuation. The Trustee shall annually, no less than 30 days prior to the anniversary date of
19 establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust.
20 Any securities in the fund shall be valued at market value as of no more than 60 days prior to the anniversary date of
21 establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the
22 statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the
23 Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed
24 in the statement.

25 Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the
26 Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken
27 hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

28 Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed
29 upon in writing from time to time with the Grantor.

30 Section 13. Successor Trustee. The Trustee may resign, or the Grantor may replace the Trustee, but such resignation
31 or replacement shall not be effective until the Grantor has appointed a successor Trustee, and this successor accepts
32 the appointment. The successor Trustee shall have the same powers and duties as those conferred upon the Trustee
33 hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay
34 over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot
35 or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction
36 for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it
37 assumes administration of the trust in writing sent to the Grantor, the Department, and the present Trustee by certified

1 mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the
2 acts contemplated by this Section shall be paid as provided in section 9.

3 Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in
4 writing, signed by such persons as are designated in the exhibit or such other designees as the Grantor may designate
5 by amendment to Exhibit A. The trustee shall be fully protected in acting without inquiry in accordance with the
6 Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee
7 shall be in writing, signed by the Department, or his designee, and the Trustee shall act and shall be fully protected in
8 acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the
9 absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any
10 person to act on behalf of the Grantor or Department hereunder has occurred. The trustee shall have no duty to act in
11 the absence of such orders, requests, and instructions from the grantor or Department, except as provided for herein.

12 Section 15. Notice of Payment. The Trustee shall notify the Grantor and the Department of payment to the Trust by
13 certified mail within 10 days following receipt of said payment. The notice shall contain the name of the Grantor, the
14 date of payment, the amount of payment, and the current value of the trust fund. Section 16. Amendment of Agreement.
15 This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the
16 Department, or by the Trustee and the Department if the Grantor ceases to exist.

17 Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in
18 section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor,
19 the Trustee, and the Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination
20 of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

21 Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection
22 with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by
23 the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved
24 harmless by the Grantor or from the Trust fund, or both, from and against any personal liability to which the Trustee
25 may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred
26 in its defense in the event the Grantor fails to provide such defense.

27 Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of
28 the State of North Carolina.

29 Section 20. Interpretation. As used in this agreement, words in the singular include the plural and words in the plural
30 include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or
31 the legal efficacy of this Agreement.

32 In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized
33 and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify
34 that the wording of this agreement is identical to the wording specified in 15A NCAC 01V .0107(1) [if wording is
35 otherwise approved by the Department as provided in 15A NCAC 01V .0105(b), then state here: "except as approved
36 by the Department on [date]"] as were constituted on the date first above written.

37 [Signature of Grantor]

1 [Title]
2 Attest: [insert name of Corporation's Senior Management]
3 [Title]
4 [Seal]
5 State of North Carolina
6 County of [Name of County]
7 On this [date], before me personally came [name of project owner] to me known, who, being by me duly sworn, did
8 depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and
9 that executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such
10 instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that
11 she/he signed her/his name thereto by like order.
12 Witness my hand and official seal this [Day] day of [Month], 20[Year].
13 [insert Signature of Notary]
14 Official Signature of Notary
15 [Notary's printed or typed name]
16 Notary Public
17 [Official Seal]
18 My commission expires: [insert Date of Commission Expiration]
19 [Or for no corporate seal, see 15A NCAC 01V .0105(j) and utilize the certification of acknowledgement below]
20 State of North Carolina
21 County of [Name of County]
22 I, [Name of Officer Taking Acknowledgment], a [Official Title of Officer Taking Acknowledgment], certify that
23 [Name of Corporate Officer] personally came before me this day and acknowledged that he/she is [Title of Corporate
24 Officer] of [insert Legal Name of Corporation], a corporation, and that he/she, as [insert Title of Officer], being
25 authorized to do so, executed the foregoing on behalf of the corporation.
26 Witness my hand and official seal this [Day] day of [Month], 20[Year].
27 [insert Signature of Notary]
28 Official Signature of Notary
29 [Notary's printed or typed name]
30 Notary Public
31 [Official Seal]
32 My commission expires: [insert Date of Commission Expiration]
33 [Signature of Trustee]
34 [Title]
35 Attest: [insert name]
36 [Title]
37 [Seal]

1 State of North Carolina
2 County of [Name of County]
3 I, [Name of Officer Taking Acknowledgment], a [Official Title of Officer Taking Acknowledgment], certify that
4 [Name of Corporate Officer] personally came before me this day and acknowledged that he/she is [Title of Corporate
5 Officer] of [insert Legal Name of Corporation], a corporation, and that he/she, as [insert Title of Officer], being
6 authorized to do so, executed the foregoing on behalf of the corporation.
7 Witness my hand and official seal this [Day] day of [Month], 20[Year].
8 [insert Signature of Notary]
9 Official Signature of Notary
10 [Notary's printed or typed name]
11 Notary Public
12 [Official Seal]
13 My commission expires: [insert Date of Commission Expiration]
14 Schedule A for Trust Agreement
15 [For Each Utility-Scale Solar Project (USSP):]
16 Project Name: [Project Name]
17 Project Address: [Project Address]
18 Project ID Number: [Project ID Number]
19 Total Amount of Decommissioning Costs to be Funded by this Trust: \$ [Amount]
20 Schedule B for Trust Agreement
21 [For Standby Trust]
22 Trust Property: This Fund shall consist of funds drawn from [insert type of mechanism; ex. Letter of credit] No. [insert
23 number] dated [date] issued by [name of bank] at such time said funds are directly deposited into the Trust account.
24 [For Funded Trust]
25 Trust Property: This Fund shall consist of cash in the amount of \$[insert cash amount]. [Aggregate full amount of
26 decommissioning from Schedule A.]
27 Account Information:
28 Account Number assigned to this Trust Agreement: [Account Number]
29 Amount of Deposit: [Amount of Deposit (zero dollars if used for a standby trust)]
30 Date: [Date]
31 Bank/Branch location for this trust account:
32 Bank/Branch Name: [Bank/Branch Name]
33 Location Address: [Location Address]
34 City & State: [City & State]
35 Contact Person at Bank:
36 Name: [Name]
37 Title: [Title]

1 Phone Number: [Phone Number]

2 Exhibit A for Trust Agreement

3 The following persons, acting singly or collectively, shall have the right to issue instructions to the Trustee pursuant
4 to Section 14 of the Agreement:

5 Name: [insert name]

6 Position: [insert position]

7 (2) A surety bond guaranteeing payment of decommissioning as specified in Rule .0106(2) of this
8 Section shall be worded as follows unless otherwise approved by the Department as provided in
9 Rule .0105(b) of this Section, except that instructions in brackets are to be replaced with the relevant
10 information and the brackets deleted:

11 FINANCIAL GUARANTEE BOND

12 Date bond executed: [insert date of bond execution]

13 Effective date: [insert effective date]

14 Principal: [legal name and business address of project owner]

15 Type of organization: [insert "individual", "joint venture", "partnership", or "corporation"]

16 State of incorporation: [insert state of incorporation]

17 Surety(ies): [name(s), business address(es), and contact information]

18 [For Each Utility-Scale Solar Project (USSP)]

19 Project ID number: [insert project ID number]

20 Project name: [insert project name]

21 Project address: [insert project address]

22 Decommissioning cost: [insert dollar amount for decommissioning]

23 Total penal sum of bond: \$[insert total cost of the bond]

24 Liability Limit: \$[insert underwriting limit of the surety company]

25 Surety's bond number: [insert bond number issued by surety]

26 Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the N.C.
27 Department of Environmental Quality (hereinafter called the Department), in the above penal sum for the payment of
28 which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided
29 that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly
30 and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other
31 purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set
32 forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full
33 amount of the penal sum.

34 Whereas, said Principal is required by G.S. 130A-309.240 and 15A NCAC 01V to provide financial assurance for
35 decommissioning for each utility-scale solar project (USSP) identified above, and

36 Whereas, said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such
37 financial assurance;

1 Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of
2 final decommissioning of each USSP identified above, fund the standby trust fund in the amount(s) identified above
3 for the USSP.

4 Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin
5 decommissioning is issued by the Department or a U.S. district court or other court of competent jurisdiction.

6 Or, if the Principal shall provide alternate financial assurance and obtain the Department's written approval of such
7 assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department
8 from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

9 The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions
10 described above. Upon notification by the Department that the Principal has failed to perform as guaranteed by this
11 bond, the Surety(ies) shall place funds in the amount guaranteed for the USSP(s) into the standby trust fund as directed
12 by the Department.

13 The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless
14 and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall
15 the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

16 The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the
17 Department, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt
18 of the notice of cancellation by both the Principal and the Department, as evidenced by the return receipts.

19 The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such
20 notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the
21 Department.

22 [The following paragraph is an optional rider that may be included but is not required.]

23 Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new
24 decommissioning amount, provided that the penal sum does not increase by more than 20 percent in any one year, and
25 no decrease in the penal sum takes place without the written permission of the Department.

26 In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their
27 seals on the date set forth above.

28 The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on
29 behalf of the Principal and Surety(ies) and that the wording of this bond is identical to the wording specified in 15A
30 NCAC 01V .0107(2) [if wording is otherwise approved by the Department as provided in 15A NCAC 01V .0105(b),
31 then state here: "except as approved by the Department on [date]"] as were constituted on the date this bond was
32 executed.

33 Principal
34 [Signature(s)]
35 [Name(s)]
36 [Title(s)]
37 [Corporate seal]

1 [For no corporate seal, see Rule .0105(j)]
2 Corporate Surety(ies)
3 [Name and address]
4 State of incorporation: [Surety's state of incorporation]
5 Liability limit: \$[Surety's liability limit]
6 [Signature(s)]
7 [Name(s) and title(s)]
8 [Corporate seal]
9 [For no corporate seal, see Rule .0105(j)]
10 [For each co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety
11 above.]
12 Bond premium: \$[bond premium]

13 (3) A letter of credit, as specified in Rule .0106(3) of this Section, shall be worded as follows unless
14 otherwise approved by the Department as provided in Rule .0105(b) of this Section, except that
15 instructions in brackets are to be replaced with the relevant information and the brackets deleted:

16 IRREVOCABLE STANDBY LETTER OF CREDIT

17 N.C. Department of Environmental Quality
18 c/o Division of Waste Management
19 1646 Mail Service Center
20 Raleigh, N.C. 27699-1646

21 Dear Sir/Madam:

22 We hereby establish our Irrevocable Standby Letter of Credit No. [insert mechanism number] in your favor, at the
23 request and for the account of [project owner's name and address] up to the aggregate amount of [in words] U.S.
24 dollars \$[insert U.S. dollar amount], available upon presentation of

25 (1) your sight draft, bearing reference to this letter of credit No. [insert mechanism number], and
26 (2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to requirements
27 of N.C.G.S. 130A-309.240 and 15A NCAC 01V because the applicant has failed to properly decommission the utility-
28 scale solar project (USSP) in accordance with applicable statutes and rules."

29 This letter of credit is effective as of [date] and shall expire on [date no less than 1 year], but such expiration date shall
30 be automatically extended for a period of [no less than 1 year] on [date] and on each successive expiration date, unless,
31 no less than 120 days before the current expiration date, we notify both you and [project owner's name] by certified
32 mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so
33 notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the
34 date of receipt by both you and [project owner's name], as shown on the signed return receipts.

35 Whenever this letter of credit is drawn on, under and in compliance with the terms of this credit, we shall duly honor
36 such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of
37 [project owner's name] in accordance with your instructions.

1 We certify that the wording of this letter of credit is identical to the wording specified in 15A NCAC 01V .0107(3) [if
2 wording is otherwise approved by the Department as provided in 15A NCAC 01V .0105(b), then state here: “except
3 as approved by the Department on [date]”] as were constituted on the date shown immediately below.

4 [Signature(s) and title(s) of official(s) of issuing institution], [Date]

5 This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits,
6 published by the International Chamber of Commerce," or "the Uniform Commercial Code"].

7 (4) A certificate of insurance, as specified in Rule .0106(4) of this Section, shall be worded as follows
8 unless otherwise approved by the Department as provided in Rule .0105(b) of this Section, except
9 that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

10 CERTIFICATE OF INSURANCE FOR DECOMMISSIONING

11 Name and Address of Insurer

12 (herein called the "Insurer"):

13 Name and Address of Insured

14 (herein called the "Insured"):

15 Projects Covered: [List for each utility-scale solar project (USSP): the name, address, project identification number,
16 and the amount of insurance for decommissioning (these amounts for all USSPs covered shall total the face amount
17 shown below).]

18 Face Amount: [insert dollar amount of face value]

19 Policy Number: [insert insurance policy number]

20 Effective Date: [insert effective date]

21 The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial
22 assurance for decommissioning for the utility-scale solar projects (USSPs) identified above.

23 The Insurer further warrants that such policy conforms in all respects with the requirements of G.S. 130A-309.240
24 and 15A NCAC 01V, as applicable and as such regulations were constituted on the date shown immediately below. It
25 is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such
26 inconsistency.

27 Whenever requested by the N.C. Department of Environmental Quality (hereinafter called the Department), the
28 Insurer agrees to furnish to the Department a duplicate original of the policy listed above, including all endorsements
29 thereon.

30 I hereby certify that the wording of this certificate is identical to the wording specified in 15A NCAC 01V .0107(4)
31 [if wording is otherwise approved by the Department as provided in 15A NCAC 01V .0105(b), then state here: “except
32 as approved by the Department on [date]”] as were constituted on the date shown immediately below.

33 [Authorized signature for Insurer]

34 [Name of person signing]

35 [Title of person signing]

36 Signature of witness or notary:

37 [Date]

(5) A letter from the chief financial officer for a financial test, as specified in Rule .0106(5) of this Section, shall be worded as follows unless otherwise approved by the Department as provided in Rule .0105(b) of this Section, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

FINANCIAL TEST

LETTER FROM THE CHIEF FINANCIAL OFFICER

[Date]

N.C. Department of Environmental Quality

c/o Division of Waste Management

1646 Mail Service Center

Raleigh, NC 27699-1646

Dear Sir/Madam:

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for decommissioning of a utility-scale solar project (USSP) as specified in N.C.G.S. 130A-309.240 and 15A NCAC 01V.

[Fill out the following five paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each USSP, including its project identification number, name, address, and decommissioning cost estimates.]

1. This firm is the project owner of the following USSPs for which financial assurance for decommissioning is demonstrated through the financial test as specified in N.C.G.S. 130A-309.240 and 15A NCAC 01V. The current cost estimates for decommissioning covered by the test are shown for each USSP:

Name: [insert legal entity /principal name]

Office Address: [insert physical address of legal entity/principal]

Project Address: [insert physical address of project]

Project ID Number: [insert project ID number]

Decommissioning Cost Estimate: [insert dollar amount for decommissioning]

[Repeat the information above for each USSP included in the corporate test]

2. This firm guarantees, through the corporate guarantee as specified in Rule .0106(6) of this Section, the current cost estimates for decommissioning of the following facilities owned or operated by the guaranteed party. The current cost estimates for decommissioning so guaranteed are shown for each USSP: _____ . The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the project owner; (2) owned by the same parent corporation as the parent corporation of the project owner, and receiving the following value in consideration of this guarantee _____ ; or (3) engaged in the following substantial business relationship with the project owner _____ , and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the substantial business relationship or a copy of the contract establishing such relationship to this letter].

1 3. This firm is the project owner or guarantor of the following USSPs, or projects substantially similar to USSPs,
2 for which they are demonstrating financial assurance for decommissioning in other states through the use of
3 a financial test specified in Rule .0106(5) of this Section or a mechanism substantially equivalent to the
4 financial test, the current decommissioning cost estimates covered by such a test are shown for each USSP:

5 _____.

6 4. This firm is the project owner of the following USSPs, or projects substantially similar to USSPs for which
7 financial assurance for decommissioning is not demonstrated either to EPA or another state through the
8 financial test or any other financial assurance mechanism specified in Rule .0106 of this Section or
9 substantially equivalent mechanism. The current decommissioning cost estimates not covered by such
10 financial assurance are shown for each USSP:_____.

11 This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission
12 (SEC) for the latest fiscal year.

13 The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are
14 derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended
15 [date].

16 [Fill in Alternative I if the criteria of Rule .0106(5)(a) of this Section is used to pass the test.

17 [Fill in Alternative II if the criteria of Rule .0106(5)(b) of this Section is used to pass the test.

18 Alternative I

19 1. Sum of current decommissioning cost estimate [total of all cost estimates shown in the five paragraphs above]
20 \$_____

21 *2. Total liabilities [if any portion of the decommissioning cost estimates is included in total liabilities, you may
22 deduct the amount of that portion from this line and add that amount to lines 3 and 4] \$_____

23 *3. Tangible net worth \$_____

24 *4. Net worth \$_____

25 *5. Current assets \$_____

26 *6. Current liabilities \$_____

27 7. Net working capital [line 5 minus line 6] \$_____

28 *8. The sum of net income plus depreciation, depletion, and amortization \$_____

29 *9. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) \$_____

30 10. Is line 3 no less than \$10 million? (Yes/No) _____

31 11. Is line 3 no less than 6 times line 1? (Yes/No) _____

32 12. Is line 7 no less than 6 times line 1? (Yes/No) _____

33 *13. Are no less than 90% of firm's assets located in the U.S.? If not, complete line 14 (Yes/No) _____

34 14. Is line 9 no less than 6 times line 1? (Yes/No) _____

35 15. Is line 2 divided by line 4 less than 2.0? (Yes/No) _____

36 16. Is line 8 divided by line 2 greater than 0.1? (Yes/No) _____

37 17. Is line 5 divided by line 6 greater than 1.5? (Yes/No) _____

1 Alternative II

2 1. Sum of current decommissioning cost estimates [total of all cost estimates shown in the five paragraphs above]

3 \$ _____

4 2. Current bond rating of most recent issuance of this firm and name of rating service _____

5 3. Date of issuance of bond _____

6 4. Date of maturity of bond _____

7 *5. Tangible net worth [if any portion of the decommissioning cost estimates is included in “total liabilities” on your
8 firm's financial statements, you may add the amount of that portion to this line] \$ _____

9 *6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) \$ _____

10 7. Is line 5 no less than \$10 million? (Yes/No) _____

11 8. Is line 5 no less than 6 times line 1? (Yes/No) _____

12 *9. Are no less than 90% of firm's assets located in the U.S.? If not, complete line 10 (Yes/No) _____

13 10. Is line 6 no less than 6 times line 1? (Yes/No) _____

14 [Signature]

15 [Name]

16 [Title]

17 [Date]

18 (6) A corporate guarantee, as specified in Rule .0106(6) of this Section, shall be worded as follows
19 unless otherwise approved by the Department as provided in Rule .0105(b) of this Section, except
20 that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

21 CORPORATE GUARANTEE

22 Corporate Guarantee Terms for Decommissioning

23 For [Project Owner], [Project ID Number]

24 Guarantee made this [date] by [name of guaranteeing entity], [address and state of guaranteeing entity], herein referred
25 to as Guarantor. The guarantee is made on behalf of the [project owner name] of [business address], which is [one of
26 the following: “our subsidiary”; a subsidiary of [name and address of common parent corporation” or “an entity with
27 which the Guarantor has a substantial business relationship”] to the N.C. Department of Environmental Quality
28 (hereinafter called the Department).

29 Recitals:

30 1. Guarantor meets or exceeds the Financial Test criteria and agrees to comply with the reporting requirements for
31 guarantors, as specified in N.C.G.S. 130A-309.240 and 15A NCAC 01V.

32 2. [Project owner] owns the following USSPs covered by this guarantee: List for each USSP the following information

33 Name: [insert project name]

34 Project Address: [insert project address]

35 Project ID No.: [insert Department-issued project number]

36 Decommissioning Cost Estimate: [insert dollar amount for decommissioning]

1 3. Decommissioning Cost Estimate as used above refers to the plans maintained as required by N.C.G.S. 130A-
2 309.240 and 15A NCAC 01V for decommissioning cost estimate of USSPs identified above.

3 4. For value received from [insert project owner name], pursuant to N.C.G.S. 130A-309.240 and 15A NCAC 01V,
4 Guarantor guarantees to the Department that in the event that [insert project owner name] fails to perform
5 decommissioning of the above USSPs in accordance with the G.S. 130A-309.240, 15A NCAC 01V, and the
6 decommissioning plan whenever required to do so, the Guarantor shall perform the required activities, or pay a third
7 party to do so, or establish a fully-funded trust fund in conformance with G.S. 130A-309.240 and 15A NCAC 01V,
8 in the name of the project owner in the amount of the current decommissioning cost estimate as specified in 15A
9 NCAC 01V .0104.

10 5. Pursuant to G.S. 130A-309.240, Guarantor agrees that if, at the end of any fiscal year before termination of this
11 guarantee, the Guarantor fails to meet the Financial Test criteria the Guarantor shall, within 90 days, send by certified
12 mail notice to the Department and to [project owner name] that the Guarantor is providing alternate financial assurance
13 in accordance with 15A NCAC 01V in the name of [project owner name]. Within 120 days after the end of such fiscal
14 year, the Guarantor shall establish such financial assurance unless [project owner name] has done so.

15 6. Guarantor agrees to notify the Department by certified mail of voluntary or involuntary proceeding under Title 11
16 (Bankruptcy), U.S. Code, naming Guarantor as debtor, within 10 days after commencement of the proceeding.

17 7. Guarantor agrees that within 30 days after being notified by the Department of a determination that Guarantor no
18 longer meets the Financial Test criteria or that they are disallowed from continuing as a Guarantor for
19 decommissioning of a USSP, they shall establish alternate financial assurance as required by N.C.G.S. 130A-309.240
20 and 15A NCAC 01V, as applicable, in the name of [project owner name] unless [project owner name] has done so.

21 8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: modification or
22 amendment of the decommissioning plan, the extension or reduction of the time of performance of the
23 decommissioning of a USSP, or any other modification or alteration of an obligation of the project owner pursuant to
24 N.C.G.S. 130A-309.240 and 15A NCAC 01V.

25 9. Pursuant to 15A NCAC 01V .0106(6)(c)(ii), Guarantor agrees to remain bound under this guarantee for as long as
26 [project owner name] shall comply with N.C.G.S. 130A-309.240 and 15A NCAC 01V for the above-listed USSP(s),
27 except as provided in paragraph 10 of this agreement.

28 10. [Insert the following language if the Guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose
29 parent corporation is also the parent corporation of the project owner]:
30 Guarantor may terminate this guarantee by sending noticed by certified mail to the Department and to [project owner
31 name], provided that this guarantee may not be terminated unless and until [project owner name] obtains, and the
32 Department approves, alternate financial assurance as required by N.C.G.S. 130A-309.240 and 15A NCAC 01V.
33 [Insert the following language if the Guarantor is a firm qualifying as a Guarantor due to its substantial business
34 relationship with the project owner]:
35 Guarantor may terminate this guarantee 120 days following the receipt of notification of its intended cancellation by
36 certified mail by both the Department and by [project owner name].

1 11. Guarantor agrees that if [project owner name] fails to provide alternate financial assurance as specified in N.C.G.S.
2 130A-309.240 and 15A NCAC 01V and obtain written approval of such assurance from the Department within 90
3 days after a notice of cancellation from the Guarantor is received by the Department, Guarantor shall provide such
4 alternate financial assurance in the name of [project owner name].

5 12. Guarantor expressly waives notice of acceptance of this guarantee by the Department or by [project owner name].
6 Guarantor also expressly waives notice of amendments or modifications of the decommissioning plan, and of
7 rebuilding or expansion of the project.

8 Effective date: [insert mechanism effective date]

9 [Name of Guarantor]

10 [Corporate Seal]

11 [For no corporate seal, see Rule .0105(j)]

12 [Authorized signature for Guarantor]

13 [Name of person signing]

14 [Title of person signing]

15 [Telephone Number]

16 [Email Address]

17 State of North Carolina

18 County of [Name of County]

19 On this [day] day of [month], [year], before me personally came [name signing for Guarantor] to me known, who,
20 being by me duly sworn, did depose and say that she/he resides at [Guarantor address], that she/he is [title at Guarantor
21 Firm] described in and that executed the above instrument; that she/he knows the seal of said corporation; that the seal
22 affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said
23 corporation, and that she/he signed her/his name thereto by like order.

24 Witness my hand and official seal this [Day] day of [Month], 20[Year].

25 [insert Signature of Notary]

26 Official Signature of Notary

27 [Notary's printed or typed name]

28 Notary Public

29 [Official Seal]

30 My commission expires: [insert Date of Commission Expiration]

31 (7) A special report from an independent certified public accountant (CPA) is a supplemental report
32 mechanism to the financial test mechanism as specified in Rule .0106(5) and the corporate guarantee
33 mechanism as specified in Rule .0106(6) of this Section, and shall be worded as follows unless
34 otherwise approved by the Department as provided in Rule .0105(b) of this Section, except that
35 instructions in brackets are to be replaced with the relevant information and the brackets deleted:

36 SPECIAL REPORT

37 INDEPENDENT CERTIFIED PUBLIC ACCOUNTANT'S REPORT

1 ON APPLYING AGREED-UPON PROCEDURES

2 The Board of Directors

3 [Name of Company]

4 [Mailing and location address]

5 [Project No.]

6 We have performed the procedures enumerated below that were agreed to by management of [Name of Company]
7 pursuant to N.C.G.S. 130A-309.240 and 15A NCAC 01V with respect to the letter dated [insert date] from the [insert
8 Corporate Official name and title] to the N.C. Department of Environmental Quality (hereinafter called the
9 Department), solely to assist you in filing the Letter (prepared in accordance with the criteria specified therein) for the
10 year ended [insert date of end of corporate fiscal year]. [Name of Company] is responsible for this Letter. This agreed-
11 upon procedures engagement was conducted in accordance with attestation standards established by the American
12 Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of [Name of
13 Company] and the Department. Consequently, we make no representation regarding the sufficiency of the procedures
14 described below either for the purpose for which this report has been requested or for any other purpose.

15 The procedures, which were limited solely to the identified item numbers, are as follows:

16 We compared the amounts in Item Nos. [insert applicable item numbers based on Alternative I or II] of the Financial
17 Test in the Chief Financial Officer's (CFO) Letter to corresponding amounts reported as total liabilities [amount],
18 Tangible Net Worth [amount], and total assets [amount], respectively, in the audited financial statement as of [insert
19 date of end of corporate fiscal year] and found them [insert either, "not to be in agreement" or "to be in agreement"].

20 We computed the amounts in Item Nos. [insert applicable item numbers based on Alternative I or II] of the Financial
21 Test in the CFO's Letter as of [insert date of end of corporate fiscal year] based on amounts reported as Net Worth
22 [amount] and the net income plus depreciation, depletion, and amortization [amount] in the audited financial
23 statements as of [insert date of end of corporate fiscal year], compared them to the amounts in the CFO's Letter and
24 found them [insert either, "not to be in agreement" or "to be in agreement"].

25 We computed the amount of environmental obligations (as determined by current decommissioning cost estimate or
26 guarantees) that are recognized as liabilities in the amount of [amount] in the audited financial statement as of [insert
27 date of end of corporate fiscal year], compared them to the amounts in the CFO's Letter and found them [insert either,
28 "not to be in agreement" or "to be in agreement"].

29 We compared the amount in Item No. [insert applicable item number based on Alternative I or II] of the Financial
30 Test in the CFO's Letter and the Company's total assets located in the United States in the amount of [insert amount]
31 in the audited financial statement as of [insert date of end of corporate fiscal year] and found them [insert either, "not
32 to be in agreement" or "to be in agreement"].

33 [If not in agreement, describe the procedures performed in comparing the data in the CFO's letter derived from the
34 audited financial year-end financial statements for the latest fiscal year with the amounts in such financial statements,
35 the findings of that comparison, and the reasons for any differences.]

36 We were not engaged to and did not conduct an examination, the objective of which would be the expression of an
37 opinion on the selected financial information included in the Letter. Accordingly, we do not express such an opinion.

1 Had we performed additional procedures, other matters might have come to our attention that would have been
2 reported to you. This report is intended solely for the use of management of the Company and is not intended to be
3 and should not be used by anyone other than these specified parties.

4 [Date]

5 [Name of Accounting Firm]

6

7 *History Note: Authority G.S. 130A-309.240(j);*

8 *Eff. TBD.*