

M E M O R A N D U M

TO: Professor Alexandra Klass; Adjunct Professor Sara Peterson; and, Steven Lott,
Project Manager for UMore Park

FROM: Lynn Parins

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SUBJECT: Developing Renewable Energy at UMore Park as a Brownfield Site: Public utility law, resources and programs, and planning for liability assurances

Introduction

The University of Minnesota plans to develop renewable energy on its property in UMore Park, portions of which are contaminated and may require remediation. The sources of renewable energy that will be part of the UMore Park development include wind, biogas-fueled combined heat and power (CHP), and roof-mounted solar hot water and photovoltaics (PV).¹ This memorandum focuses its analysis on the laws and policies that concern the development of renewable energy technologies on brownfields,² using UMore Park as its case study. It assumes that the University is receiving counsel specific to the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act³ (CERCLA) and the Minnesota Environmental Response and Liability Act⁴ (MERLA). Hence, this memorandum notes only

¹ DESIGN WORKSHOP, CONCEPT MASTER PLAN FOR THE UNIVERSITY OF MINNESOTA'S NEW SUSTAINABLE COMMUNITY AT UMORE PARK: APPENDIX: ENVIRONMENT 130 (2009) [hereinafter UMORE PARK: ENVIRONMENT], available at http://www.umorepark.umn.edu/prod/groups/ssrd/@pub/@ssrd/@umorepark/documents/content/ssrd_content_237090.pdf.

² This memorandum uses the terms "brownfields" and "contaminated property" interchangeably, the use of which excludes sites found on the federal National Priorities List and Minnesota Permanent List of Priorities. For a thorough definition of brownfields from the EPA, see *Brownfields Definition*, U.S. EPA, <http://www.epa.gov/brownfields/overview/glossary.htm> (last visited May 11, 2012).

³ 42 U.S.C. § 9601-75 (2010).

⁴ MINN. STAT. § 115B.01-.20 (2011). Unless noted otherwise, all references to Minnesota Statutes are to the 2011 compilation.

where the law presents challenges unique to renewable energy development on the contaminated property in UMore Park. This memorandum uses three goals to guide its analysis:

- 1) To understand the implications of Minnesota public utility law for UMore Park's renewable energy development and the ways in which UMore Park can use the law;
- 2) To understand federal and state resources available for characterizing the renewable energy potential of a brownfield site such as UMore Park, discussing comparative case studies, understanding available incentives, and pertinent brownfields programs; and,
- 3) To assess ways in which the University could manage its cleanup of UMore Park within the context of the Minnesota Pollution Control Agency's (MPCA) Voluntary Investigation and Cleanup (VIC) Program while planning incorporating expectations of potential renewable energy development partners.

The memorandum addresses these goals in Parts I, II, and III, respectively.

I. Minnesota Public Utility Law's Framing Role for Energy Producers

This memorandum begins with an analysis of Minnesota public utility law due to its framing effect as to what entities can produce and sell energy. For purposes of this memorandum, there are two basic structures for renewable energy ownership at UMore Park: University ownership, and third-party ownership (including public utility or non-utility generators). What type of entity owns energy generation sources, in turn, frames what incentives could be available to them. For that reason, Part I introduces the basic structure of public utility law in Minnesota which governs the regulated utility market in Section A. Section B explores four accommodations in Minnesota public utility law for non-utility generators most relevant to renewable energy development in UMore Park. Finally, Section C briefly discusses federal

energy law with respect to its potential influence on a renewable energy development at UMore Park.

A. Minnesota Public Utility Law Basics

Public utilities are broadly defined to include any legal entity engaged in the retail sale or service of gas or electricity.⁵ Minnesota statute establishes public utilities as the exclusive entities authorized to provide electric service to customers.⁶ In exchange for this exclusive grant, public utilities must have their rates approved by the Minnesota Public Utilities Commission (PUC), and must meet quality and reliability standards.⁷ Because of the onerous nature of these requirements, in tandem with the interest utilities have in their exclusive territories, the University will want to structure their renewable energy development so as to avoid classification as a public utility. Thus, it is important for prospective power producers (such as the University) to find statutory exceptions, which is the subject of Section I.B.

While Minnesota has not “deregulated” its public utilities so as to allow customers to choose their electricity producers,⁸ Minnesota public utility law includes a specific exception for large energy customers. A large energy customer (i.e., 2 MW or more) located outside of a municipality can petition the PUC for a determination that the customer is not required to receive

⁵ *Id.* § 216B.02, subd. 4. The same definition of public utilities, however, provides two relevant exceptions to UMore Park: an entity providing service only to “tenants or cooperative or condominium owners in buildings [it owns, leases, or operates]; and, an entity that provides service to “less than 25 persons.” *Id.* See Northern Natural Gas Co. v. Minn. Pub. Serv. Comm’n, 292 N.W.2d 759, 764 (Minn. 1980) (“In the absence of a showing that an entity falls within an exception listed in section 216B.02, subd. 4, an entity which furnishes natural gas at retail is a public utility.”).

⁶ See MINN. STAT. § 216B.37 (“Minnesota shall be divided into geographic service areas within which a specified electric utility shall provide electric service to its customers on an *exclusive* basis.”) (emphasis added).

⁷ See *id.* § 216B.03 (requiring public utilities to receive approval of rates charged to customers from the PUC); *id.* § 216B.04 (stating the standards of service that utilities must meet for their customers). See also *id.* § 216B.08 (empowering the PUC to regulate the activities of public utilities).

⁸ See *Status of Electricity Restructuring by State*, U.S. ENERGY INFORMATION ADMIN., http://www.eia.gov/cneaf/electricity/page/restructuring/restructure_elect.html (last visited May 11, 2012).

service from the utility in whose exclusive territory the customer resides.⁹ There is no case law interpreting key language in this statutory provision such as what it means to be a customer, or what it means to be outside of a municipality. It also leaves a potential user of this provision wondering if it can rely, instead, on its own energy production or on that of a third party. While this option opens up research questions that would need to be the subject of another memorandum,¹⁰ it could give the University a legal position from which to participate in the next wave of the energy industry: Smart Grids and Microgrids.¹¹

B. Accommodations for Non-Utility Generators of Renewable Energy

Minnesota law accommodates non-utility generators of renewable energy in other ways relevant to UMore Park that are in addition to the statutory exceptions to public utilities noted above in Section I.A. This section discusses four of these accommodations in brief by analyzing what ownership structure they permit (University versus third-party), and the general functional requirements they place on the entities for accessing the greater power grid.

1. Power Purchase Agreements

Minnesota statute permits Xcel Energy to enter into Power Purchase Agreements (PPAs) with independent power producers (IPPs) of wind and biomass energy.¹² The PPAs are subject to PUC approval, and must be made to satisfy Xcel Energy's renewable energy mandate, the power

⁹ *See id.* § 216B.42, subd. 1 (requiring the PUC to take into consideration six factors, including the state of the existing utility's grid, as well as the customer's preference).

¹⁰ Such as, "Would the University of Minnesota need to create a public utility to serve UMore Park, and if so, what responsibilities would attach to it?"

¹¹ *See, e.g.*, ERIC BOHNERT, ANDREW FRASER, HOPE L. JOHNSON, & SHANNA LEELAND, ENABLING UMORE PARK – A SMART COMMUNITY OF THE FUTURE (2011), *available at* http://www.umorepark.umn.edu/prod/groups/ssrd/@pub/@ssrd/@umorepark/documents/article/ssrd_article_362528.pdf (investigating the potential for smart grid technology at UMore Park); N.Y. STATE ENERGY RESEARCH & DEV. AUTH., MICROGRIDS: AN ASSESSMENT OF THE VALUE, OPPORTUNITIES AND BARRIERS TO DEPLOYMENT IN NEW YORK STATE (2010), *available at* http://www.nyserda.ny.gov/~media/Files/Publications/Research/Electric%20Power%20Delivery/10-35-microgrids.ashx?sc_database=web (describing the value of microgrids—"sub-grids" capable of islanding producer-users from the macro-grid—and citing multiple examples around the country).

¹² *See* MINN. STAT. § 216B.1645, subd. 1 (referencing the public utility wind and biomass mandates

generated from which must ultimately be distributed Xcel customers.¹³ Koda Energy, LLC provides an example of a CHP facility operated with biomass that entered into a PPA with Xcel Energy.¹⁴ The PUC approved this 12 MW PPA based on the reasonableness of the price per Megawatt Hour (MWh), and its ability to protect Xcel ratepayers from financial and operational risks associated with small energy producers.¹⁵ UMore Park could negotiate a PPA for the power it produces from its CHP facility and/or wind farm under this statutory provision.¹⁶ Under such an arrangement, the University could retain ownership of the energy sources, or could contract with a third-party energy developer, in which case the University would need to consider taking additional measures to protect itself from liability associated with these contractors.¹⁷

2. Community-Based Energy Development

The Community-Based Energy Development (C-BED) provision encourages entities such as local governments and institutions of higher education to develop and own renewable energy.¹⁸ Functionally, the C-BED provision operates similarly to the PPA provision in that it eventually leads to a negotiated PPA with Xcel Energy.¹⁹ The C-BED provision could be more advantageous to the University, however, because it requires Xcel Energy to give preference to C-BED projects,²⁰ as well as requiring Xcel Energy to establish a C-BED tariff rate providing a higher rate in the first ten years of the project.²¹ The C-BED provision, by its wording, restricts

¹³ *Id.*

¹⁴ See generally *Koda Energy Fact Sheet*, SHAKOPEE MDEWAKANTON SIOUX COMMUNITY, <http://www.shakopeedakota.org/newsroom/fact-sheets/koda-energy-fact-sheet> (last visited May 8, 2012) (describing the genesis of this producer, its fuel sources, and economic impacts).

¹⁵ See Xcel Energy, 2009 WL 737058 (Minn.P.U.C.) (describing the factors the PUC considers when approving a PPA).

¹⁶ See UMORE PARK: ENVIRONMENT, *supra* note 1, at 130-31.

¹⁷ See *infra* section III.D.1 (discussing liability considerations when working with third-party energy contractors).

¹⁸ See MINN. STAT. § 216B.1612, subd. 1.

¹⁹ See *id.* § 216B.1612, subd. 7.

²⁰ See *id.* § 216B.1612, subd. 5 (requiring utilities to make a good faith effort to prioritize energy from a C-BED project when seeking out additional generation to meet its renewable energy mandate).

²¹ See *id.* § 216B.1612, subd. 3. *Cf. id.* § 216B.1645 (leaving the terms of a PPA to direct negotiations between the producer and the utility, subject to some PUC oversight).

for-profit corporations from its definition of “qualifying beneficiaries,” thereby limiting the kinds of partners the University could use under this provision.²² Using the C-BED provision, the University could qualify all of its planned renewable energy sources, and retain ownership of the entire renewable energy development.²³

3. District Heating Systems

Minnesota law enables Minnesota cities to develop municipal district heating systems for its residents, and residents of nearby communities.²⁴ This provision does not reference, or conflict with, the exclusive territory provided to electric utilities, presumably because the law assumes that district heating systems provide “hot water or steam” and not electricity.²⁵ Electricity produced by a CHP plant, however, would require a PPA with Xcel Energy, as District Energy Saint Paul uses.²⁶ The University would need to work with the City of Rosemount as a city of the fourth class,²⁷ in which part of UMore Park is located, to develop a district heating system. If Rosemount, however, does not want, or is not able, to participate directly, Rosemount could contract with Dakota County to develop the system.²⁸ In either arrangement, the University would have to partner with a local unit of government.²⁹ Liability protections available through VIC Program participation become important to a district heating

²² See *id.* § 216.1612, subd. 2(c) (including individuals, or individuals in a LLC organized for the purposes of a C-BED project, cooperatives, and non-profit corporations among the list of qualifying beneficiaries, but leaving out for-profit corporations).

²³ See *id.* § 216B.1612, subd. 2(g)-(h) (qualifying solar, wind, and biomass energy, and enabling public entities such as institutions of higher education to retain 100 percent of the benefits from a C-BED project).

²⁴ See MINN. STAT. § 465.74, subd. 2-3 (enabling cities of the fourth class and higher—20,000 residents or more—to develop municipal heating systems for sale to its residents and those outside the municipality).

²⁵ *E.g.*, § 465.74, subd. 6 (defining “district heating system”).

²⁶ See *Our Story*, DISTRICT ENERGY ST. PAUL, <http://www.districtenergy.com/about/story.html> (last visited May 8, 2012) (noting its production of 65 MW of thermal energy for its users, and 25 MW of electricity for Xcel Energy).

²⁷ See *Rosemount Population Statistics*, ROSEMOUNT, MINN., http://ci.rosemount.mn.us/index.asp?Type=B_BASIC&SEC={42DDA986-A657-4D6D-A77C-154C9B740EF0} (last visited May 8, 2012) (stating the City of Rosemount population as 22,239 as of 2012).

²⁸ See MINN. STAT. § 465.74, subd. 9

²⁹ One outstanding question is which entity would own the CHP plant generating the thermal energy. If the University could retain ownership, it could potentially include the CHP plant in a C-BED project. See *supra* Section I.C.2.

system when the University decides to grant easements or other property interests to the district heating system for purposes of constructing the heating and cooling distribution systems.³⁰

Minnesota public utility law presents the University with at minimum three renewable energy development models. The C-BED model could be mutually exclusive with the standard PPA model, however, because the C-BED could position the University to receive more advantageous rates for its energy. The decision about which model to pursue would come as part of the University's gauging of the renewable energy development market at the time a project materializes. As a separate conclusion, revenues from the sale of renewable energy development could help offset the University's remediation costs if constructed in the early phases of the UMore Park development. Finally, while the University would want to plan for the infrastructure necessary for a district heating system, this model is not likely to generate revenue for the University since the University is precluded from owning the system under Minnesota law.

C. The Greater Federal Energy Law Context

While a large part of the regulation of energy markets is reserved to states, the federal government has asserted its power over some parts of the energy market that could be relevant to UMore Park. Specifically, the Federal Energy Regulatory Commission (FERC) sets rules and regulations governing "the transmission and sale for resale of electric energy in interstate commerce and the public utilities engaged in such business."³¹ FERC created Regional Transmission Organizations (RTOs) to facilitate these functions, effectively establishing interstate markets for the sale and resale of electricity at the transmission level.³² Through a

³⁰ See *infra* notes 119-120 and accompanying text (describing the liability protections that could be important to a district heating system).

³¹ JAMES H. MCGREW, *FERC: FEDERAL ENERGY REGULATORY COMMISSION* 5 (2d ed. 2009) (citing the FPA, codified at 16 U.S.C. § 824 et seq.).

³² See FERC Order No. 2000, 18 C.F.R. § 35.34; See *What We Do*, MISO, <https://www.midwestiso.org/WhatWeDo/Pages/WhatWeDo.aspx> (last visited May 7, 2012) (summarizing the work of Minnesota's RTO called MISO).

series of other orders, FERC mandated owners of interstate transmission lines make access to those transmission lines available to third parties through a system of uniform interconnection procedures and prices.³³ Xcel Energy has fulfilled this mandate by publishing interconnection guidelines for large producers (greater than 20 megawatts (MW)) and small producers (less than 20 MW).³⁴ This federal structure is relevant to the University as it could explore its option of selling directly into the interstate grid through a C-BED, or more traditional renewable energy development, model, in the event the rates it captures at this level would be more advantageous.

Developing an understanding of the legal context in which renewable energy is developed and sold is important for the University because it enables it to forecast who its potential stakeholders and partners could be. A good understanding of possible stakeholders becomes more important as the University moves UMore Park through the VIC Program, and obtains liability assurances from the MPCA that it will use when working with these stakeholders as discussed in more detail in Part III.

II. Federal and State Resources for Renewable Energy on Contaminated Land

Renewable energy is a critical part of the United States' energy future.³⁵ Utility-scale renewable energy developments, however, usually need large amounts of open space, and often displace valuable green space in the process. Developing those renewable sources on

³³ See Alexandra B. Klass & Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, VAND. L. REV. (forthcoming 2012) available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2012075 (noting FERC Order No. 888 embodying this mandate); Michael Dworkin et al., *Energy Transmission and Storage*, in THE LAW OF CLEAN ENERGY: EFFICIENCY AND RENEWABLES 531, 542 (Michael B. Gerrard ed., 2011).

³⁴ See XCEL ENERGY, INTERCONNECTION GUIDELINES FOR TRANSMISSION INTERCONNECTED PRODUCER-OWNED GENERATION GREATER THAN 20 MW (2006), available at <https://www.midwestiso.org/Library/Repository/Study/TO%20Planning%20Criteria/Xcel%20Energy%20Transmission%20Interconnection%20Guidelines-Above%2020MW.pdf>; XCEL ENERGY, INTERCONNECTION GUIDELINES FOR TRANSMISSION INTERCONNECTED PRODUCER-OWNED GENERATION 20 MW OR LESS (2006), available at <https://www.midwestiso.org/Library/Repository/Study/TO%20Planning%20Criteria/Xcel%20Energy%20Transmission%20Interconnection%20Guidelines-Less%2020MW.pdf>.

³⁵ See U.S. ENERGY INFORMATION ADMIN., ANNUAL ENERGY OUTLOOK 2012 EARLY RELEASE OVERVIEW 10 (2012), available at [http://www.eia.gov/forecasts/aeo/er/pdf/0383er\(2012\).pdf](http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2012).pdf) (projecting electricity generation from renewable energy to account for 33% of total electricity growth from 2010 to 2035).

contaminated property presents opportunities to avoid this paradox, and the EPA has launched resources to help potential developers do so. Section A presents the EPA tools for renewable energy on contaminated land. These tools also address state resources, and Section B describes the Minnesota tools specifically relevant to UMore Park in more detail.

A. EPA's RE-Powering America's Land Initiative

The EPA's Office of Solid Waste and Emergency Response (OSWER) announced its RE-Powering America's Land Initiative (RE-Powering Initiative) in 2008 with the goal of facilitating the redevelopment "of potentially contaminated sites for renewable energy generation when it is aligned with the community's vision for the site."³⁶ EPA developed and collected a series of resources to help "developers, industry, state and local governments or anyone interested in reusing these sites for renewable energy development,"³⁷ many of which in partnership with the National Renewable Energy Laboratory (NREL). These resources fall into four general categories: 1) Renewable energy analysis tools; 2) feasibility and case studies; 3) incentives; and, 4) brownfields development liability resources. The RE-Powering Initiative gathers some state renewable energy incentives and brownfield redevelopment programs; this memorandum addresses the Minnesota incentives and programs in Section B of this part. The remainder of Section A summarizes the resources from the four categories that will be most relevant for UMore Park's purposes.

1. Renewable Energy Analysis Tools

The RE-Powering Initiative's renewable energy analysis tools are comprised of decision trees and mapping tools. Aside from the key functions of these resources, this memorandum does

³⁶ U.S. EPA OSWER CENTER FOR PROGRAM ANALYSIS, HANDBOOK ON SITING RENEWABLE ENERGY PROJECTS WHILE ADDRESSING ENVIRONMENTAL ISSUES 1 (2012), available at http://epa.gov/renewableenergyland/docs/handbook_siting_repowering_projects.pdf.

³⁷ *Siting Renewable Energy on Potentially Contaminated Land and Mine Sites*, U.S. EPA, <http://epa.gov/renewableenergyland/index.htm> (last visited May 4, 2012).

not provide detailed analysis of these tools, primarily because of the renewable energy and electricity expertise available to UMore Park through the University of Minnesota.³⁸ Developed by EPA and NREL, the decision trees function as aids to developers that are trying to screen brownfields for solar and wind potential using a series of flow charts and community involvement and visioning strategies.³⁹

The RE-Powering Initiative's mapping tools include an interactive Google Earth overlay with information specific to EPA and state tracked sites, as well as state and national maps depicting aggregate renewable energy potential.⁴⁰ The interactive mapping tool invites users to download Google Earth and an overlay file developed by EPA which allows users to navigate contaminated sites tracked by both EPA and the states. Using this tool, EPA characterizes UMore Park's renewable energy development potential as follows: 1) Wind Resource Potential: *Marginal*; 2) Non-Grid Connected Photovoltaic Solar Potential: *Good*; and, 3) Biopower and Biorefinery Resource Potential: *Outstanding*.⁴¹ The national and state maps reflect the same data and characterizations; however, their depictions lack interactive features that would allow users to evaluate specific sites.⁴² The EPA's findings are generally in line with UMore Park's planned energy developments, although the marginal wind resource makes the University's wind research station at UMore Park especially important.⁴³

³⁸ UMore Park notes the University of Minnesota's expertise in these areas in its *Concept Master Plan*. See UMORE PARK: ENVIRONMENT, *supra* note 1, at 130.

³⁹ See *Reports and Fact Sheets*, U.S. EPA, http://www.epa.gov/renewableenergyland/develop_potential_fs.htm (last visited May 6, 2012).

⁴⁰ See *Renewable Energy Interactive Mapping Tool*, U.S. EPA, http://www.epa.gov/renewableenergyland/mapping_tool.htm (last visited May 6, 2012); *State and National Maps*, U.S. EPA, <http://www.epa.gov/renewableenergyland/maps.htm> (last visited May 6, 2012).

⁴¹ These results of EPA's site characterization of UMore Park were found using the Google Earth program and EPA overlay file. EPA makes available the data it used to for the UMore Park, and other site renewable energy characterizations. See *Data Information*, U.S. EPA, <http://www.epa.gov/renewableenergyland/data.htm> (last visited May 6, 2012).

⁴² See, e.g., *EPA Tracked Sites in Minnesota with Biopower Facility Siting Potential*, U.S. EPA, http://www.epa.gov/renewableenergyland/maps/pdfs/biopower_mn.pdf (last visited May 6, 2012).

⁴³ See *infra* note 58 and accompanying text (noting the Eolos wind research station at UMore Park).

2. NREL Feasibility Studies and Other Case Studies

The RE-Powering Initiative provides links to NREL feasibility studies in which NREL evaluated the economic and performance feasibility of renewable energy development for specific sites that submitted bids for assistance in 2011.⁴⁴ The NREL feasibility studies, however, do not evaluate the environmental contamination of the sites, nor incorporate potential remediation costs into their analyses.⁴⁵ The RE-Powering Initiative links to several success stories describing current and former contaminated sites that have been the subjects of renewable energy development.⁴⁶ While these success stories provide general descriptions of the kinds of contamination on the sites, as well as very general descriptions of the renewable energy siting process, they do not describe any remediation strategies or standards specific to the renewable energy technologies.⁴⁷ Furthermore, the success stories do not include any sites in Minnesota, so the fact that a renewable energy development took place in the states described has no precedential weight in Minnesota. Nonetheless, the success stories do reference some use of engineering and institutional controls to remediate contaminated properties for use as a renewable energy development.⁴⁸

⁴⁴ Press Release, U.S. EPA, EPA, DOE Partner to Develop Renewable Energy on Potentially Contaminated Site (Nov. 11, 2011), *available at* <http://yosemite.epa.gov/opa/admpress.nsf/1e5ab1124055f3b28525781f0042ed40/9811e4bf6295b2ef8525793e00538f4a!OpenDocument>.

⁴⁵ *See, e.g.*, NREL, FEASIBILITY STUDY OF ECONOMICS AND PERFORMANCE OF SOLAR PHOTOVOLTAICS AT MASSACHUSETTS MILITARY RESERVATION (2011), *available at* <http://www.nrel.gov/docs/fy11osti/49417.pdf> (discussing solar PV technology and economic viability of that technology).

⁴⁶ *See Success Stories and Case Studies on Siting Renewable Energy on Contaminated Land and Mine Sites*, U.S. EPA, <http://www.epa.gov/renewableenergyland/successstories.htm> (last visited May 6, 2012).

⁴⁷ *See, e.g.*, U.S. EPA, STEEL WINDS, LACKAWANNA, NEW YORK: DEVELOPMENT OF WIND POWER FACILITY HELPS REVITALIZE RUST BELT CITY [hereinafter STEEL WINDS], *available at* http://www.epa.gov/renewableenergyland/docs/success_steelwinds_ny.pdf (describing the general project in one page).

⁴⁸ *See, e.g., id.* (noting only that windmill foundations, service roads, and green space covered some of the contamination); U.S. EPA, FORT CARSON, COLORADO SUCCESS STORY: 2 MW SOLAR ARRAY HELPS TO ACHIEVE FORT CARSON'S RENEWABLE ENERGY GOALS [hereinafter FORT CARSON], *available at* http://www.epa.gov/renewableenergyland/docs/success_fortcarson_co.pdf (noting an engineered cover over contamination was not necessary because of specific contaminants); U.S. EPA, CASPER WINDS, WYOMING CASE STUDY [hereinafter CASPER WINDS], *available at*

Aside from the NREL feasibility studies and EPA success stories, the organization Redevelopment Economics cites two potentially interesting approaches to renewable energy development on brownfields using moveable solar units and/or wind turbines.⁴⁹ Overall, these case studies reveal two approaches to siting renewable energy on contaminated property: 1) siting the renewable energy sources, such as wind turbines, on parcels of the property not subject to contamination; and, 2) using renewable energy sources as part of a remedy to cover contamination (a type of engineering control).⁵⁰ UMore Park should consider the latter approach due to its overall development profile and sustainability goals as discussed in Section III.B.⁵¹

3. Federal Incentives and Programs

The RE-Powering Initiative provides links to federal and state incentives for renewable energy and brownfield redevelopment.⁵² While useful for understanding the types of incentives governments have made available for these activities, the fact sheets were compiled in July 2009 or earlier and many of the incentives they list are no longer available.⁵³ With respect to renewable energy, the Database of State Incentives for Renewables & Efficiency (DSIRE),

http://www.epa.gov/renewableenergyland/docs/success_casper_winds.pdf (describing a Use Control Area (UCA) on the site that acted to prevent the siting of wind turbines on the portion of land encumbered by it).

⁴⁹ See EVANS PAULL, MODELS FOR GREEN JOBS AND RENEWABLE ENERGY REUSE OF BROWNFIELD SITES 2 (2010), available at http://redevelopmenteconomics.com/yahoo_site_admin/assets/docs/models_-_green_jobs_on_brownfields.71135653.pdf (noting a moveable solar development, and moveable wind farm, planned for Milwaukee and Chicago, respectively). See also DELTA INSTITUTE, SMALL-SCALE MOVEABLE WIND FARM (2010), available at http://www.delta-institute.org/sites/default/files/Case_Study_Sustainable_Reuse_of_Brownfield_Site_for_Small-Scale_Movable_Wind_Farm.pdf (describing the moveable wind farm proposal as well as grant support from U.S. EPA).

⁵⁰ Engineering, and institutional, controls are addressed *infra* in Section II.B.

⁵¹ See *infra* notes 95-102 and accompanying text (addressing the two approaches in the UMore Park context).

⁵² See *Incentive Fact Sheets*, U.S. EPA, <http://www.epa.gov/renewableenergyland/incentives.htm> (last visited May 7, 2012); U.S. EPA, FEDERAL INCENTIVES FOR ACHIEVING CLEAN ENERGY DEVELOPMENT ON CONTAMINATED LANDS (2009) [hereinafter FEDERAL INCENTIVES], available at http://www.epa.gov/renewableenergyland/incentives/federal_incentives.pdf (compiling federal incentives available for clean energy and development of contaminated land).

⁵³ Compare, e.g., FEDERAL INCENTIVES, *supra* note 52 (listing Clean Renewable Energy Bonds (CREBs) as an available incentive to finance public sector renewable energy) with *Federal: Clean Renewable Energy Bonds (CREBs)*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US45F&re=1&ee=1 (last visited May 7, 2012) (noting the IRS has discontinued the CREB program for new applicants).

however, provides a user-friendly and more current, list of federal and state incentives.⁵⁴ This memorandum notes a sampling of the federal incentives currently available that could apply to UMore Park, noting whether the incentives would be available to a public and/or private entity.

The Department of Energy (DoE) operates a Loan Guarantee Program for projects that promote early commercial use of new or significantly improved renewable energy technologies.⁵⁵ The loan guarantees have no limit and no restriction on what kind of entity can apply (e.g., public versus private), and can be used for phased developments involving multiple technologies.⁵⁶ While DoE still operates the program, the most recent solicitation period closed at the end of 2010.⁵⁷ It is possible that the University Eolos Wind Research Station could foster a new, or significantly improved, wind energy technology by the time the DoE opens its next round of loan guarantees.⁵⁸

There are several federal tax credits available to private entities such as the Production Tax Credit (PTC).⁵⁹ While the PTC has promoted significant development of renewable energy, and particularly wind, it is not permanent, and has been allowed to expire in the past.⁶⁰ The latest deadlines for eligible renewable energy installations are the end of 2012 for wind, and the end of 2013 for other eligible technologies such as biomass.⁶¹ These incentives would be relevant to the

⁵⁴ See DSIRE, <http://www.dsireusa.org/> (last visited May 7, 2012).

⁵⁵ See U.S. Department of Energy – Loan Guarantee Program, DSIRE, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US48F&re=1&ee=1 (last visited May 8, 2012).

⁵⁶ See *id.* See also U.S. DEPT. OF ENERGY, FEDERAL LOAN GUARANTEES FOR PROJECTS THAT EMPLOY INNOVATIVE ENERGY EFFICIENCY, RENEWABLE ENERGY, AND ADVANCED TRANSMISSION AND DISTRIBUTION TECHNOLOGIES (2009) [hereinafter DOE, LOAN, available at <http://www.lgprogram.energy.gov/wp-content/uploads/2010/09/2009-ren-energy-sol.pdf> (describing the eligibility requirements and application process for the loan guarantees).

⁵⁷ See DOE, LOAN, *supra* note 56, at 1 (noting the due date for the applications).

⁵⁸ See *Eolos Wind Research Station*, UNIV. OF MINN. BD. OF REGENTS, <http://eolos.umn.edu/facilities/eolos-wind-research-station> (last visited May 9, 2012).

⁵⁹ See *Renewable Energy Production Tax Credit (PTC)*, DSIRE, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F&re=1&ee=1 (last visited May 8, 2012).

⁶⁰ See *Klass & Wilson*, *supra* note 33, at 11-12 (noting the increase in installed wind capacity, and the boom and bust cycle resulting from repeated expirations and reauthorizations of the PTC).

⁶¹ *Renewable Energy Production Tax Credit (PTC)*, DSIRE, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F&re=1&ee=1 (last visited May 8, 2012).

PPA model discussed in Section I.B.1 in which a private wind developer, for instance, would own the wind technology to attract these tax incentives.

EPA administers a series of grant and funding programs available for brownfield redevelopments.⁶² Among other programs such as the Revolving Loan Fund Grants, the University could apply for a Training, Research, and Technical Assistance Grant.⁶³ Past grantees include several universities that researched creative ways to redevelop brownfields, such as sustainable brownfields redevelopment.⁶⁴ The University could possibly develop a grant proposal to study its redevelopment of UMore Park.

4. Liability Tools

The RE-Powering Initiative collects a series of tolls specific to understanding and mitigating liability concerns.⁶⁵ The EPA tool *Siting Renewable Energy on Contaminated Property* directs a message to developers that “[t]he vast majority of contaminated properties requiring cleanup are most likely to be addressed by state cleanup programs.”⁶⁶ In general, this tool addresses prospective purchasers and lessors of contaminated property for renewable energy, as well as their lenders, and does not address current owners.⁶⁷ Likewise, this memorandum addresses only prospective liability concerns associated with a renewable energy development at UMore Park. The issues raised in the EPA tool, as well as liability tools specific to Minnesota, are addressed in more detail in Part III of this memorandum.

⁶² See *Grants & Funding*, U.S. EPA, http://www.epa.gov/brownfields/grant_info/index.htm (last visited May 8, 2012) (collecting information and links to the grant programs).

⁶³ See *Training, Research, and Technical Assistance Grants*, U.S. EPA, http://www.epa.gov/brownfields/trta_k6/index.htm (last visited May 8, 2012) (describing the purpose of this grant, and noting past grantees).

⁶⁴ E.g., U.S. EPA, BROWNFIELDS TRAINING, RESEARCH, AND TECHNICAL ASSISTANCE FACT SHEET: UNIVERSITY OF ILLINOIS AT CHICAGO (2008), available at http://www.epa.gov/brownfields/trta_k6/k6_08_uichicago.pdf.

⁶⁵ *Redevelopment Tools*, U.S. EPA, <http://www.epa.gov/renewableenergyland/tools.htm> (last visited May 9, 2012).

⁶⁶ U.S. EPA, SITING RENEWABLE ENERGY ON CONTAMINATED PROPERTIES: ADDRESSING LIABILITY CONCERNS (2011), available at <http://www.epa.gov/compliance/resources/publications/cleanup/brownfields/re-liability.pdf>.

⁶⁷ See *id.* at 3-7 (summarizing the Bona Fide Prospective Purchaser (BFPP) liability protection for would-be purchasers, as well as lessee-liability issues).

B. Minnesota Incentives and the Voluntary Investigation and Cleanup Program

The RE-Powering Initiative collects state incentives and programs specific to renewable energy and contaminated land, including those available in Minnesota.⁶⁸ Minnesota established the Renewable Development Fund (RDF) in 1994 to promote the development of renewable energy sources.⁶⁹ The Minnesota Legislature recently amended the way in which the RDF is administered, clarifying application procedures and purposes of the fund.⁷⁰ All four of the clarified purposes of the RDF could be pertinent to UMore Park, two of which include “to stimulate research and development within the state into renewable electric energy technologies; and, to develop near-commercial and demonstration scale renewable electric projects”⁷¹ While Xcel Energy manages the RDF, “[e]xpenditures ... may be made only after approval by order of the [PUC] upon a petition by [Xcel Energy].”⁷² Xcel Energy manages the request-for-proposals process, and chooses which proposals to bring to the PUC, giving preference to projects “most cost-effective for a particular energy source.”⁷³ The University should consider submitting a grant proposal for the upcoming Fourth Cycle for the RDF.

The RE-Powering Initiative links to the Minnesota Pollution Control Agency’s (MPCA) Voluntary Investigation and Cleanup (VIC) Program to aid voluntary parties cleanup

⁶⁸ See U.S. EPA, STATE INCENTIVES FOR ACHIEVING CLEAN AND RENEWABLE ENERGY DEVELOPMENT ON CONTAMINATED LAND: MINNESOTA (2008) [hereinafter MINNESOTA INCENTIVES], available at http://www.epa.gov/renewableenergyland/incentives/mn_incentives.pdf.

⁶⁹ JOHN NOBLES, EVALUATION REPORT: RENEWABLE ENERGY DEVELOPMENT FUND 5 (Minn. Office of the Leg. Auditor, 2010) [hereinafter NOBLES, EVALUATION REPORT], available at <http://www.auditor.leg.state.mn.us/ped/pedrep/rdf.pdf>.

⁷⁰ See Energy—Renewable Development Account—Regulation, 2012 Minn. Sess. Law Serv. Ch. 196 (S.F. 2181) (West) (to be codified at MINN. STAT. § 116C.779); NOBLES, EVALUATION REPORT, *supra* note 69, at ix-xii (noting the Legislative Auditor’s findings that administration of the RDF was too diffuse, and projects awarded funding ineffective at achieving the RDF’s initial goals).

⁷¹ Energy—Renewable Development Account—Regulation, *supra* note 70, § 1.

⁷² *Id.*

⁷³ *Id.* See *Renewable Development Fund History*, XCEL ENERGY, http://www.xcelenergy.com/Environment/Renewable_Energy/Renewable_Energy_Grants/Renewable_Development_Fund_History (last visited) (noting the suspension of the Fourth Cycle until July 1, 2012).

contaminated property.⁷⁴ MERLA authorizes MPCA to give parties in the VIC Program liability assurances subject to approved and implemented response action plans (RAPs).⁷⁵ The extent of remediation required by the MPCA in the VIC Program depends upon whether a party is responsible for the contamination subject to remediation.⁷⁶ This memorandum does not analyze whether the University is a responsible party. Instead, it discusses possible ways in which the University could develop renewable energy as part of a remedy in order to maintain prospective liability protection for that development, whether as part of a complete or partial remediation.

MPCA developed a risk-based approach for site evaluation and cleanup for use in VIC Program that enables voluntary parties to adjust their cleanups of contaminated property according to the risks posed to human health and the environment by the site with reference to the planned use of the site.⁷⁷ This approach can incorporate both institutional (e.g., legally-enforceable property use restrictions) and engineering (e.g., contamination caps) controls. EPA and MPCA signed a Memorandum of Agreement effective December 2, 1994 whereby EPA agreed in principle not to take any actions with respect to sites enrolled in the VIC Program.⁷⁸ In brief, the University could conduct its cleanup of UMore Park according to a risk-based standard

⁷⁴ MINNESOTA INCENTIVES, *supra* note 68, at 2. See *Voluntary Investigation and Cleanup (VIC) Program*, MINN. POLLUTION CONTROL AGENCY, <http://www.pca.state.mn.us/index.php/waste/waste-and-cleanup/cleanup-programs-and-topics/cleanup-programs/voluntary-investigation-and-cleanup-vic/voluntary-investigation-and-cleanup-vic-program.html> (last visited May 9, 2012).

⁷⁵ MINN. STAT. § 115B.175, subd. 3-4. See MPCA, GUIDANCE DOCUMENT #4: TYPES OF WRITTEN ASSURANCES (2001), available at <http://www.pca.state.mn.us/index.php/view-document.html?gid=3328> (describing the types of liability assurance letters the MPCA issues, and the conditions under which they can be used).

⁷⁶ Compare MINN. STAT. § 115B.175, subd. 2 (allowing implementation of partial RAPs for persons not responsible for contamination as determined by the MPCA) with *id.* § 115B.175, subd. 6a (requiring responsible parties to remedy or remove all contamination).

⁷⁷ See generally *Risk-based Site Evaluation Process Guidance Documents*, MPCA, <http://www.pca.state.mn.us/index.php/waste/waste-and-cleanup/cleanup-programs-and-topics/topics/risk-based-site-evaluation-process-guidance-documents.html?menuid=&redirect=1> (last visited May 9, 2012). See also MPCA, DRAFT GUIDELINES: GUIDANCE ON INCORPORATION OF PLANNED PROPERTY USE INTO SITE DECISIONS (1998) [hereinafter MPCA, PLANNED PROPERTY USE], available at <http://www.pca.state.mn.us/index.php/view-document.html?gid=3142>.

⁷⁸ Superfund Memorandum of Agreement Between the Minnesota Pollution Control Agency and the United States Environmental Protection Agency Region V (Dec. 2, 1994), available at http://www.epa.gov/swerosps/bf/state_tribal/moas_mous/mn_moa.pdf.

appropriate for renewable energy generation equipment and receive liability assurances reflective of its cleanup activities which Part III discusses in more detail.

In summary, the RE-Powering Initiative collects useful tools for prospective renewable energy developers on contaminated land, a different position from that of the University of Minnesota with respect to UMore Park. Nonetheless, the University should use its position as a renowned research institution to capture grant money intended for sophisticated renewable energy, and brownfield redevelopment, work and research. Finally, the MOA between the EPA and MPCA means that the University should work primarily with MPCA on its cleanup.

III. Planning for Liability with Respect to Renewable Energy Development

The University of Minnesota will seek to develop renewable energy at UMore Park in a manner that is both cost effective, and eligible for liability assurances from the MPCA. Part III analyzes approaches to renewable energy development at UMore Park in this context. Section A presents a brief contamination profile of UMore Park, including a review of institutional controls currently in force. Section B discusses two approaches to developing renewable energy at UMore Park, finding that the University should incorporate renewable energy technologies into its cleanup of the contaminated portions of the property. Section C reviews possible liability assurances the MPCA administers, and the general conditions to which they apply. Finally, Section D analyzes the third-party liability considerations the University likely will need to balance in order to effectively develop the kinds of renewable energy generation technologies it envisions for UMore Park, concluding that the MPCA liability assurance will likely be the most important aspect of this process.

A. UMore Park Contamination and Institutional Controls Review

UMore Park is currently an active site in the VIC Program.⁷⁹ As part of its participation in the VIC Program, Barr Engineering completed a Remedial Investigation (RI) in February 2012 of the eastern two-thirds of the UMore Property.⁸⁰ Barr used seven subareas to organize the RI.⁸¹ The RI further divided the seven subareas into 71 Sites of Concern (SOCs), noting that 39 of the 71 SOCs had releases of hazardous substances above MPCA Tier 1 Soil Reference Values (SRVs) for unrestricted use.⁸² The releases the RI identifies include arsenic, lead, mercury, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and dinitrotoluene (DNT).⁸³ Of those releases, only DNT was found above MPCA Tier 1 Soil Leaching Values (SLVs).⁸⁴ The vast majority of the releases are found on subareas ABC Line, GOW East, and Navy/Burning Ground parcels of the property.⁸⁵ The University notes that further investigation will be required to develop an RAP appropriate for future development.⁸⁶ Nonetheless, the RI serves as a good base from which to project possible locations for renewable energy developments.

UMore Park was the subject of both EPA and MPCA action resulting in the listing and de-listing of the property from both the EPA National Priorities List (NPL) and the MPCA

⁷⁹ See *Voluntary Investigation and Cleanup (VIC) Program Site Search*, MPCA, <http://www.pca.state.mn.us/index.php/waste/waste-and-cleanup/cleanup-programs-and-topics/cleanup-programs/voluntary-investigation-and-cleanup-vic/vic-site-search.html> (last visited May 9, 2012) (returning UMore Park when running a search for UMore Park by “Name of Site”).

⁸⁰ See BARR ENGINEERING, REMEDIAL INVESTIGATION REPORT: UMORE EAST (2012), available at <http://www.umorepark.umn.edu/planning/SelectPublications/2012finalrireport/index.htm>.

⁸¹ *Id.* at 6. The seven subareas are GOW East, ABC Line, GOW Central, DEF Line, Navy/Burning Grounds, GOW West, and GOW North. *Id.*

⁸² *Id.* at ix. See *id.* at Figures 13-21 (providing maps of the 71 SOCs based on the seven subareas of the property).

⁸³ See *id.* at ix-xii (describing the general location of the identified releases); *id.* at Figures 25-31 (identifying the releases on aerial maps that use eight general subdivision names).

⁸⁴ See *id.* at xii (stating that DNT was found above Tier 1 SLVs, but below Tier 1 SRVs, in 29 soil samples).

⁸⁵ See *id.* at 16-70 (describing the releases found according to subarea, including a review of the historical uses of those sections);

⁸⁶ See *id.* at Appendix I (copying a letter from the University’s Environmental Planner, Janet Dalglish, to Gary Krueger of the MPCA regarding the planned RI). See also *id.* at xii (“Additional investigation will be needed to develop specific site development plans.”).

Permanent List of Priorities (PLP).⁸⁷ As part of UMore Parks de-listing from the PLP, the MPCA negotiated Site Use Restrictions and Covenants dividing the property into five parcels (A-E), and limiting any use or disturbance of parcels A and D without MPCA approval; and, restricting parcels B, C, and E to commercial or industrial use.⁸⁸ The RI identifies these five parcels as the UMRRC CERCLA site.⁸⁹ It locates parcel A within the ABC Line subarea,⁹⁰ and parcel D within the GOW Central subarea.⁹¹ Depending on how the use restrictions are adjusted as a result of the remediation, use restrictions could dictate where renewable energy technology can be sited, in addition to how it is maintained and monitored.

B. Incorporating Renewable Energy at UMore Park Based on Contamination

Section B discusses potential locations in which the University could site renewable energy sources at UMore Park in the context of the VIC Program. Discussion of these potential sites necessarily involves reference to possible remediation strategies because siting renewable energy sources at UMore Park projects out to a post-remedy implementation phase. The discussion of possible sites, however, does not assume any specific remediation technology other than envisioning that some combination of engineering controls, compliance monitoring, and

⁸⁷ See generally U.S. EPA REGION 5, FIVE-YEAR REVIEW REPORT: THIRD FIVE-YEAR REVIEW REPORT FOR UNIVERSITY OF MINNESOTA ROSEMOUNT RESEARCH CENTER SITE 10-26 (2007), available at http://www.umorepark.umn.edu/prod/groups/ssrd/@pub/@ssrd/@umorepark/documents/article/ssrd_article_337946.pdf (outlining the reasons for site listing, as well as the remediation activities prompting de-listing). See also *Superfund Site Progress Profile: University of Minnesota (Rosemount Research Center)*, U.S. EPA, <http://cfpub2.epa.gov/supercpad/cursites/csinfo.cfm?id=0503878> (last visited May 9, 2012) (declaring the site “Deleted from the NPL”).

⁸⁸ See Declaration of Restrictions and Covenants Between the University of Minnesota and the Minnesota Pollution Control Agency (Jan. 3, 2000) [hereinafter UMore Restrictions and Covenants], available at http://www.umorepark.umn.edu/prod/groups/ssrd/@pub/@ssrd/@umorepark/documents/article/ssrd_article_337144.pdf. See also First Amendment to Declaration of Restrictions and Covenants Between the University of Minnesota and the Minnesota Pollution Control Agency (Dec. 26, 2007), available at http://www.umorepark.umn.edu/prod/groups/ssrd/@pub/@ssrd/@umorepark/documents/article/ssrd_article_338393.pdf (amending the declaration of PCB contamination on parcel E from 3.5 ppm to 1 ppm by weight).

⁸⁹ See, e.g., BARR ENGINEERING, REMEDIAL INVESTIGATION, *supra* note 80, at 35, 38-39 (describing the clay soil cap used to cover PCB-contaminated soils for parcels A and B).

⁹⁰ *Id.* at 38.

⁹¹ *Id.* at 52.

institutional controls could be part of the remediation chosen.⁹² Wind turbines, a CHP plant, and solar panels (when not sited on homes), are likely industrial uses per MPCA guidance, assuming that access to these technologies would be appropriately limited.⁹³ A remedy that accommodates these uses of property would need to be such that it provides for overall protection of public health, and welfare, and the environment.⁹⁴ The University will need to detail its remediation approach in its RAP that will need to be approved by the MPCA.

1. Locations that Avoid Contamination

The three RE-Powering Initiative success stories discussed in Section II.A.3 note the use of both engineering and institutional controls as part of remediation strategies that guided renewable energy development on those sites.⁹⁵ Like UMore Park, use restrictions affect the property of the Casper Winds.⁹⁶ Chevron, the owner and developer of Casper Winds, noted that the site of the turbine development had no contamination.⁹⁷ Similarly, the University could choose to develop its wind turbines or CHP plant on sections of the property that are not the subjects of contamination. In the context of the *Concept Master Plan* for UMore Park, however, this approach would necessitate that the University remediate contaminated portions of the property for potentially more risk-sensitive uses, such as residential.⁹⁸ Furthermore, the use restrictions controlling UMore Park are not so restrictive as to prevent industrial or restricted

⁹² See MPCA, PLANNED PROPERTY USE, *supra* note 77, at 3-10 (noting the potential to combine the above-mentioned strategies in certain circumstances).

⁹³ See *id.* at 3-7 (“Industrial and restricted commercial property use [means] commercial use in which exposure is largely limited to an adult worker and access by the general public is restricted or infrequent.”) See, e.g., *Exelon Solar City*, EXELON CORP., <http://www.exeloncorp.com/powerplants/exeloncitysolar/Pages/Profile.aspx> (last visited May 11, 2012) (describing the secure fencing Exelon uses for its solar plant in urban Chicago).

⁹⁴ See MPCA, DRAFT GUIDELINES: REMEDY SELECTION (1998) (paraphrasing MERLA’s threshold requirement).

⁹⁵ See *supra* notes 47-48.

⁹⁶ See CASPER WINDS, *supra* note 48 (noting a Use Control Area that prevented the development of wind turbines on the parcel subject to that restriction).

⁹⁷ See CHEVRON GLOBAL POWER COMPANY, CASPER WIND POWER PROJECT FREQUENTLY ASKED QUESTIONS 2 (2009), available at <http://www.chevron.com/documents/pdf/casperwindfaq.pdf>.

⁹⁸ See generally DESIGN WORKSHOP, CONCEPT MASTER PLAN 23-45 (2008), available at http://www.umorepark.umn.edu/prod/groups/ssrd/@pub/@ssrd/@umorepark/documents/content/ssrd_content_2370_86.pdf (describing the planned uses of the entire UMore Park property, including residential).

commercial, use of parcels B, C, and E of the property.⁹⁹ Furthermore, UMore Park's participation in the VIC Program will allow the University to carefully plan its cleanup of the entire property so that it can incorporate the University's planned uses. For these reasons, the Casper Winds case study provides little determinative value for UMore Park.

2. Using Renewable Energy as Part of a Remedy

The University, instead, could choose to develop renewable energy on portions of the UMore Park property that have been subject to contamination. The Steel Winds Development in Lackawanna, New York provides an example of a developer using wind turbine foundations as part of a capping system for contamination present.¹⁰⁰ A slightly different approach could involve the use of less permanent, moveable, technologies such as those described in the *Redevelopment Economics* case studies.¹⁰¹ The University could find a remedy to control stable soil contaminants such as PCBs and lead, either as a more permanent solution using traditional wind turbine foundations, or a more temporary solution using moveable technology. In either instance, the MPCA would likely require institutional controls that would restrict the use of the property to industrial or restricted commercial, similar to the restricted use covenant currently in place.¹⁰² The concentrated contamination at the ABC Line, GOW East, and Navy/Burning Ground parcels of UMore Park could be good candidates for this approach.¹⁰³

⁹⁹ See *supra* notes 88-91 and accompanying text (describing the use restrictions at UMore Park).

¹⁰⁰ See STEEL WINDS, *supra* note 47.

¹⁰¹ See PAULL, MODELS FOR GREEN JOBS AND RENEWABLE ENERGY REUSE OF BROWNFIELD SITES, *supra* note 49 (describing moveable solar and wind projects).

¹⁰² Cf. MPCA, PLANNED PROPERTY USE, *supra* note 77, at 3-21 (noting MPCA's recommended institutional controls for cleanups conducted according to industrial or restricted commercial standards); UMore Restrictions and Covenants, *supra* note 88 (detailing the use restrictions placed on certain parcels of the UMore Park property based on the contaminant levels still in place).

¹⁰³ See *supra* note 85 and accompanying text (noting the concentration of contaminants at these parcels).

C. Possible Assurances

MERLA empowers the MPCA to issue liability assurance letters to participants in the VIC Program.¹⁰⁴ The most protective assurance letter is the “Certificate of Completion,” available to parties not legally responsible for contamination and who undertake and complete a cleanup.¹⁰⁵ Responsible parties who undertake and complete a cleanup approved by the MPCA are eligible for “Covenants Not to Sue” for future cleanup liability.¹⁰⁶ Both types of assurances, however, extend liability protection to lenders, successors, and assigns of the party receiving the assurance.¹⁰⁷ A “No Further Action Letter” is a less protective liability assurance that the MPCA offers for sites that have been remediated by a voluntary party as approved by the MPCA.¹⁰⁸ Nonetheless, the MPCA states that such a letter can be applied to successors and assigns, as well as parties listed on the voluntary party’s VIC Program application.¹⁰⁹ Due to the sensitive nature of renewable energy financing, assurances of these kinds are likely to be very important to renewable energy developments on brownfield properties.¹¹⁰

D. Liability Concerns of Development Partners

This section gauges the applicability of the potential MPCA liability assurances to prospective renewable energy development partners at UMore Park. As described in Section I.C, Minnesota public utility law frames what parties are involved in a renewable energy development in Minnesota to a large degree.¹¹¹ This section looks at contractors, lessees, and

¹⁰⁴ See MINN. STAT. § 115B.175, subd. 5; MPCA, GUIDANCE DOCUMENT #4: TYPES OF WRITTEN ASSURANCES (2001) [hereinafter MPCA, WRITTEN ASSURANCES], available at <http://www.pca.state.mn.us/index.php/view-document.html?gid=3328> (describing the types of assurances MPCA can offer, and its authority to do so).

¹⁰⁵ MPCA, WRITTEN ASSURANCES, *supra* note 104, at 5-6.

¹⁰⁶ *Id.* at 6.

¹⁰⁷ See MINN. STAT. § 115B.175, subds. 6 & 6a.

¹⁰⁸ See MPCA, ASSURANCE LETTERS, *supra* note 104, at 3 (describing a typical scenario warranting a “No Further Action Letter”).

¹⁰⁹ See *id.* (noting that parties listed on the Request For Assistance form are eligible for the letter’s protections).

¹¹⁰ See, e.g., Pat Ware, *About 35 Renewable Energy Projects Completed on Blighted Land, EPA Says*, BLOOMBERG BNA ENV’T REP., Apr. 6, 2012, available at 43 ER 891.

¹¹¹ See *supra* notes 12-29.

governmental partners, and notes some other liability considerations unique to each potential partner that the University would want to consider, as well.

1. Contractor Indemnification

For probably all of the renewable technologies planned for UMore Park, outside contractors will be responsible for construction. In the context of a remediation planned for renewable energy such as that described in Section III.B.2, the University will want to insure that it plans for any liability that could arise from the construction of renewable energy sources. Contamination caused by the construction of renewable energy would not be covered by an MPCA assurance letter, so the University would need to plan for this contingency through contract.¹¹² As is typically the case with environmental consultants hired for site assessment and remediation, the University should consider negotiating an indemnification from its renewable energy contractors to protect the University from any contamination the contractors could cause over the course of their work.¹¹³ Furthermore, the University should require the contractors to carry insurance appropriate to the kind of renewable energy development the contractor is performing.¹¹⁴

2. Lessees

The University could choose to own the renewable energy technology, and the land on which it sits as part of a C-BED, for instance.¹¹⁵ As one alternative, the University could lease land to a renewable energy developer, who would then develop renewable energy on the leased

¹¹² See MINN. STAT. § 115B.175, subd. 7 (noting that persons who contribute or aggravate contamination are not subject liability protection).

¹¹³ See Eva Fromm O'Brien, *Environmental Consultants*, in ENVIRONMENTAL ASPECTS OF REAL ESTATE AND COMMERCIAL TRANSACTIONS: FROM BROWNFIELDS TO GREEN BUILDINGS 231, 243-44 (James B. Witkin ed., 2004).

¹¹⁴ See *id.* at 244-46 (describing insurance requirements such as commercial general liability, professional liability, and umbrella liability coverage).

¹¹⁵ See *supra* notes 18-23 and accompanying text (describing the opportunity for the University to qualify a C-BED project under Minnesota law for purposes of a wind, solar, and CHP development).

parcel under a separately negotiated PPA.¹¹⁶ The MPCA assurance letters are important in this context, as both the Certificate of Completion and No Further Action Letter are assignable.¹¹⁷ Separate from the comfort these assurances could provide to potential lessees, the University would also want to consider including covenants in the lease agreement that would bind the lessee to observe any institutional controls binding on the University.¹¹⁸

3. Governmental Unit Partners

As discussed in Section I.C.3, a district heating system at UMore Park would necessitate a governmental unit partner in the form of a city or county.¹¹⁹ It is likely that the district heating entity would own the land on which the CHP plant sat, in addition to holding franchises for the land through which the CHP distribution system would pass. Again, a Certificate of Completion or No Further Action letter from the MPCA would be applicable to this arrangement, as both of these assurances are capable of being passed to successors in interest of property.¹²⁰

In sum, renewable energy can fit into the MPCA's general guidance for remediation of contaminated sites based on planned use. The University should use the VIC Program to manage its remediation of UMore Park so that it is capable of incorporating renewable energy technologies onto contamination portions of the site. The University should be able to manage these contaminants in place, much in the way the Steel Winds development did. The University should be careful, however, to manage the cleanup so that it can obtain either a Certificate of

¹¹⁶ See *supra* notes 12-17 and accompanying text (outlining the PPA law in Minnesota).

¹¹⁷ See *supra* notes 104-110 and accompanying text (discussing possible MPCA assurance letters and their assignability).

¹¹⁸ See, e.g., Gerard A. Caron, *Structuring the Transaction to Allocate Environmental Liability*, in ENVIRONMENTAL ASPECTS OF REAL ESTATE TRANSACTIONS: FROM BROWNFIELDS TO GREEN BUILDINGS 295, 304, 312 (James B. Witkin ed., 2004) (noting the kinds of contract provisions typically included in the sale of a brownfield property can also be included in a lease agreement).

¹¹⁹ See *supra* notes 24-29 and accompanying text (summarizing the law pertinent to district heating systems in Minnesota).

¹²⁰ See *supra* notes 104-110 and accompanying text (discussing possible MPCA assurance letters and their eligibility to pass to successors of property).

Completion or a No Further Action Letter from the MPCA. These liability assurances will be important to all of its renewable energy development partners regardless of the statutory development model the University uses.

Conclusion

The University of Minnesota plans to develop renewable energy on contaminated property as part of a larger sustainable community at UMore Park. This effort raises unique issues in both public utility and brownfield redevelopment law, and forethought should be given to complying with both. Public utility law will drive the renewable energy ownership and partner models that the University chooses to use at UMore Park. If done early on in the UMore Park development, the renewable energy could even be sources of revenue to offset some of the costs of remediation. The University should be able to attract funding in the form of grants from both the federal and state levels for this development. The University should leverage its position as a reputable research institution to capture this funding.

While not necessarily changing the kinds of the variables the University will plan for in the MPCA VIC Program, renewable energy development changes the kinds of stakeholders that have an interest in the cleanup process. The University should begin anticipating their interests, which, with respect to the cleanup of the property, will likely include the University obtaining robust liability assurances. In fact, management of the cleanup process so that it is eligible for liability assurances likely will be the linchpin for development of renewable energy at UMore Park.