

Barriers and Opportunities for Siting Solar Energy Projects on Contaminated Mine Lands in Nevada

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I. EXECUTIVE SUMMARY

Nevada is home to vast sunny landscapes and a history of hardrock mining. These facts present a unique opportunity for the development of solar resources on degraded lands with little or no conservation value.

Solar energy generation is anticipated to play a crucial role in mitigating U.S. greenhouse gas emissions from the electric utility sector.² At the same time, utility-scale solar projects run the risk of delay because of the time needed to acquire appropriate sites for development³ and the ensure transmission and other supporting infrastructure⁴ are in place. Siting large solar projects on former mine lands can help alleviate both of these concerns.

Although the U.S. Environmental Protection Agency (EPA) and others have worked to provide resources and form partnerships to encourage renewable energy development on contaminated lands for over a decade, success is thus far limited.⁵ The slow progress seems in part due to perceived fears of liability presented by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and other federal and state liability regimes.⁶ As EPA noted in 2014: “Perceived fears of federal involvement rather than the EPA’s actual practice are often the primary obstacles to the redevelopment and reuse of brownfields.”⁷

This paper analyzes federal and state liability regimes that may affect the use and redevelopment of contaminated sites. It goes on to provide recommendations for how advocates might engage on these issues to encourage solar energy development on mine lands in Nevada. Barriers to renewable energy projects can be multi-faceted and involve technical, regulatory, financial, and policy challenges. In order to overcome a range of barriers, a multi-tiered approach is warranted. Three primary areas for engagement are likely to prove most important:

- (1) state law and policy;
- (2) federal legislation and regulations; and
- (3) private and community stakeholder participation.

² See, e.g., David Roberts, “Is 100% renewable energy realistic? Here’s what we know.,” VOX, at <https://www.vox.com/energy-and-environment/2017/4/7/15159034/100-renewable-energy-studies>

³ See Nathaniel Logar, “When the Fast Track Hits the Off Ramp: Renewable Energy Permitting and Legal Resistance on Western Public Lands,” 27 *Colo. Nat. Resources, Energy & Env’tl. L. Rev.* 361, 367-69 (2016).

⁴ See Joel B. Eisen *et al.*, *ENERGY, ECONOMICS AND THE ENVIRONMENT*, 4th ed. at 789 (2015) (“One of the largest hurdles to utility-scale renewable development is the need for transmission to link new generation to electricity consumers.”).

⁵ See *Re-Powering Program Overview*, EPA at 2 (June 2016), https://www.epa.gov/sites/production/files/2015-09/documents/re_powering_program_overview.pdf.

⁶ *The Revitalization Handbook, Revitalizing Contaminated Lands: Addressing Liability Concerns*, EPA at vii (June 2014) <https://www.epa.gov/sites/production/files/2014-06/documents/revitalization-handbook-2014-cleanup-enforcement.pdf>.

⁷ *Id.* at vii.

In the short term, state law and policy could prove to be the most urgent, as state legislatures and agencies consider new programs and protections for developing solar resources on contaminated mine lands in Nevada. Potential areas of involvement include:

- The Nevada Renewable Energy Ballot Initiative to de-monopolize energy generation in the state, and whether this will create opportunities to entice non-utility generators to seek solar generation projects;
- The definition of “productive post-mining use” under Nevada mining regulations and whether the definition could be expanded to expressly include renewable energy;
- The possibility that the state legislature would increase financial incentives available to solar developers on contaminated mine sites, either through providing tax relief in the form of a tax abatement or tax credits, or through recapitalizing the Nevada Brownfield Program’s revolving loan fund; and
- The possibility that the state legislature could enact additional liability protections for those concerned about their involvement with contaminated properties, such as providing a specific defense for long-term lessees. Massachusetts and California brownfield programs could serve as a model.

Additionally, there may be opportunities for advocates to promote changes in federal laws and regulations, and to leverage existing relationships and third party resources. Specifically, there is the potential for progress in the following areas:

- Federal legislation to provide additional funding for hardrock mine redevelopment through the proposed RECLAIM Act;
- A petition to the Bureau of Land Management (BLM) to introduce expedited permitting processes for solar projects on contaminated mine lands;
- Expansion of coalitions (including non-profit organizations, trade associations, mining companies, etc.) with a specific interest in pursuing clean energy projects on former mine lands; and
- Development of white papers and dissemination to stakeholders of technical, regulatory, financial, and policy information related to solar project development.

II. BACKGROUND

A. Solar Energy in Nevada

Nevada recently ranked fourth among the top ten states for installed solar capacity.⁸ It accomplished this with nearly 2,200 MW of installed capacity through 2016—984 MW of which went online that year. Nevada’s Renewable Portfolio Standard (RPS), enacted in 1997 and modified since, provides incentives for this development by requiring 25% of electricity sales to be met with renewable resources by 2025.⁹ Nevada was already well on its way to meeting this goal in 2015, with an estimated 20.5% of net electricity generation coming from renewable resources, namely solar and geothermal energy.¹⁰ Hoping to go a step further, in February 2017 state legislators introduced a bill that would increase the state’s RPS target to 80%.¹¹ Until recently, Nevada had what some saw as a model net-metering policy—allowing customers to sell their energy from rooftop solar installations back to the grid.¹² Recent amendments to that policy, however, have discouraged residential installations.¹³

Yet the most significant recent development in state policy came in 2016, when Nevada voters passed the Nevada Renewable Energy Ballot Initiative to amend the state’s constitution to prohibit monopolies and exclusive franchises from the energy generation sector in Nevada. To successfully amend the state constitution, the measure must pass again in 2018, after which point the state legislature will be required to implement legislation to deregulate the energy generation sector by 2023.

B. Contaminated and Abandoned Mine Lands in Nevada

Like other areas in the West, Nevada’s early economic growth was due in large part to hardrock mining. The General Mining Act of 1872 allowed individuals to lay exclusive claim to hardrock mineral deposits (such as gold, silver, and copper), which encouraged exploration and settlement across the West.¹⁴ Even before the Mining Act’s passage, the discoveries of the great Comstock Lode—a massive silver deposit outside of what is today Virginia City in 1859—and other

⁸ *Top 10 Solar States*, Solar Energy Industries Association (SEIA) (last visited March 25, 2017) <http://www.seia.org/research-resources/top-10-solar-states>.

⁹ Nev. Rev. Stat. § 704.7801.

¹⁰ *Nevada: State Profile and Energy Estimates*, U.S. Energy Information Administration (EIA) (last visited March 25, 2017), <https://www.eia.gov/state/index.php?sid=NV>.

¹¹ A.B. No. 206, 79th Leg. § 1(2)(a) (Nev. 2017) (“The comprehensive state energy plan must be updated at least once every 2 years and include provisions: The assessment of technically feasible and economically viable pathways for providers of electric service within this State to achieve by 2040 the goal of generating or acquiring an amount of annual renewable energy production equal to at least 80 percent of the total amount of electricity sold by providers of electricity service in this State.”).

¹² Lincoln L. Davies, *Making Sense of the Rapidly Evolving Legal Landscape of Solar Energy Support Regimes*, 6 *KLRI J. Law & Legs.* 2, 81 (2016).

¹³ *Id.*

¹⁴ *Abandoned Mines: Information on the Number of Hardrock Mines, Costs of Cleanup, and Value of Financial Assurances*, Statement of Anu K. Mittal, GAO, Testimony Before the Subcommittee on Energy and Mineral Resources, U.S. House of Representatives, July, 14 2011 [hereinafter *Abandoned Mines*, GAO].

valuable deposits established Nevada as a home to mining. That legacy has continued through to today, with hardrock mining remaining one of the leading industries in the state.¹⁵

Although a key economic driver, hardrock mining is a land-intensive endeavor that leaves behind disturbed and contaminated areas that are often unproductive for subsequent use, problematic to manage, and severely degraded to the point where there is little to no conservation value.¹⁶ While much work and capital goes into attempting to reclaim contaminated mine lands, the extent of the degradation and cost of remediation can be staggering.¹⁷ Active mining operations in Nevada are regulated by the Nevada Division of Environmental Protection's (NDEP) Bureau of Mining Regulation and Reclamation (BMRR). NDEP's Bureau of Corrective Action (BCA) oversees cleanup of hazardous wastes, the state's contamination liability regime and brownfields program, which can include abandoned and degraded former mine land.

In 2011, the U.S. Government Accountability Office stated, "there are no definitive estimates of the number of abandoned hardrock mines on federal and other lands."¹⁸ In Nevada alone, the BLM estimated there are 69,000 potentially contaminated mine sites that remain to be inventoried.¹⁹ Yet even for those sites that are well documented, where federal and state laws require responsible parties to pay for and/or conduct cleanup and reclamation, "many parties responsible for hardrock mining sites include businesses that no longer exist."²⁰ Therefore, responsibility for the cleanup of degraded mine sites can fall to state and federal governments.

III. NAVIGATING THE REGULATORY LANDSCAPE

There are a number of fundamental regulatory challenges for developing solar energy projects on contaminated mine land. In particular, cleanup liability and land use regulations for energy generation facilities can present obstacles. These challenges are multi-faceted, and involve complex and sometimes interrelated federal and state laws and regulations.

A. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

a. Introduction

Passed in 1980 in response to the Love Canal disaster and other environmental pollution crises of the preceding decade, CERCLA²¹ is the federal government's comprehensive liability scheme

¹⁵ See "Nevada Mining," Nevada Governor's Office of Economic Development (last visited April 14, 2017), at <http://diversifynevada.com/key-industries/mining>.

¹⁶ *Abandoned Mines*, GAO, *supra* note 14, at 2.

¹⁷ *Id.* at 1. ("Hardrock mining can cause significant environmental problems; these sites are typically large, complex, and costly to clean up. For example, in 2004, the EPA Inspector General estimated that cleaning up 63 mining sites on the Superfund's National Priorities List would cost up to \$7.8 billion.")

¹⁸ *Id.*

¹⁹ GAO, *Hazardous Waste: Agencies Should Take Steps to Improve Information on USDA's and Interior's Potentially Contaminated Sites*, 14 (January 2015).

²⁰ *Abandoned Mines*, GAO, *supra* note 14, at 2.

²¹ 42 U.S.C. §§ 9606 et seq. (1980).

for the cleanup of hazardous waste sites.²² Under the Act, the EPA is authorized to assess and/or cleanup contaminated sites, and to impose liability on potentially responsible parties (PRPs).²³ Liability under the Act has been interpreted to be strict, joint and severable,²⁴ and retroactive,²⁵ which means that parties who only become involved with a property after a major contamination event can nonetheless be on the hook for the full costs of cleanup.

Importantly, EPA reserves application of CERCLA for a small portion of the worst environmental contamination disaster sites, effectively limiting exposure for prospective landowners.²⁶ State government-initiated cleans-ups are more far more common than imposition of CERCLA liability. States are charged with regulating the majority of contaminated or potentially contaminated sites, and, in Nevada as elsewhere, state agencies work with and provide support to prospective landowners of contaminated lands.

Nevertheless, legal scholars have written that CERCLA imposes a disincentive for would-be landowners and developers that—whether because of perceived fears of federal enforcement or the cost of protecting against it—discourages development of contaminated lands.²⁷

²² See, e.g., *Hazardous Waste Cleanup: Observations on States' Role, Liabilities at DOD and Hardrock Mining Sites, and Litigation Issues*, GAO, Testimony before the Subcommittee on Environment and the Economy, Committee on Energy and Commerce, House of Representatives, at 2 (May 2013) (“CERCLA gives EPA the authority to respond to actual and threatened releases of hazardous substances to the environment, and of pollutants and contaminants that may pose an imminent and substantial danger to public health or the environment.”) (hereinafter “*Hazardous Waste Cleanup: Observations on States' Role*, GAO).

²³ CERCLA defines PRPs to include “(1) the owner and operator of a vessel or a facility, (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of, (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances, and (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person, from which there is a release, or a threatened release which causes the incurrence of response costs, of a hazardous substance.”). 42 U.S.C. § 9607(a).

²⁴ See Carolyn Miller, *The Transformation of Blight: Fixing the CERCLA Lessee Problem to Develop Renewable Energy*, 82 GEO. WASH. L. REV. 1267 at 1277 (August, 2014) (“Courts have interpreted CERCLA's liability scheme to impose joint and several liability, even though the text of CERCLA does not discuss joint and several liability and there is minimal evidence of Congress's intent.”) (citing Lynda J. Oswald, *New Directions in Joint and Several Liability Under CERCLA?*, 28 U.C. DAVIS L. REV. 299, 312 (1995)).

²⁵ *The Revitalization Handbook*, *supra* note 6, at 3.

²⁶ *Id.* at vii. (“[M]any contaminated properties may never be subject to the EPA’s attention under CERCLA, RCRA, or any other federal law. . . Perceived fears of federal involvement rather than the EPA’s actual practice are often the primary obstacles to the redevelopment and reuse of brownfields”); *Liability Reference Guide for Siting Renewable Energy on Contaminated Properties*, EPA at 3 (July 2014), <https://www.epa.gov/sites/production/files/2014-07/documents/liability-renew-energy-contamprop-2014.pdf> (“Generally, only contaminated properties with significant actual or potential public health and/or environmental impacts or those needing immediate attention are likely to warrant federal cleanup. These may include: sites on the Superfund National Priorities List (NPL); sites where the EPA has completed or is undertaking CERCLA cleanup activities; facilities subject to RCRA corrective action or post-closure care; contaminated sites in Indian country; and federally-owned sites requiring CERCLA or RCRA cleanup.”).

²⁷ Richard L. Revesz, *ENVIRONMENTAL LAW AND POLICY*, at 755 (3rd Ed. 2015) (“The liability that CERCLA imposes on current owners of contaminated land creates a strong disincentive to acquire any parcel of land that might be contaminated.”).

Recognizing CERCLA's dampening effect on development, Congress and EPA have enacted a number of liability defenses and protections. For example:

- *Bona Fide Prospective Purchaser (BFPP) status*²⁸ is a self-executing provision that allows prospective owners not involved with the contamination of the property to complete a list of required measures to obtain the defense.²⁹
- Comfort or Status letters may be issued by EPA to interested parties to assure them the Agency does not intend to pursue an enforcement action.
- CERCLA also provides additional defenses. See Appendix B for a list of resources and agency guidance documents.

States offer similar protections from contamination liability. As currently formulated, the various defenses and other protections under federal and state law can provide some liability relief to parties coming to a contaminated property for the first time. In addition, federal and state programs can provide technical and financial assistance to responsible parties to clean up contaminated sites. In determining which options might be available to a given party, it is necessary to determine whether involvement will implicate them as an "owner" or "operator" under CERCLA's PRP designation.³⁰ ***For long-term lessees, a position often occupied by renewable energy developers, there is some uncertainty as to their status.***³¹

The primary focus of CERCLA is the National Priorities List (NPL).³² Commonly known as Superfund sites, remediation sites listed are home to massive environmental pollution problems, with price tags that sometimes reach into the billions of dollars.³³ However, of the over 40,000 potentially hazardous sites identified in the country, only a few thousand have been listed or proposed to be listed on the NPL.³⁴ In Nevada, only one site is on the NPL: the Carson River Mercury Site, a 50-mile stretch of the river with a long history of mercury contamination.³⁵ In

²⁸ 42 U.S.C. § 9607 (r)(1) ("Limitation on Liability - Notwithstanding subsection (a)(1), a bona fide prospective purchaser whose potential liability for a release or threatened release is based solely on the purchaser's being considered to be an owner or operator of a facility shall not be liable as long as the bona fide prospective purchaser does not impede the performance of a response action or natural resource restoration."); 42 U.S.C. § 9601(40) (defines criteria necessary to satisfy in order to qualify as a bona fide prospective purchaser.).

²⁹ Revesz, ENVIRONMENTAL LAW AND POLICY, *supra* note 27, at 755 (BFPP status "entirely exempts owners or operators from liability under § 107(a) if they meet certain requirements.").

³⁰ 42 U.S.C. §§ 9607(a)(1) et seq.

³¹ See Carolyn Miller, *The Transformation of Blight: Fixing the CERCLA Lessee Problem to Develop Renewable Energy*, 82 GEO. WASH. L. REV. 1267 at 1271 (August, 2014); Jonathan J. Nasca, *Just Scratching the Surface: How EPA Denied Renewable Energy Developers the Liability Protection They Need to Repower America's Contaminated Land*, 41 Hofstra L. Rev. 267 (Fall, 2012).

³² EPA defines Superfund sites as "uncontrolled or abandoned sites or properties where hazardous waste or other contamination is located. A contaminated site is generally considered a 'Superfund site' if the federal government is or plans to be involved in cleanup efforts." *Types of Contaminated Sites*, EPA (last visited March 25, 2017) <https://www.epa.gov/enforcement/types-contaminated-sites>.

³³ See *Abandoned Mines*, GAO, *supra* note 14.

³⁴ *Hazardous Waste Cleanup: Observations on States' Role*, GAO, *supra* note 22, at 3.

³⁵ *Superfund Site: Carson River Mercury Site, Dayton, NV*, EPA (April 22, 2017), <https://cumulis.epa.gov/supercpad/cursites/csinfo.cfm?id=0903020>.

addition, the Anaconda Copper Mine was formally proposed for the NPL in 2016,³⁶ and a Rio Tinto mine site is listed as a Superfund Alternative Site.³⁷

Outside of assessment and enforcement of the most dangerous contaminated sites, the federal government encourages and provides support for state governments to regulate. Contaminated sites not pursued for cleanup on the NPL are considered “brownfields,” defined as: “[R]eal property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”³⁸

b. Brownfields Amendments

Congress passed the Small Business Liability Relief and Brownfields Revitalization Act (“Brownfield Amendments”) in 2002 in order to “to promote the cleanup and reuse of brownfields.”³⁹ The amendments expanded the Act’s liability protections, delegated more powers and additional funding to state governments, and amended the definition of brownfields to include former mine land.⁴⁰ Perhaps most importantly, the Brownfields amendments created the BFPP defense, discussed below. In addition, the amendments created a system whereby “federal liability for lower-priority contaminated sites [is] deferred if a state is pursuing a cleanup under its own brownfields program.”⁴¹ This deferral gave greater authority to states to conduct cleanup, and provided protection for developers from federal enforcement while they are engaged with state cleanup programs.

Moreover, the amendments made funding available to states by authorizing \$50 million each year in grants to qualifying state and tribal cleanup programs.⁴² This combination of expanded state deferrals and creation of BFPP status spurred changes in state response programs. In Nevada, the state instituted a similar BFPP defense in 2003.⁴³

The 2002 federal amendments also introduced changes in the definition of the term “brownfields” to include petroleum contamination and lands scarred by mining.⁴⁴ These amendments opened the door for state brownfields programs to provide assistance to contaminated mine lands and sparked the now-defunct joint EPA and BLM Mine Scarred Lands

³⁶ National Priorities List, 81 Fed. Reg. 62,428 (Sept. 9, 2016).

³⁷ *Superfunds Site: Rio Tinto Copper Mine, Mountain City, NV*, EPA (April 25, 2017), <https://cumulis.epa.gov/superfund/cursites/csinfo.cfm?id=0903872>.

³⁸ 42 U.S.C. § 9601(39). *See also Types of Contaminated Sites*, EPA, *supra* note 23 (Defines brownfields as: “Real properties, the expansion, development, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”).

³⁹ Pub. L. 107-118, 115 Stat. 2356 (Jan. 11, 2002).

⁴⁰ 42 U.S.C. § 9601(39)(D)(I).

⁴¹ Miller, *The Transformation of Blight*, *supra* note 24, at 1284; 42 U.S.C. § 9628(b)(1).

⁴² Pub. L. 107-118, 115 stat. 2356, 2357, Subtitle C § 231. *See Brownfield Overview and Definition*, EPA (March 6, 2017), <https://www.epa.gov/brownfields/brownfield-overview-and-definition> (providing information on federal brownfields financial assistance).

⁴³ *See Environmental Liability Protections for Property Owners Under State & Federal Law*, NDEP (June 11, 2014), <http://ndep.nv.gov/bca/liability.htm>.

⁴⁴ 42 U.S.C. § 9601(39)(D)(I).

(MSL) Initiative— “an interagency partnership designed to explore approaches to mine-scarred lands cleanup and community revitalization”.⁴⁵

c. Bona Fide Prospective Purchaser Status

If properly executed, BFPP status⁴⁶ “entirely exempts owners or operators from liability” under CERCLA.⁴⁷ Unlike other contamination liability defenses, the BFPP exemption is available to prospective purchasers even if they have “actual knowledge of the contamination at the site before acquiring it.”⁴⁸ The protection, in fact, was introduced as part of the Brownfields amendments in order to expand protections that had been unavailable to prospective purchasers with knowledge of past contamination.

In order to obtain the defense, prospective purchasers must meet a number of statutory requirements.⁴⁹ Foremost among those requirements, prospective property owners must conduct “all appropriate inquiries” into previous ownership and uses of the site,⁵⁰ and they must be unaffiliated with the parties that caused the contamination problem.⁵¹ ***Additional research into federal and state case law might be needed to determine whether this requirement limits the ability of a mining company responsible for past contamination to actively participate in redeveloping the parcel as a solar energy project.***

⁴⁵ *Mine-Scarred Lands Revitalization: Models Through Partnership*, The Year One Report on the Brownfields Federal Partnership Mine-Scarred Lands Initiative, EPA (2005), <https://nepis.epa.gov/Exe/ZyPDF.cgi/9100JV69.PDF?Dockey=9100JV69.PDF>. Bullfrog Mine, in Beatty, Nevada was one of the initiative’s six demonstration projects and is discussed in greater detail in Appendix A.

⁴⁶ 42 U.S.C. §§ 9601(40), 9607(r).

⁴⁷ Revesz, ENVIRONMENTAL LAW AND POLICY, *supra* note 27, at 755. See also 42 U.S.C. § 9607(r)(1) (“...a bona fide prospective purchaser whose potential liability for a release or threatened release is based solely on the purchaser’s being considered to be an owner or operator of a facility shall not be liable as long as the bona fide prospective purchaser does not impede the performance of a response action or natural resource restoration.”).

⁴⁸ Revesz, ENVIRONMENTAL LAW AND POLICY, *supra* note 27, at 755.

⁴⁹ 42 U.S.C. § 9601(40).

⁵⁰ 42 U.S.C. § 9601(40)(B)(i).

⁵¹ *Id.* at § 9601(40)(H).

d. *Lessee Liability*

An important question for renewable energy projects is whether lessees can be held liable under federal and state cleanup regimes.⁵² ***Solar developers often structure long-term leases as opposed to purchasing property outright.***⁵³ Liability under CERCLA is assigned to the “owner or operator” of a site,⁵⁴ and the statute does not define lessees’ potential liability for contamination not of their own making.⁵⁵ Nor do the Brownfields amendments address the question.⁵⁶ Related decisions out of the U.S. Court of Appeals for the Ninth Circuit (covering Nevada) direct lower courts to look to state common law in determining whether “a party’s possessory interest amounts to ownership.”⁵⁷

A parent company may be shielded from CERCLA liability imposed on a subsidiary, however. The Supreme Court has held that “when (but only when) the corporate veil may be pierced, may a parent corporation be charged with derivative CERCLA liability for its subsidiary’s actions.”⁵⁸ The Court further summarized hornbook law on corporations: the corporate “veil” may be pierced “when, *inter alia*, the corporate form would otherwise be misused to accomplish certain wrongful purposes, most notably fraud, on the shareholder’s behalf.”⁵⁹ The Court held that CERCLA did not expand this settled principle of corporate law.

Courts have analyzed “a lessee’s control over a site to determine whether it is an operator” under the Act.⁶⁰ In the Fourth Circuit case of *Ashley II of Charleston, LLC v. PCS Nitrogen, Inc.*,⁶¹ ***the appellate court found where a “lessee causes any movement of preexisting contamination that results in a disposal, it may be jointly liable as an ‘operator’*** for the entire extent of the

⁵² See, e.g., Miller, *The Transformation of Blight*, *supra* note 22, at 1271. (“Developers’ concerns stem from the failure of [CERCLA] to define the liability of a lessee for preexisting contamination, as well as the failure of the Brownfields Amendments. . . to extend a defense against existing liabilities to developers who seek to lease Superfund sites. . . . This concern is especially applicable to renewable energy developers who prefer to lease, rather than purchase, sites because the lease term can last for the same amount of time that the developer contracts to sell the power produced by the system, among other reasons.”) (internal citations omitted).

⁵³ Nasca, *Just Scratching the Surface*, *supra* note 31, at 285 (citing U.S. Dep’t of Energy *et al.*, DOE/EE-0307, Guide to Purchasing Green Power: Renewable Electricity, Renewable Energy Certificates, and On-Site Renewable Generation 25-26 (2010)). Solar leases typically run twenty-five to thirty years.

⁵⁴ 42 U.S.C. § 9607(a)(1).

⁵⁵ Miller, *The Transformation of Blight*, *supra* note 22, at 1271.

⁵⁶ *Id.*

⁵⁷ *Id.* at 1275 (citing *City of Los Angeles v. San Pedro Boat Works*, 635 F.3d 440 (9th Cir. 2011)). See also Jill Yang, “How to Make Blight Bright: A Roadmap for Turning Brownfields Green,” Paul Hastings (April 2014), at <https://www.paulhastings.com/docs/default-source/PDFs/stay-current-how-to-make-blight-bright.pdf> (“Other jurisdictions, including the Ninth Circuit, where some of the nation’s best solar resources are located, focus instead on property principles embodied in state common law to determine whether a party with some property or possessory interest may be liable as an owner. No court has, to our knowledge, considered whether the typical 30-year solar lease or easement should be interpreted to have more in common with ownership interests due to its length and other features.”) (internal citations omitted).

⁵⁸ See *United States v. Bestfoods, et al.*, 524 U.S. 51, 63-64 (1998).

⁵⁹ *Id.* at 62.

⁶⁰ Miller, *The Transformation of Blight*, *supra* note 22, at 1276 (“The Supreme Court has defined an operator as one who ‘directs the workings of, manages, or conducts the affairs of a facility.’”) (citing *United States v. Bestfoods*, 524 U.S. 51, 66 (1998)).

⁶¹ *Ashley II of Charleston, LLC v. PCS Nitrogen, Inc.*, 791 F. Supp. 2d 431 (D.S.C. 2011), *aff’d*, 714 F.3d 161 (4th Cir. 2013), *cert. denied*, 134 S. Ct. 514 (2013).

contamination on the site.”⁶² Some states, such as Massachusetts and California, have enacted specific state law protections for long-term lessees, similar to BFPP status, to protect parties from contamination liability and in an attempt to provide greater certainty.

e. Federal Brownfields Program

The 2002 amendments to CERCLA also provided for increased funding for brownfield site assessments and cleanups. The Federal Brownfields program “provides grants and technical assistance to communities, states, tribes and others to assess, safely clean up, and sustainably reuse contaminated properties.”⁶³

f. RE-Powering Initiative

EPA’s RE-Powering America’s Lands initiative began in 2008 with the goal of encouraging renewable energy development on contaminated lands.⁶⁴ In order to do so, the program seeks to provide resources and assistance, influence policy, and convene stakeholders to support such projects. While the Re-Powering initiative seems a natural ally to renewable development on hardrock mine land, the BLM has cautioned: “[T]he types of contaminated properties [the Re-Powering initiative] has identified are not likely to coincide substantially with BLM-administered public lands.”⁶⁵

Nevertheless, there is still the possibility of leveraging the RE-Powering initiative’s support for projects where there are patchworks of ownership structures. For example, where private land is adjacent to or intermixed with publicly-maintained lands, the RE-Powering initiative may be able to lend support. Indeed, the EPA boasts of the initiative’s success in forming partnerships and providing assistance for a utility-scale solar facility now operational on a former steel alloy mine and Superfund site in Questa, New Mexico.⁶⁶

B. Other Federal Statutes

In addition to CERCLA, there are a number of other federal laws that have the potential to affect mining activities, reclamation, and considerations around siting renewable energy projects on former mine lands. The following provides a brief introduction to a number of these laws.

⁶² Miller, *The Transformation of Blight*, *supra* note 22, at 1276.

⁶³ *Brownfields*, EPA (March 29, 2017), <https://www.epa.gov/brownfields>.

⁶⁴ EPA, *Re-Powering Program Overview*, at 2 (June 2016) https://www.epa.gov/sites/production/files/2015-09/documents/re_powering_program_overview.pdf.

⁶⁵ Final Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States, BLM, FES 12-24, DOC/EIS-0403 (July 2012). See *Western Lands Project v. U.S. Bureau of Land Management (BLM)*, 2016 WL 4759196 (9th Cir. Sept. 13, 2016) (upheld BLM’s decision not to provide an alternative analysis for siting utility-scale solar projects in Solar PEIS).

⁶⁶ EPA, *New Energies: Utility-Scale Solar on a Tailing Disposal Facility Chevron Questa Mine Superfund Site in Questa, New Mexico* (July 2013), <https://semspub.epa.gov/work/HQ/190025.pdf>.

a. *Resource Conservation and Recovery Act (RCRA)*

The Resource Conservation and Recovery Act (RCRA), passed in 1976 to complement the Clean Air Act (CAA) and Clean Water Act (CWA), gives the EPA authority to regulate solid waste.⁶⁷ Most relevant to hardrock mining operators are Subtitle C and Subtitle D of the statute, which define EPA's authority to regulate hazardous and nonhazardous solid wastes, respectively. EPA's hazardous waste regulations give the Agency authority to regulate waste "from cradle to grave," imposing corrective action measures where waste is not handled properly.⁶⁸

However, under the "Bevill amendments," Congress excluded from the definition of hazardous waste subject to EPA's oversight "solid waste from the extraction, beneficiation, and processing of ores and minerals."⁶⁹ As currently formulated, twenty specific classifications of mining waste are excluded from Subtitle C regulation as nonhazardous. Instead, these nonhazardous wastes are subject to regulation under Subtitle D, which "encourages states to develop" comprehensive management plans for such substances.⁷⁰ Thus, similar to CERCLA, under RCRA the "majority of cleanups are performed under state authority and do not require EPA involvement."⁷¹

The federal government has also instituted a RCRA brownfields program for "facilities where reuse or redevelopment is slowed due to real or perceived concerns about actual or potential contamination, liability, and RCRA requirements."⁷²

b. *Clean Water Act (CWA)*

The Clean Water Act (CWA), established in its current form in 1972, regulates the discharge of effluent into the Nation's waterways. For hardrock mining sites, prevention and monitoring of water pollution is one of the foremost environmental regulatory concerns. ***Indeed, "[a]fter CERCLA, the Clean Water Act is probably the next most widely used regulatory tool for addressing environmental problems at mining sites."***⁷³

The primary mechanism through which the CWA regulates mining operations is section 402 of the Act, which authorizes EPA and the states to regulate "point source discharges" of pollutants through a comprehensive National Pollution Discharge Elimination System (NPDES).⁷⁴ The Nevada Division of Environmental Protection issues and manages NPDES permits in the state, although the Nevada Bureau of Mining Regulation and Reclamation (BMRR) maintains the state's permitting program for water controls pertaining to active mining operations.

⁶⁷ 42 U.S.C. §§ 6901 et seq.

⁶⁸ *Revitalization Handbook*, EPA, *supra* note 6, at 2.

⁶⁹ *Mine Site Cleanup: A Three-Part Primer*, EPA at 1-9 (Nov. 2005), <https://brownfieldstsc.org/pdfs/mining.pdf>.

⁷⁰ *Id.*

⁷¹ *Liability Reference Guide*, EPA, *supra* note 26, at 7.

⁷² *Types of Contaminated Sites*, EPA, *supra* note 32.

⁷³ *Abandoned Mine Land Site Characterization and Cleanup Handbook*, EPA at 11-10.

⁷⁴ *Id.*

c. *Surface Mining Control and Reclamation Act (SMCRA)*

Title IV of the Surface Mining Control and Reclamation Act (SMCRA) established the federal government's Abandoned Mine Lands (AML) Program for the reclamation of mine sites abandoned prior to 1977.⁷⁵ Although the primary focus of SMCRA is regulation of coal mining operations, the AML program may be used for reclamation of hardrock mines. Title IV delegates authority to states meeting certain requirements, including Nevada, to conduct their own AML programs. The federal Office of Surface Mining Reclamation and Enforcement (OSM) is charged with supervising and providing support to delegated state programs, and directly regulates abandoned mine lands in nondelegated states.

d. *Federal Mining and Land Management Laws*

The General Mining Act of 1872 first codified the federal regulatory landscape for mining activities by encouraging the development of mineral resources on federal lands. The Mining Act established as federal law “long-standing claim staking. . . practices that miners themselves developed during the early days of the western frontier.”⁷⁶ The Mining Act prioritized individual mining claims and their incumbent economic benefit. The legislation, however, was largely silent on questions of environmental protection.

In 1976, Congress enacted the Federal Land Policy and Management Act (FLPMA)⁷⁷ in order to remedy the shortcomings of the 1872 Mining Act and subsequent public mining laws. The FLPMA directs public lands to be used “in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values. . .”⁷⁸ while also ensuring “public lands be managed in a manner which recognizes the Nation's need for domestic sources of minerals. . .”⁷⁹ The Act governs BLM and U.S. Forest Service (USFS) administration of public lands, sets as a general management standard that the Secretary of the Interior “shall by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.”⁸⁰ In so doing, FLPMA confirms that BLM and USFS land use decisions will be subject to the National Environmental Policy Act (NEPA).⁸¹

⁷⁵ 30 U.S.C. §§ 1231-1244.

⁷⁶ John F. Seymour, *Hardrock Mining and the Environment: Issues of Federal Enforcement and Liability*, 31 *ECOLOGY L.Q.* 795, 826 (2004).

⁷⁷ Pub. L. 94-579, 90 Stat. 2743; 43 U.S.C. §§ 1701-1782 (2000).

⁷⁸ 43 U.S.C. § 1701(a)(8).

⁷⁹ *Id.* at § 1701(a)(12).

⁸⁰ *Id.* at § 1732(b).

⁸¹ See John Ruple & Mark Capone, *NEPA, FLPMA, and Impact Reduction: An Empirical Assessment of BLM Resource Management and NEPA Planning in the Mountain West*, 46 *Enviro. L.* 954 (2017); EPA, *EPA's National Hardrock Mining Framework*, at C - 5 (September 1997).

e. *National Environmental Policy Act (NEPA)*

The National Environmental Policy Act (NEPA) of 1969⁸² is the nation's first modern environmental law and remains the touchstone for modern environmental advocacy and protection today. It requires federal agencies to conduct Environmental Impact Statements (EIS) for any major federal action that will significantly affect the environment. The law requires federal agencies to carefully note projected environmental impacts, such as those to endangered or threatened species, and explore alternatives for a given project. Through court decisions interpreting the law, NEPA has become primarily a procedure-driven statute.⁸³ It is not a law that demands specific environmental outcomes. Accordingly, it has been derided as establishing little more than a "truthful teenager rule," whereby agencies are rarely castigated for "bad" or anti-environmental decisions so long as they fully document and disclose the reasoning behind those decisions.⁸⁴ For the purposes of renewable energy projects on contaminated mine land, projects on BLM or other public lands may trigger NEPA requirements.

f. *BLM and Other FLMAs Land Use Regulations*

A large percentage of land in the Western U.S. is owned and managed by the federal government. In Nevada alone, nearly 80% of the state's land is administered by federal agencies.⁸⁵ Pursuant to many of the statutes discussed above, the BLM and other FLMAs have developed regulations for hardrock mining, contaminated lands and hazardous waste cleanup, and the use of public lands for electricity generation.⁸⁶

In an effort to expand solar energy development on federal lands in the desert Southwest, the BLM and the Department of Energy (DOE) finalized the Solar Programmatic Environmental Impact Statement (PEIS)⁸⁷ in 2012 to evaluate "actions that will further facilitate utility-scale solar energy development on federal lands."⁸⁸ ***The Solar PEIS and subsequent Record of Decision⁸⁹ form the basis of the BLM's Western Solar Plan— "a Solar Energy Program for utility-scale solar energy development on BLM administered lands."***⁹⁰ The plan established an initial 17 Solar Energy Zones (SEZs) on BLM lands across a six-state region, five of which are located Nevada for total of 60,395 acres in the state.⁹¹

⁸² 42 U.S.C. §§ 4321 et seq. (1969).

⁸³ *Strycker's Bay Neighborhood Council v. Karlin*, 444 U.S. 223 (1980).

⁸⁴ See A. Dan Tarlock, *The Story of Calvert Cliffs*, in ENVIRONMENTAL LAW STORIES, at 103 (Lazarus and Houck, eds. 2005).

⁸⁵ Carol H. Vincent, Laura A. Hanson, & Carla N. Argueta, *Federal Land Ownership: Overview and Data*, Congressional Research Service, at 7 (March 3, 2017).

⁸⁶ See BLM, *AML Program Policy Handbook*, H-3720-1 (providing a discussion of BLM's administration of federal schemes). It is important to note that as of April 23, 2017 a number of BLM resources are no longer available at their former URLs, including the *AML Policy Handbook*. Further research may be necessary to uncover the location of these and other BLM resources.

⁸⁷ Final Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States, BLM, FES 12-24, DOC/EIS-0403 (July 2012).

⁸⁸ Letter from Michael D. Nedd, Assistant Director, Minerals and Realty Management, BLM (July 2012).

⁸⁹ Approved Resource Management Plan Amendments/Record of Decision (ROD) for Solar Energy Development in Six Southwestern States, BLM (Oct. 2012).

⁹⁰ *Solar Energy Program*, BLM (Nov. 29, 2014), <http://blmsolar.anl.gov/program/>.

⁹¹ "Nevada Proposed Solar Energy Zones," *Solar PEIS*, *supra* note 90, Vol. 4, ch.11. Not discussed here is BLM's recent "Solar and Wind Energy Rule." See generally, Competitive Processes, Terms, and Conditions for Leasing

g. Federal Connectivity and Electricity Generation Laws

An area of federal law not discussed here, but relevant to renewable energy projects and grid connectivity are those related to energy generation, transmission, and distribution. More research is needed to flesh out the requirements under the Energy Policy Act of 2005,⁹² as well as the roles of the Federal Energy Regulatory Commission (FERC) and the U.S. Department of Energy.

C. State Statutes and Regulations

a. Nevada Contamination Liability Regime

The Nevada Division of Environmental Protection (NDEP) oversees the state's hazardous waste cleanup program. The state has established cleanup requirements for soil and groundwater contaminated by hazardous substances or petroleum products,⁹³ and mandates certain reclamation and closure procedures for mining operations.⁹⁴ Property owners found in violation of contamination requirements—often through changes in ownership or self-reporting—are required to remediate their properties, overseen by NDEP's Bureau of Corrective Actions (BCA).⁹⁵

Historically, the only option for relief was for the state to issue a “No Further Action” determination upon satisfaction of a property owner meeting cleanup requirements. However, No Further Action findings did not provide liability relief from future contamination that might arise from previously undiscovered site conditions.⁹⁶ ***In response, the state legislature enacted the Voluntary Cleanup Program (VCP)⁹⁷ in 1999 to provide permanent liability relief to property owners who conduct cleanup under the NDEP staff's supervision.*** Nevada also instituted a *bona fide* prospective purchaser (BFPP) defense in 2003. Today, property owners found in violation of Nevada contamination standards have the choice to either apply to VCP and seek permanent relief, or conduct cleanup independently.⁹⁸ Those conducting cleanup outside of the VCP are statutorily required to employ a Certified Environmental Manager (CEM) to oversee the cleanup.⁹⁹

Public Lands for Solar and Wind Energy Development and Technical Changes and Corrections, 81 Fed. Reg. 92,122 (Dec. 2016); *Solar and Wind Energy Rule*, BLM (last visited April 28, 2017), <https://www.blm.gov/programs/energy-and-minerals/renewable-energy/laws/solar-and-wind-energy-rule>.

⁹² See 42 USC § 13201 *et seq.* The entirety of the Act is available online here:

<https://www.gpo.gov/fdsys/pkg/BILLS-109hr6enr/pdf/BILLS-109hr6enr.pdf>

⁹³ Nev. Rev. Stat. §§ 459.500-459.535; Nev. Rev. Stat. §§ 459.800-459.856; Nev. Rev. Stat. §§ 445C.010-445C.410; Nev. Rev. Stat. §§ 445A.010-445A.730; Nev. Admin. Code §§ 445A.226-445A.22755. See *Voluntary Cleanup Program*, NDEP (Aug. 16, 2017), <http://ndep.nv.gov/bca/vcp.htm>.

⁹⁴ Nev. Rev. Stat. §§ 445A.300-445A.730; Nev. Rev. Stat. §§ 519A.010-519A.290; Nev. Admin. Code §§ 445A.350-445A.447; Nev. Admin. Code §§ 519A.010-519A.415.

⁹⁵ *Home – Bureau of Corrective Actions*, NDEP (Nov. 14, 2016), <http://ndep.nv.gov/bca/index.htm>.

⁹⁶ *Id.*

⁹⁷ Nev. Rev. Stat. §§ 459.610-658; Nev. Admin. Code §§ 459.973-9743. See *Nevada's Voluntary Clean Up Program: Quick Facts*, NDEP (last visited March 29, 2017), <http://ndep.nv.gov/bca/vcpfacts.pdf>.

⁹⁸ EPA, *Cleaning Up Brownfields Under State Response Programs – Getting to “No Further Action”*, at 117 (Aug. 1, 2016).

⁹⁹ *Id.*

i. Voluntary Cleanup Program (VCP)

The VCP program is intended to provide landowners and lessees responsible for releasing hazardous material with permanent relief from future liability for past contamination upon successful completion of the program. A “responsible party” is defined under the statute as:

[A] current or former owner or operator of a site or facility who caused or contributed to the release of a hazardous substance at the site or facility [or] a generator or transporter of a hazardous substance who caused or contributed to the release of the hazardous substance at a site or facility.¹⁰⁰

Participants accepted to the VCP conduct cleanup under the supervision and direction of NDEP staff, which has established contaminated soil and groundwater requirements.¹⁰¹ NDEP and program participants will enter into a remedial agreement detailing the extent of cleanup required pursuant to state standards. Participants who remediate their property in accordance with the remedial agreement will receive a No Further Action assurance from NDEP, the holder of which “is not a responsible party with respect to a release of a hazardous substance occurring on the property to which the certificate relates before the certificate was issued.”¹⁰² However, a certificate of completion does not release a holder thereof from liability for subsequent releases of hazardous substances which they cause, or which are subsequently discovered which the holder knew or should have known about.¹⁰³ **Further, properties regulated under CERCLA, such as those proposed for the NPL are not eligible for participation in the VCP program.**

ii. Liability Defenses

Nevada enacted a *bona fide* prospective purchaser (BFPP) defense to contamination liability in 2003.¹⁰⁴ Requirements for obtaining the defense are the same as those set forth under section 9601(40) of CERCLA. The defense provides protections for those liable under the state’s water pollution control (WCP) and hazardous waste regulations—including mine lands subject to WCP permits.¹⁰⁵ In addition, innocent and contiguous landowner defenses analogous to those offered by the federal government are available under Nevada law. However, the defenses are not applicable to the state’s mining regulation and reclamation laws for ongoing mining operations, which are governed under separate provisions.

¹⁰⁰ Nev. Rev. Stat. § 459.630.

¹⁰¹ See Brenna Finn & Gail Wurtzler, “Nevada,” *50-State Survey of Protections Available for Purchasers of Contaminated Property [as of May 9, 2013]*, Environmental Litigation Committee, ABA, at 60 (January 2014), <https://www.dgslaw.com/images/materials/50-state-survey-contaminated-property-protections2013.pdf>.

¹⁰² Nev. Rev. Stat. § 459.640.

¹⁰³ Nev. Rev. Stat. § 459.642.

¹⁰⁴ Nev. Rev. Stat. § 459.930. See generally, *Environmental Liability Protections for Property Owners Under State & Federal Law*, NDEP (June 11, 2014), <http://ndep.nv.gov/bca/liability.htm#details>.

¹⁰⁵ Nev. Rev. Stat. §§ 459.930(1)(a).

iii. Nevada's Brownfields Program

In addition to liability protections, Nevada's Brownfields Program provides assistance to property owners and developers. Specifically, the program operates a \$2 million revolving loan fund to assist with the costs on cleanup.¹⁰⁶ Loan funding is available for "any required cleanup actions under the state's cleanup program," and may be available to "all private landowners and developers. . . as long as they are not responsible for causing the contamination to be cleaned up with the loan funds."¹⁰⁷ Nevada's Brownfields Program conducted a site assessment and submitted a "Final Closure Plan" for Gooseberry Mine, a mine site abandoned in 1999 due to its operator's bankruptcy.¹⁰⁸

iv. Nevada Abandoned Mine Lands Program

Nevada's Abandoned Mine Lands (AML) Program seeks to mitigate "potential human health and ecological concerns associated with contamination from legacy heavy metal operations."¹⁰⁹ It focuses on inactive or abandoned mines, where contamination occurred prior to September 1, 1989. The Bureau of Corrective Action's authority under state law allows it to identify owners or operators of abandoned mine lands and work with them to resolve contamination problems.¹¹⁰ Where owners or operators are not able to be identified for sites on private property, the AML Program can conduct the cleanup independently. For sites on public lands, the state program coordinates cleanup with the BLM or USFS.

b. Nevada Mining Regulations

Current mining operations, mine closures, and reclamation in Nevada are regulated by the Bureau of Mining Regulation and Reclamation (BMRR), within NDEP.¹¹¹ Generally, mines active since September 1, 1989 fall within BMRR's purview and regulations, and are regulated separately from the Bureau of Corrective Action. Prior to the commencement of a project, mine operators must obtain Water Pollution Control (WCP) permits from BMRR,¹¹² which under state statute must include a reclamation plan for the site after the mine's closure.¹¹³ Nevada law defines reclamation to include the "the establishment of a productive postmining use of the

¹⁰⁶ See *Nevada Brownfields*, NDEP (January 29, 2015), <http://ndep.nv.gov/bca/brownfld.htm>.

¹⁰⁷ *Id.*

¹⁰⁸ *Gooseberry Mine*, Nevada Brownfields, NDEP (Nov. 22, 2010), http://ndep.nv.gov/bca/brownfield_gooseberry_mine.htm.

¹⁰⁹ *Abandoned Mine Lands Program*, NDEP (Mar. 8, 2016), <http://ndep.nv.gov/bca/aml.htm>.

¹¹⁰ Nev. Admin. Code § 445A; Nev. Rev. Stat. §§ 445A, 459.

¹¹¹ See generally, *Home – Mining Regulation and Reclamation*, NDEP (August 1, 2016), <http://ndep.nv.gov/bmrr/index.htm>; Jim Butler, *Environmental Regulations of Nevada's Mining Industry*, Nevada Lawyer (April 2013), http://www.nvbar.org/wp-content/uploads/NevLawyer_April_2013_Environmental_Regulation.pdf.

¹¹² Nev. Rev. Stat. § 519A.200. See *BMRR Regulation Branch*, NDEP (Aug. 22, 2016), <http://ndep.nv.gov/bmrr/reghome.htm>. See also "State and Federal Permits Required in Nevada before Mining or Milling can Begin," Nevada Division of Minerals (updated February 2015), http://minerals.nv.gov/uploadedFiles/mineralsnv.gov/content/Programs/Mining/SPL6_StAndFedPermitsRequired_Rey2015.pdf. (providing a list of all state and federal permits required for mining in Nevada).

¹¹³ Nev. Rev. Stat. § 519A.230 (Reclamation "must be technically practicable in achieving a safe and stable condition" of the land after mining activities are concluded.).

land...”¹¹⁴ As one commentator noted, “[I]n Nevada, that means that lands must be suitable for livestock grazing or for use as wildlife habitat.”¹¹⁵ The reclamation branch of BMRR also provides a Standardized Reclamation Cost Estimator, as well as other cost estimators for mining operators to estimate cleanup and reclamation costs.¹¹⁶ For mining operations on federal lands, BMRR coordinates with BLM and other FMLAs to regulate.¹¹⁷

D. Other State Programs

Other state contamination liability regimes and brownfield programs outside of Nevada can serve as useful examples of state-level protections that are encouraging productive brownfield redevelopment.

a. Massachusetts

The Commonwealth of Massachusetts has one of the most successful brownfield programs in the country, and provides an example of the benefit of offering a range of options to encourage project development. Massachusetts’ Brownfields Program includes several liability relief mechanisms, multiple financial incentives, including tax relief and subsidized environmental insurance, and free project assistance.¹¹⁸ From the passage (in 1998) of the Massachusetts Brownfields Act through 2013, the program has supported over 1,300 redevelopment projects.¹¹⁹

Of particular importance, Massachusetts’ program has facilitated numerous clean energy projects on reclaimed brownfield sites.¹²⁰ While a similar program may find success in Nevada or other western states, there are two important differences to note: The majority of Massachusetts’ brownfields are in urban as opposed to rural areas, and whereas nearly 80% of the land in Nevada is federally owned, only 1.2% of Massachusetts’ land is.¹²¹ Setting these differences aside, Massachusetts’ program nonetheless may offer a model for success.

The Massachusetts program has been praised for the financial resources that are made available to brownfield owners and redevelopers. The Commonwealth offers tax incentives, cleanup and assessment funding, and state-subsidized environmental insurance.¹²² Massachusetts’ tax incentives include a tax credit program for eligible completed cleanup sites, and a Municipal Tax

¹¹⁴ Nev. Rev. Stat. §§ 519A.100. The Nevada Administrative Code goes on to define “productive postmining use” as a “use which supports activities including (1) wildlife habitat; (2) livestock grazing; (3) agriculture and ranching; (4) industry; (5) recreation; or (6) any other activities which benefit the State of Nevada, its residents or the owner of the land.” Nev. Admin. Code § 519A.070.

¹¹⁵ Butler, *Environmental Regulations of Nevada’s Mining Industry*, *supra* note 111.

¹¹⁶ *BMRR Reclamation Branch*, NDEP (Aug. 22, 2016), <http://ndep.nv.gov/bmrr/reclhome.htm>.

¹¹⁷ See Memorandum of Understanding for Mining and Mineral Related Activities Within the State of Nevada, FS Agreement No. 14-MU-11041730-009 (2013), http://ndep.nv.gov/bmrr/file/mou_state-federal.pdf.

¹¹⁸ “Massachusetts’ Brownfield Program: An Overview,” National Governors Association (last visited April 23, 2017), <https://www.nga.org/files/live/sites/NGA/files/pdf/MABFIELDPROFILE.pdf>.

¹¹⁹ “Massachusetts Brownfields Program: State Incentives for Cleanup and Redevelopment,” Massachusetts Office of Energy and Environmental Affairs (March 2013), <http://www.mass.gov/eea/docs/dep/cleanup/brg2013.pdf>.

¹²⁰ *Siting Clean Energy on Brownfields*, Mass. Office of Energy and Environmental Affairs (2017), <http://www.mass.gov/eea/agencies/massdep/climate-energy/energy/contaminated-land-and-brownfields/>.

¹²¹ Vincent, *Federal Land Ownership*, *supra* note 88, at 7.

¹²² See generally, “Brownfields,” *Energy and Environmental Affairs*, MassDEP (2017), <http://www.mass.gov/eea/agencies/massdep/cleanup/programs/>.

Abatement Program that allows municipalities to adopt bylaws to negotiate back taxes with developers implementing brownfield projects.¹²³ In addition to tax relief, the Massachusetts Brownfields Redevelopment Fund provides site assessment and remediation loans, as well as Housing Initiative Loans for response programs at housing developments, and Priority Project Status with additional funding for high-impact sites.¹²⁴ From 1998 to 2008, the state released \$41.9 million in site assessment and remediation grants and loans. In addition, Massachusetts' Brownfields Redevelopment Access to Capital (BRAC) provides subsidies for environmental insurance to protect lenders and investors from cleanup risks.¹²⁵

b. California

Both California and Massachusetts have instituted specific protections for lessees under their contamination liability regimes. California also offers lessees *bona fide* tenant immunity. The defense is available to lessees with a term of 25 years or more,¹²⁶ and requires an agreement between the lessee and the supervising agency, and the party responsible for cleanup if different than the agency.¹²⁷ In addition, the defense requires that the lessee “pledge all payments beyond the developer’s profit to implementing the cleanup.”¹²⁸ In short:

[U]nder the California lessee defense, a lessee receives immunity from liability for costs beyond those necessary to ensure that its development does not create unreasonable risk to human health and the environment. This enables a developer to lease a portion of the property prior to or during site cleanup, which could provide a revenue stream for the cleanup.¹²⁹

IV. OPPORTUNITIES FOR ENVIRONMENTAL ADVOCACY

Implementing renewable energy projects on contaminated mine lands raises a diverse range of regulatory barriers. In combination with technical and financial barriers, these hurdles run the risk of rendering potential projects cost-prohibitive, preventing them from going forward. The risk that a developer will forgo an opportunity to redevelop a mine site is especially high in cases where undisturbed an “greenfields” property for a solar project is available elsewhere.

Additionally, to the extent perceived fears cause interested parties to overvalue the cost of regulatory uncertainty, misinformation may be preventing development.

Because there is not a single hurdle preventing more clean energy projects on contaminated lands from taking off, there is not likely to be a single, silver bullet solution. A multi-tiered approach, therefore, may have the most potential for success. By expanding available assistance, providing

¹²³ *Brownfields Tax Incentives*, MassDEP (2017),

<http://www.mass.gov/eea/agencies/massdep/cleanup/programs/brownfields-tax-incentives.html>.

¹²⁴ *The Massachusetts Brownfields Program: A Decade of Progress in Economic Development*, MassDEP, <http://www.mass.gov/eea/agencies/massdep/cleanup/programs/>.

¹²⁵ *Id.*

¹²⁶ Cal Health & Safety Code § 25395.102(b)(1).

¹²⁷ *Id.* at § 25395.103(b)-(c).

¹²⁸ Miller, *Transformation of Blight*, *supra* note 22, at 1284 (citing Cal Health & Safety Code § 25395.102(b)(5)(A)).

¹²⁹ *Id.*

technical information, and convening interested stakeholders, solar advocates can pursue multiple avenues for change.

Redefining Nevada’s definition of “productive postmining use” to expressly include solar energy development could encourage mining companies to move forward. At the same time, additional technical information on how projects would help localities may be necessary to spur communities to act. Finally, financial incentives could bring solar developers to the table to pursue projects.

In addition to appealing to different groups, implementing a multi-tiered approach has the added benefit of spreading resources, such that if one initiative fails to go forward, others will still be able to continue.

As a first step, technical assistance and information gathering can better define where support is most needed, and indeed, where solar projects on contaminated mine lands would be most viable.¹³⁰ Economic and technical potential studies can provide a clearer picture of the feasibility of such initiatives. Furthermore, better defining the economic benefits of renewable energy projects for impacted communities could encourage greater development.

A. State Policy

As stated above, *Nevada’s Renewable Energy Ballot Initiative* represents an opportunity for opening the electricity generation sector in the state by allowing independent companies to bring new solar generation online. Doing so will likely increase market demand for properties to develop solar resources, making contaminated sites more viable.

Other state policy opportunities include ***redefining “productive postmining use” to specifically include renewable energy***, creating/solidifying protections to prospective lessees for contaminated properties, and providing financial incentives such as a tax abatement for project developers. All of these could be useful strategies for promoting solar development. Emulating successful state brownfield programs elsewhere can further support renewable energy goals.

a. Nevada Renewable Energy Ballot Initiative

In 2016, Nevada voters passed a ballot measure intended to open the market for electricity generation.¹³¹ The initiative was broadly popular, with 72% of Nevada voters approving of the measure. Yet the 2016 passage was only the first step. In order to amend the Nevada Constitution, the ballot measure must gain voters’ approval for a second time in 2018.¹³² If

¹³⁰ A likely starting point for gathering available technical assistance and information is the EPA’s and National Renewable Energy Laboratories’ (NREL’s) work in the area. See Jordan Macknick, *et al.*, *Solar Development on Contaminated and Disturbed Lands*, NREL (Dec. 2013), <http://www.nrel.gov/docs/fy14osti/58485.pdf>; *Renewable Energy on Contaminated Lands*, NREL (Jan. 21, 2014), http://www.nrel.gov/analysis/sustain_re_limbo.html.

¹³¹ *Nevada Question 3 – Open Electric Energy Market – Results: Approved*, N.Y. Times, Dec. 13, 2016, <http://www.nytimes.com/elections/results/nevada-ballot-measure-3-open-electric-energy-market>.

¹³² Danielle Olla, *Nevada votes to end NV Energy monopoly*, PV-Tech, Nov. 10, 2016, <https://www.pv-tech.org/news/nevada-votes-to-end-nv-energy-monopoly>. See Nev. Const. art. 19, §§ 2-3.

approved then, the state's constitution would be amended and the legislature would be required to deregulate energy generation by 2023.

b. Redefining "Productive Postmining Use"

For mining companies interested in pursuing solar projects on recently closed or still active mine sites, changes to Nevada's mining regulations may nudge more companies in that direction. In particular, the requirement that former mine lands be returned to "productive postmining use" presents an opportunity for solar developers. Nevada law defines the term as: "[U]se which supports activities including (1) wildlife habitat; (2) livestock grazing; (3) agriculture and ranching; (4) industry; (5) recreation; or (6) any other activities which benefit the State of Nevada, its residents or the owner of the land."¹³³ As mentioned above, one commentator noted, "in Nevada, that means that lands must be suitable for livestock grazing or for use as wildlife habitat."¹³⁴

While the installation of solar panels can qualify as "industry" under this definition, or an activity "which benefit[s] the State of Nevada," renewable energy is not expressly included as a productive use. One strategy solar advocates might pursue would be to lobby for legislation that would expressly include solar energy in the definition of "productive postmining use." An alternative option in this regard would be to petition the NDEP to support renewable energy as a "productive postmining use" as currently defined in Nevada's Administrative Code.¹³⁵

c. Expansions to Nevada Cleanup Regime & Brownfields Program

Changes to the state's contamination liability regime could also encourage project development. For brownfields in particular, a "belt-and-suspenders" approach might provide additional support for a variety of stakeholders. In Nevada, there are already a number of protections and resources available through NDEP.¹³⁶ Other states, such as Massachusetts and California, can provide examples of additional protections and incentives.

i. Expanding Financial Assistance

Nevada currently maintains a \$2 million revolving loan fund for brownfield redevelopment assistance. By comparison, Massachusetts Brownfield's Redevelopment Fund was initially capitalized with \$30 million by the state legislature in 1999 and was recapitalized with an additional \$30 million in 2006.¹³⁷ ***Recapitalizing Nevada's revolving loan fund would enable the state's brownfield program to provide greater financial assistance for project development.*** To ensure specific funding is available for renewable energy projects, a rider on enabling

¹³³ Nev. Admin. Code § 519A.070.

¹³⁴ Butler, *Environmental Regulations of Nevada's Mining Industry*, *supra* note 111.

¹³⁵ It is important to note that any effort to amend state environmental laws or regulations must be carefully navigated. The last thing solar advocates would want is to initiate a process that would open the door for redefine "productive postmining use" in a way that would undercut essential environmental benefits protected by the current definition.

¹³⁶ See generally, *Nevada Brownfields*, NDEP (January 29, 2015), <http://ndep.nv.gov/bca/brownfld.htm>.

¹³⁷ *The Massachusetts Brownfields Program: A Decade of Progress in Economic Development*, MassDEP (2017), <http://www.mass.gov/eea/agencies/massdep/cleanup/programs/>.

legislation could designate a portion of the fund specifically for clean energy projects on mine lands. Similar secured lending can also be offered by third party financiers, as is encouraged under Massachusetts' Brownfields Program.¹³⁸

ii. Tax Relief

Another form of financial assistance Nevada could offer would be tax relief for successful or ongoing redevelopment projects. Again, Massachusetts' program can serve as an example. The state provides a tax credit for successfully completed cleanups, and allows municipalities to negotiate tax abatements with developers undertaking brownfield projects, both of which were enabled through state legislation.¹³⁹ ***Allowing for developers to negotiate tax abatements with municipalities would require community involvement and engagement, and would allow for case-by-case evaluation of the project before tax relief is granted.***

iii. Liability Relief and Liability Insurance

Beyond financial assistance, Nevada liability protections could also be expanded. California's *bona fide* tenant defense, for example, applies to solar developers pursuing long-term leases of contaminated property. Relatedly, subsidies for contamination liability insurance could be made available.¹⁴⁰ Massachusetts provides such subsidies. Pollution Legal Liability (PLL) insurance policies¹⁴¹ and "cost cap" policies¹⁴² are both commercially available.

B. Federal Policy

There may also be opportunities for removing barriers to development of clean energy on degraded mine sites through changes in federal law and policy.

a. RECLAIM Act

In 2016, a group of Eastern, coal-state Congressmen introduced the RECLAIM Act to attempt to provide \$1 billion in funding for coal mine reclamation and associated projects.¹⁴³ In its current form, the legislation would reserve funds exclusively for cleaning up coal mines. If it moves

¹³⁸ In order to provide security to third party lenders, however, it may be necessary to introduce specific contamination liability protections for financiers. *See e.g., Brownfields Liability Relief*, MassDEP (2017), <http://www.mass.gov/eea/agencies/massdep/cleanup/programs/brownfields-liability-relief.html>.

¹³⁹ *Brownfields Tax Incentives*, MassDEP (2017), <http://www.mass.gov/eea/agencies/massdep/cleanup/programs/brownfields-tax-incentives.html>.

¹⁴⁰ *See State Subsidized Environmental Insurance*, MassDEP (2017), <http://www.mass.gov/eea/agencies/massdep/cleanup/programs/state-subsidized-environmental-insurance.html>.

¹⁴¹ PLL policies cover "for third party bodily injury and property damage claims, including pre-existing unknown conditions and new conditions resulting from natural resource damage and/or changes in clean-up standards." Jill Yang, *How to Make Blight Bright: A Roadmap for Turning Brownfields Green*, Paul Hastings (April 2014), <https://www.paulhastings.com/docs/default-source/PDFs/stay-current-how-to-make-blight-bright.pdf>.

¹⁴² Cost cap insurance policies provide coverage for "unknown contamination and future cleanup obligations arising from changed conditions at the site as well as regulatory changes..." *Id.*

¹⁴³ Rep. Hal Rogers (R-KY), Rep. Matt Cartwright (D-Pa.), Rep. Evan Jenkins (R-WV.), Rep. Don Beyer (D-Va.), and Rep. Morgan Griffith (R-Va.) have sponsored or co-sponsored the legislation. *See* "The Reclaim Act," Sierra Club (last visited April 2, 2017), https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org/creative-archive/files/pdfs/1289%20RECLAIM%20fact%2002_web.pdf.

forward, however, it could be amended to direct some funding toward solar energy projects on degraded mine lands.¹⁴⁴ The legislation could also be expanded to include hardrock mine restoration, which would benefit Nevada.

b. BLM and Other FMLA Regulations on Renewable Energy Development

BLM's Western Solar Plan provides an incentive for utility-scale solar development in certain designated lease areas (DLAs) by expediting the permitting processes for would-be developers. An additional possibility for reducing barriers to developing renewables on contaminated sites would be to petition BLM to create a similar expedited permitting process for such sites on BLM lands.

C. Third Party Involvement

A recurring theme in the literature on clean energy siting (and redeveloping brownfields in general) is the importance of partnerships. Solar advocates will need the support of diverse parties: federal and state agencies, local communities, mining companies, casino developers interested in solar projects at their facilities, etc. ***Coalitions could be aggregators and disseminators of key information related to project development, such as the availability of site assessment grants, project finance opportunities, etc.***

¹⁴⁴ See e.g., Evan Fedorko, et al., *Healing Our Land, Growing Our Future: Innovative Mine Reclamation in Southwest Virginia*, Appalachian Voices (Nov. 2016), <http://appvoices.org/new-economy/healing-our-land/>.

V. CONCLUSION AND NEXT STEPS

This paper is intended to provide a general overview of some of the possible options for solar advocates in Nevada. It is far from exhaustive and should not be construed as formal legal advice. That said, the paper has identified a few policy options that merit further exploration. From a regulatory perspective, concerns of federal enforcement under CERCLA or from state-level contamination regimes can discourage would-be project developers. In addition, mining laws and regulations might prioritize other types projects for reclamation, to the detriment of solar opportunities.

Accordingly, three main initiatives solar advocates could pursue are:

- (1) support of the Nevada Renewable Energy Ballot Initiative;*
- (2) clarification of the definition of “productive postmining use” to expressly include solar energy projects; and*
- (3) expansion of Nevada’s contamination liability protections and brownfields development assistance programs.*

Federal policy—through the proposed RECLAIM Act in Congress and/or BLM initiatives—presents additional opportunities for advocacy.

Finally, coalition building will be essential for aggregating essential information that will be needed to get projects off the ground.

Promoting the development of utility-scale solar energy on contaminated and degraded mine lands poses a number of technical, regulatory, and financial challenges. Given the abundant solar resources available in Nevada, however, it is essential that advocates tackle these challenges head on.

APPENDIX A: CASE STUDY ON BULLFROG MINE, BEATTY NV

Bullfrog Mine, outside of Beatty, Nevada, provides an ongoing case study of the barriers to developing solar projects on recently active mine land. In 2004, EPA selected Bullfrog Mine for the Mine Scarred Lands Initiative (MSL) and announced plans for a renewable energy demonstration project on the site.¹⁴⁵ In 2005, Barrick Gold transferred two former mining properties, totaling approximately 82 acres, to the Beatty Economic Development Corporation (BDEC) for redevelopment.¹⁴⁶ Along with BDEC and MSL, the Beatty Town Advisory Board and Nevada State Energy office were involved with the project and interested in its clean energy potential. The National Renewable Energy Laboratory (NREL) deemed Bullfrog Mine a “high-potential site” for solar energy generation based on “land exclusion, distance to transmission and major roads, and technology assessment,” as well as utility demand, and high technical solar energy potential.¹⁴⁷

However, despite stakeholders’ interest, Bullfrog Mine has yet to be redeveloped. This is likely due to a number of factors, foremost among them that the mine was, as of July 2016, only then close to regulatory closure and not yet suitable for redevelopment.

In 2016, a local newspaper asked: “What will ever become of the Barrick Bullfrog mine site outside of Beatty?”¹⁴⁸ The article went on to report BDEC has yet to “find a company that would make use of the property for some type of industry that would bring jobs to the community.” NREL’s 2007 assessment of the Bullfrog Mine site’s potential noted “there could be issues for a private developer with the liability for impacts on a contaminated site and the ability to purchase a long-term power purchase agreement.”¹⁴⁹

¹⁴⁵ U.S. EPA Selects Former Nye County Gold Mine for National Brownfields Pilot, EPA (May 18, 2004), https://archive.epa.gov/epapages/newsroom_archive/newsreleases/60f256158d5cb5e0852570d8005e1643.html.

¹⁴⁶ Gail Mosey, et al., *Converting Limbo Lands to Energy-Generating Stations: Renewable Energy Technologies on Underused, Formerly Contaminated Sites*, EPA, NREL, at 32 (October 2007), <http://www.nrel.gov/docs/fy08osti/41522.pdf>; *Mine-Scarred Lands Revitalization: Models Through Partnership, The Year One Report on the Brownfields Federal Partnership Mine-Scarred Lands Initiative*, EPA (2005), <https://nepis.epa.gov/Exe/ZyPDF.cgi/9100JV69.PDF?Dockey=9100JV69.PDF>.

¹⁴⁷ Mosey, *Converting Limbo Land*, *supra* note 146, at 32.

¹⁴⁸ Richard Stephens, *Future Use for Bullfrog Mine Site Still Unknown* (July 13, 2016), <http://pvtimes.com/news/future-use-bullfrog-mine-site-still-unknown>.

¹⁴⁹ Mosey, *Converting Limbo Lands*, *supra* note 146, at 32.

APPENDIX B: EPA CONTAMINATION LIABILITY GUIDANCE DOCUMENTS

The EPA has provided significant guidance regarding brownfield redevelopment and contamination liability. The following provides a list of EPA resources available to the public that may be useful for siting solar energy projects on contaminated mine lands.

I. GENERAL RESOURCES

- *Liability Reference Guide for Siting Renewable Energy on Contaminated Properties*, EPA (July 2014) <https://www.epa.gov/sites/production/files/2014-07/documents/liability-renew-energy-contamprop-2014.pdf>.
- *The Revitalization Handbook: Revitalizing Contaminated Lands: Addressing Liability Concerns*, EPA (June 2014) <https://www.epa.gov/sites/production/files/2014-06/documents/revitalization-handbook-2014-cleanup-enforcement.pdf>.
- *Handbook on Siting Renewable Energy Projects While Addressing Environmental Issues*, EPA (June 2014) https://www.epa.gov/sites/production/files/2015-04/documents/handbook_siting_repowering_projects.pdf.

II. SPECIFIC GUIDANCE DOCUMENTS

- *Revised Enforcement Guidance Regarding the Treatment of Tenants Under the CERCLA Bona Fide Prospective Purchaser Provision*, EPA (2012) <https://www.epa.gov/enforcement/guidance-treatment-tenants-under-cerclas-bona-fide-prospective-purchaser-bfpp-provision>.
- *CERCLA Liability and Local Government Acquisitions and Other Activities*, EPA (2011) <https://www.epa.gov/sites/production/files/documents/local-gov-liab-acq-fs-rev.pdf>.
- *Enforcement Discretion Guidance Regarding the Affiliation Language of CERCLA's Bona Fide Prospective and Contiguous Property Owner Liability Provisions*, EPA (2011) <https://www.epa.gov/enforcement/guidance-affiliation-language-cerclas-bfpp-and-cpo-liability-protections>.
- *Standards and Practices for All Appropriate Inquiries*, 70 Fed. Reg. 66070 (Nov. 1, 2005) <https://www.gpo.gov/fdsys/pkg/FR-2005-11-01/pdf/05-21455.pdf>.
- *Interim Enforcement Discretion Guidance Regarding Contiguous Property Owners*, EPA (2004) <https://www.epa.gov/enforcement/interim-guidance-enforcement-discretion-regarding-contiguous-property-owners>.
- *"Common Elements" Guidance*, EPA (2003) <https://www.epa.gov/enforcement/interim-guidance-common-elements-landowner-criteria-qualify-bfpp-cpo-or-ilo-superfund>.
- *Interim Enforcement Discretion Policy Concerning "Windfall Liens" Under Section 107(r) of CERCLA*, EPA & DOJ (2003) <https://www.epa.gov/enforcement/interim-guidance-enforcement-discretion-concerning-windfall-liens-cercla-section-107r>.
- *Final Policy Toward Owners of Property Containing Contaminated Aquifers*, EPA, OSRE (1995) <https://www.epa.gov/enforcement/guidance-owners-property-containing-contaminated-aquifers>.
- *Policy on Interpreting CERCLA Provisions Addressing Lenders and Involuntary Acquisitions by Government Entities*, EPA (1997)

<https://www.epa.gov/enforcement/guidance-lenders-and-involuntary-acquisitions-government-entities>.

- *Policy Towards Owners of Residential Properties at Superfund Sites*, EPA (1991)
<https://www.epa.gov/enforcement/guidance-owners-residential-property-superfund-sites>.

APPENDIX C: POTENTIAL FEDERAL, STATE, AND LOCAL PERMITS FOR SITING ENERGY GENERATION PROJECTS IN NEVADA¹⁵⁰

Potential Federal Permits:

Agency	Permit
BLM	SF 299 (ROW Authorization Permit)
BLM	Plan of Development
BLM	Draft EA or EIS
BLM	Final EA or EIS
BLM	Finding of No Significant Impact
BLM	Record of Decision
BLM	ROW Grants
BLM	NEPA Compliance to Grant ROW
BLM	NHPA Section 110 (EO11593)
BLM	Historic Properties Treatment Plan
BLM	NHPA Section 106 Review (36 CRF 800)
BLM	Cultural Resource Use Permit
BLM	Field Use Authorization
BLM	Archaeological Resources Protection Act Permit
BLM	Decommissioning & Site Reclamation Plan
BLM	Weed Management Plan
BLM	Drilling Operations Permit*
BLM	Geothermal Plan of Utilization*
BLM	Geothermal Unit Agreement Approval*
BLM	Transmission Plan of Development*
BLM	Mineral Material Sale Contract (Gravel)
BLM	Facilities Construction Permit
BLM	Commercial Use Permit
BLM	Temporary Use Permit for Geotechnical Investigations (Form 2920)*
BLM	Site License
BOR	ROW License Agreement

¹⁵⁰ Nevada Public Utility Commission, “Potential Federal, State, County and Local Permits,” (current as of May 2012) http://puc.nv.gov/Utilities/Construction_Permits/Potential_Permits/.

Agency	Permit
FAA	Determination of No Hazard to Navigable Airspace*
FAA	Notice of Proposed Construction or Alteration (Form 7460.1)*
FERC	Notice of Self Certification as a QF*
USACE	Approved Jurisdictional Determination (Clean Water Act Section 404)
USDOD	R-2508 Complex Sustainability Office Review and Approval
USEPA	Provisional EPA ID Numbers
USEPA	Permanent EPA ID Numbers
USEPA	Title V Air Pollution Source*
USFS	Special Use Permit
USFWS	Endangered Species Act Section 7 Consultation
USFWS	Avian and Bat Protection Plan*
USFWS	Migratory Bird Treaty Plan*
USFWS	Bald and Golden Eagle Protection Act*

* These permits may only apply to electric and/or renewable energy projects.

Potential State Permits:

Agency	Permit
NDEP	Class II Air Operating Permits (stationary/temporary mobile sources*
NDEP	Solid Waste Disposal Facility Permit (operations)*
NDEP	Surface Area Disturbance - Class II Operating Permit (dust control plan)
NDEP	Dust Control Plan - Laydown Area and Parking
NDEP	CEMS Certification Plans (Continuous Emissions Monitoring System*
NDEP	SPCC - Construction (Spill Prevention Control & Countermeasures)
NDEP	SPCC – Operations
NDEP	Construction Storm Water General Permit
NDEP	General Permit for Storm Water Discharges Associated with Industrial Activities
NDEP	Groundwater Discharge Permit
NDEP	On-Site Sanitary Disposal System (Septic System) Permit
NDEP	Above Storage Tank Permits/Notifications (for petroleum storage)
NDEP	Chemical Accident Prevention Plan
NDEP	Commercial Septic Discharge Permit
NDEP	Clean Water Act Section 402 Permit

Agency	Permit
NDEP	401 Water Quality Certificate
NDEP	Working in Waterways Temporary Permit
NDEP	National Pollution Discharge Elimination System (industrial activities*
NDEP	Temporary Construction Water Permit (water rights)
NDEP	Safe Drinking Water (privately owned public water system)
NDEP	Storm Water Pollution Prevention Plan (SWPPP)
NDEP	Underground Injection Control Permit*
NDIR	Pressure Vessel Inspection and Permitting
NDOA	Survey/Removal of Native Cacti and Yucca
NDOF	Incidental Take Permit
NDOF	Conditional Permit for Disturbance or Destruction of Critically Endangered Plants
NDOM	Geothermal Project Area Permit*
NDOT	Occupancy Permit
NDOT	Permit to Open State Highway
NDOT	Over Legal Size/Load Permit
NDOT	Uniform Permit (for transportation of hazardous materials)
NDOT	Traffic Barricade Plan Approval
NDOT	Encroachment Permit (for crossing state highways - electric lines*
NDOW	Industrial Artificial Pond Permit
NDOW	Permit to Capture, Kill, or Possess Protected Wildlife (or written authorization)
NDOW	Disturbance of Wildlife and/or Wildlife Habitat (not specific to endangered species)
NDOW	Letter of Authorization for Removal of Desert Tortoise from Construction Site
NDOW	Scientific Collection Permit
NDWR	Ground Water Well Approval (point of diversion permits, temporary/permanent)
NDWR	Water Appropriations Permits
NHD	Drinking Water Supplies Permit
NHD	Radiological Logging*
PUCN	Permit to Construct
SFM	Health Permit for Hazardous Materials
SFM	Building Construction Approval

Agency	Permit
SFM	Hazardous Materials Permit (roving permit)

* These permits may only apply to electric and/or renewable energy projects.