

**As Assessment of the Voluntary Remediation Program: Current Issues Regarding
Petroleum Brownfields and Potential Solutions**

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The mission of the Office of Environmental Remediation (OER) is to provide for clean, safe, and productive West Virginia communities by assessing and remediating environmental resources and restoring contaminated properties to beneficial use (West Virginia Department of Environmental Protection, n.d.-f). OER is situated within the Division of Land Restoration (DLR) of the West Virginia Department of Environmental Protection (DEP). One method for remediating remediating and restoring properties is the Voluntary Remediation Program (VRP). This program encourages companies, communities, and other stakeholders to voluntarily remediate sites and return them to productive use (West Virginia Department of Environmental Protection, n.d.-f). This “structured and predictable process” provides benefits to both applications and communities: eliminated or reduced exposure to contamination and conservation of green spaces for communities; and guidance and oversight from DEP.

To date, the VRP process has issued 258 “certificates of completion” for a total of 4,175 acres of useful, productive land. As of December 7th, 2023, the VRP includes 300 ongoing projects entailing an additional 7,247 acres (West Virginia Department of Environmental Protection, n.d.-g). However, of those 300 projects, 62 sites were “withdrawn from the program” after years of OER administration. What’s more, of those 62 sites, the modal source of contamination was petroleum. This application paper studies the organizational structure of the West Virginia Department of Environment Protection as well as the political, and ecological dimensions that constrain the agency and the VRP.

This application paper is organized as follows: the first section provides an overview of the organization as a whole as well as the pertinent subunits that administer the Voluntary Remediation Program; the second section analyzes the responsibilities and powers of the VRP itself – how, specifically, does it induce landowners to remediate their despoiled properties; the

third section assesses the environmental conditions that may impact organizational mission and program efficacy; the third section describes the governance system and dimensions of organizational structure that work together to implement organizational mission; and the final section briefly describes the organizational management opportunity identified in the proposal and why it needs addressed.

Organizational Overview and Mission

The West Virginia Department of Environment Protection (DEP) was established in October 1991, initially as the Division of Environmental Protection, with the abolition of the Division of Energy. The DEP's mission is to "efficiently and effectively carry out the State's environmental laws and regulations that are designed to provide and maintain a healthful environment consistent with the economic benefits derived from strong agricultural, manufacturing, tourism and energy-producing industries" (West Virginia Department of Environmental Protection, n.d.-a).

In 1996, the Office of Environment Remediation (OER) was created to "clean up and put to use contaminated industrial sites" by statute under the Voluntary Remediation and Redevelopment Act. The mission of the OER is to "provide for clean, safe, and productive West Virginia communities by assessing and remediating environmental resources and restoring contaminated properties to beneficial use" (West Virginia Department of Environmental Protection, n.d.-c).

Finally, in 2003, the Department of Environmental Protection was again reorganized and placed under administrative control of the newly created Division of Land Restoration (DLR). The mission of the DLR is to "reclaim and remediate contaminated and disturbed land to a

condition protective of public health and safety and suitable for productive reuse and economic development” (West Virginia Department of Environmental Protection, n.d.-b).

Throughout its existence, the Department of Environmental Protection has been a division; a department; both cabinet-level and not; under the authority – at one point or another – of the Division of Energy; the Department of Commerce, Labor, and Environment; and the Bureau of Environment; and Finally, the DEP has been reorganized at least five times. The following sections describe the WVDEP as it currently exists.

Program Overview: Brownfields and the VRP

This section details the Voluntary Remediation Program, the powers imbued to it by the West Virginia State Code, and how, specifically, it benefits program participants and attendant communities. To best discuss the VRP, however, it is necessary to discuss the concept of a brownfield. In environmental remediation, a brownfield is a property where “expansion, redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant” (U.S. Environmental Protection Agency. n.d.-a). A former gas station or laundromat are paradigmatic examples of potential brownfield sites. The VRP provides a system for current landowners to enroll their potential brownfields into the program, obtain guidance, limited liability coverage, and restore their properties to a more useful state.

Programmatic Actions

The actions taken by the program can be delineated into three categories: administrative, legal, and oversight. Administratively, the VRP provides a regulatory process by which landowners can trust, guidance and oversight from the Office of Environmental Remediation and, potentially, financial incentives for remediation purposes; legally, the VRP shields landowners from certain legal liabilities (discussed in more depth in the next section); and,

finally, the VRP provides landowners and communities with long-term oversight in the form of Land Use Covenants.

Land Use Covenants are legal instruments that can be separated into two categories: engineering and institutional. Engineering controls are “physical barriers constructed to prevent exposure, or isolate materials from people, animals, and the environment;” while institutional controls are “administrative and legal controls that minimize the potential for human exposure or contamination” (West Virginia Department of Environmental Protection, n.d.-c). The vast majority of properties in the VRP are under a land use covenant.

Programmatic Powers

As previously stated, the VRP derives its power from law. The purported benefits of the program, guidance from the DEP, improved public health and safety, are not the primary benefit to landowners. The primary benefit is “the ultimate relief from all liability to the state for the release that caused the contamination” (West Virginia Department of Environmental Protection, 2019, p. 6). This benefit is an incredibly powerful legal tool – one that is rooted in the original conception of the law. In the early 1990s, “developers and [financial] lenders were increasingly risk averse to investment in formerly used properties” (p. 1). Developers feared that by developing on previously used properties, they would be subject to environmental regulation as if they contaminated the property in the original case; financial lenders feared that they would lose their investment, thus they pulled back entirely. This caused a downward and reinforcing spiral of disinvestment and disuse such that states started establishing voluntary remediation programs to quell those fears (p.2).

Environmental Conditions

The general environmental conditions organizations typically face are technological, legal, political, economic, demographic, ecological, and cultural (Rainey, 2018, p. 78). The West Virginia Department of Environmental Protection contends with each of these environmental conditions in different ways; so too, does the Office of Land Remediation. While a case can be made that the VRP is subject to each of the conditions, this section will focus on just three. Thus, the following section is split into two parts: legal and political.

Legal Conditions:

The Voluntary Remediation Program is a product of law. Discussed in this section are the Voluntary Remediation and Development Act of 1996 and the CERCLA of 1980, respectively. Established “in 1996 through the Voluntary Remediation and Redevelopment Act”, the program was created to encourage “voluntary cleanup of abandoned or under-utilized contaminated properties by providing certain environmental liability protections” (W.Va Code 22-22). How does this work in practice? The Voluntary Remediation and Redevelopment Rule describes the administrative process as follows: applications must hire a licensed remediation specialist to perform an environmental site assessment, risk assessment, and implementation of an environmental remedy (W.Va. Legislative Rule 60CSR3). Application must then, over the long-term, conduct oversight as needed.

The second piece of legislation needed for this process – and, in particular, the relationship between the State Department of Environment Protection and the U.S. Environmental Protection Agency, Region III – is the Comprehensive Environmental Response, Compensation, and Liability Act and Federal Facilities, or CERCLA. This law authorizes the U.S. EPA to perform environmental remediation activities, specifically the “cleanup of inactive

hazardous waste sites and the liability for cleanup costs on arrangers and transporters of hazardous substances” (U.S. Environmental Protection Agency, n.d.). In a 2010 memorandum of agreement, the WVDEP and the EPA Region III agreed to “facilitate the cleanup and productive redevelopment and sustainable reuse of brownfields and other contaminated properties in West Virginia”; “meet each agency’s mandate to protect human health and welfare and the environment”; and “recognize the VRP for grant fund eligibility” (West Virginia Department of Environmental Protection, n.d.-d)

Political Conditions:

Figure 1 provides a snapshot of the political constraints placed upon Voluntary Remediation through multiple layers of bureaucracy, state government, and federal agencies and, ultimately, voters. As Figure 1a details, the Governor nominates a secretary to head the West Virginia Department of Environmental Protection. That nomination is then sent to the State Senate which, authorized by the power of section 7-8 of the West Virginia Constitution, appoints that nomination by a simple majority (West Virginia Legislature, n.d.-b). The Secretary then appoints the Deputy Secretary. As figure 1 further illustrates, voters hold authority over the elected officials via elections. Similar to the United States constitutions, both branches of state government are elected on staggered terms.

As evinced by the solid arrows, both the Governor and the State Senate hold authority over the DEP: the Governor through nominations; and the State Senate through oversight and appropriations. Issues of federalism further complicate the picture as the U.S. Environmental Protection Agency – in particular; Region III of the U.S. EPA – has legal authority to facilitate environmental remediation through CERCLA, as well as withhold funding to the VRP.

Finally, the political condition that constrains the WV DEP, and, by extension the VRP, the most is the Governor's flat budget. Table 1 provides an overview of general fund spending from FY2019-FY2023. As table 2 shows, the State of West Virginia has a budget of, on average, \$3.5B. While this number fluctuates, it has only increased .90% from FY2019-FY23. Similarly, Table 2 provides the general budget of the WV DEP. As table 2 shows, the budget has only increased by, on average, 0.66% on a Y-o-Y basis – and in some cases has decreased.

If the state legislature and the Governor are not willing to fund the Department then that, necessarily, is a constraint on the program.

Ecological Conditions

The VPR is, at root, an ecological program. Ecology, science of relations between organisms and their physical surroundings, surely fits the purview of the VRP. Land owners identify potential hazardous issues on their property and apply to the program. Licensed Remediation Specialists use their best judgment and the rigors of science to determine the hazard and potential mitigation practices. All of this is mediated by ecology: what is the nature of hazard? What are the potential solutions: engineering or legal? How best does the landowner ameliorate this issue in order to protect the environment?

The next section breaks out each constituent dimension of organizational structure for the the West Virginia Department of Environmental Protection, generally, and the Voluntary Remediation Program more specifically.

Dimensions of Organizational Structure

Configuration:

Figure 1b provides a truncated hierarchy from the Department of Environmental Protection to the Office of Environmental Remediation. The Voluntary Remediation Program is

administered by the Office of Environmental Remediation. There are 2 levels of hierarchy – the Remediation Programs Manager and the Deputy Director of the Division of Land Restoration – between the OER and the Secretary of the DEP.

Size:

In total, there are “over 800” employees that implement the mission of the Department of Environmental Protection throughout the state (West Virginia Department of Environmental Protection, n.d.-a). However, this is an undercount. According to the official org chart, there are 958 positions listed within the department (West Virginia Department of Environmental Protection, n.d.-e). Further, between the Office of Environmental Remediation to the Executive office, there are 17 employees. And specifically, there are 7 environmental resources analysts and specialists that administer the VPR (West Virginia Department of Environmental Protection, n.d.-e, p. 16).

Budget:

Table 1 provides an overview of the General Revenue Budget for the West Virginia Department of Environment from 2017 through 2023 (West Virginia State Budget Office, 2022). As the table shows, revenue levels have remained very stable over the examined time period. As table 1 shows, the average Y-o-Y % growth for the DEP’s general budget was 0.66%.

Distribution:

Map 1 details the counties that contain the nine DEP offices. Regarding the VPR, only 4 counties – Kanawha, Fayette, Marion, and Hampshire – have environmental remediation programs. Note the clustering of where offices are located; this is due primarily to population size.

Specialization

What is interesting about the West Virginia Department of Environment Protection is the level of specialization and *lack* of interdependence of subsystems. Other than typical administrative functions such as human resources and legal services, the DEP can be delineated into: Division of Land Restoration; Division of Air Quality; Division of Oil & Gas; Division of Mining and Reclamation; Division of Water and Waste Management; and the Environmental Advocate. Each of these divisions have such specific requirements for their respective functional area that expertise is not shared amongst them. The Division of Mining Reclamation has their own engineers; the Division of Air Quality, their own scientists.

Management Opportunity

The preceding sections defined the mission of the department, division, and offices of the West Virginia Department of Environmental Protection; analyzed the legal, political, and ecological conditions that shape and constrain the DEP; and described the governance systems and organizational structure that implement the organizational mission. This section briefly describes the management opportunity.

The Voluntary Remediation Program has successfully administered and certified hundreds of projects and thousands of acres of previously contaminated lands back to productive use. However, upon further review, there are signs of potential issues. In the publicly available data, 62 sites have been withdrawn from the program even after years of OER oversight. Of those sites, the modal contaminant is petroleum. If sites are withdrawn from the program, is there a guarantee that the site is remediated? If not, then years of time, effort, and money has been wasted in oversight.

Petroleum Brownfields

Petroleum brownfields are particularly pernicious because of their ubiquity and probability of hazardous exposure. According to the U.S. EPA, half of the 450,000 brownfields in the United States are petroleum brownfields (Environmental Law Institute, 2013, p.4). As most petroleum brownfields sites are former gas stations, the source of hazard, namely the fuel tanks, are buried underground. This increases costs as well as the probability of exposure to contaminants. Since the introduction of brownfield-related environmental law, this particularity in storage tanks – called underground storage tanks, or UST's – preempted the need for state and federal laws related specifically to UST's.

According to Erin Brittain, the program manager of the VRP, state-level legislation directed at USTs is the primary reason why petroleum brownfield sites leave the VRP program entirely (Brittain, 2024). Specifically, the Uniform Environmental Covenants Act-Leaking Underground Storage Tank (UECA-LUST) program provides a straightforward UST-oriented remediation process for landowners.

This is the crux of the management opportunity: Identify petroleum brownfields before they join the VRP and direct them to the UECA-LUST program. The reason for this recommendation is two-fold:

1. The VRP is 100% voluntary and, thus, there is no recourse if petroleum brownfield owners leave the program. The only true penalty for breaking the Voluntary Remediation Agreement is payment of administrative costs. Converting petroleum brownfields from the VRP to the UECA-LUST program would ensure that those brownfields exist under institutional and environmental controls in perpetuity. Additionally, the Tanks subdivision

of the WVDEP has 20 environmental resource specialists, inspectors, and technicians as compared to the VRP's 7 total employees.

2. The UECA-LUST program has specific, alternative methods of remediation and capacity for USTs as compared to the VRP. Transition to UECA-LUST will reduce the administrative cost associated with petroleum brownfields for the VRP, prevent withdrawal from the program prior to cleanup, and reduce the amount of wasted time and labor provided by the WV DEP.

Conclusion:

The Voluntary Remediation Program within the West Virginia Department of Environmental Protection is a highly successful brownfields remediation program; one that induces land owners to voluntarily submit their properties to government oversight and regulation. Over time, however, petroleum brownfields left the program – sometimes after years of receiving guidance and oversight from the VRP. What's more, is that there is no assurance that petroleum brownfields which left the program have fulfilled their environmental remediation.

Most of these petroleum brownfields sought guidance and oversight from the Universal Environmental Covenants Act-Leaking Underground Storage (UECA-LUST) Program. This program provides more specific guidance towards petroleum brownfields as well as shifts the responsibility from voluntary to required.

The VRP must identify current and future petroleum brownfields sites and direct them towards the UECA-LUST program. This transition would prevent the waste of limited resources within the VRP; increase capacity for a specific type of environmental remediation, that is, underground storage tanks; and assure local communities and the State that petroleum brownfields are remediated in perpetuity.

Appendix:

Table 1*State of West Virginia General Fund Spending, FY2019-FY2023*

FY	General Fund	Y-o-Y % Change
2019	\$3,900,000,000	-%
2020	\$3,700,000,000	-5.13%
2021	\$3,700,000,000	0.00%
2022	\$2,600,000,000	-29.73%
2023	\$3,600,000,000	38.46%
Avg	\$3,500,000,000	0.90%

*Source: Urban Institute: State Fiscal Briefs, West Virginia***Table 2***WVDEP, General Fund Budget, FY2017-FY2023*

FY	General Fund	Y-o-Y % Change
2017	\$6,338,131	-%
2018	\$6,165,385	-2.73%
2019	\$6,307,994	2.31%
2020	\$6,498,479	3.02%
2021	\$6,498,739	0.00%
2022	\$6,401,002	-1.50%
2023	\$6,584,199	2.86%
Avg	\$6,409,300	0.66%

Source: WVDEP Budget Summary Presentation, FY2023

Figure 1a: A snapshot of political constraint and action on the WV DEP

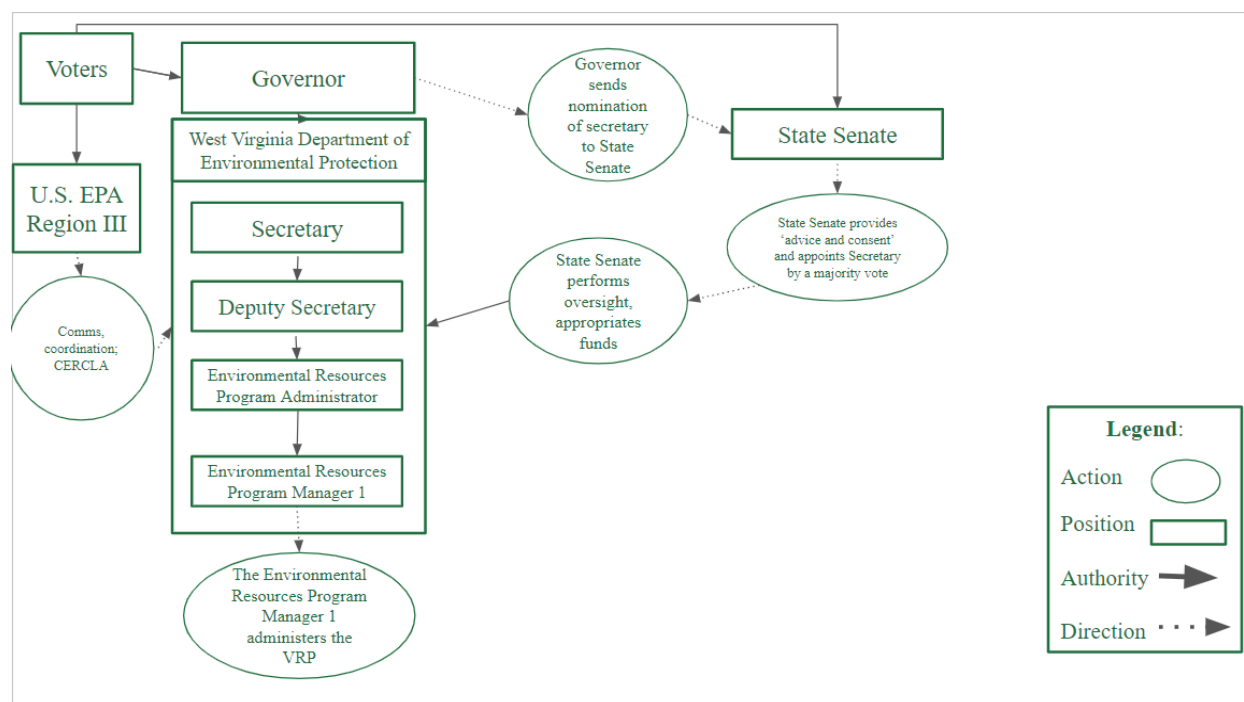
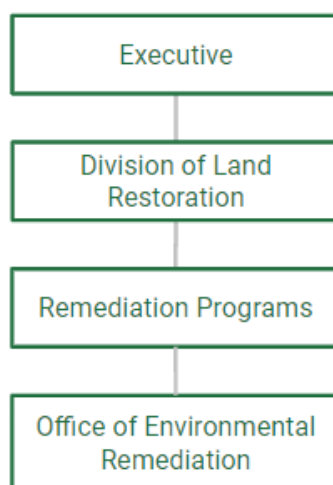
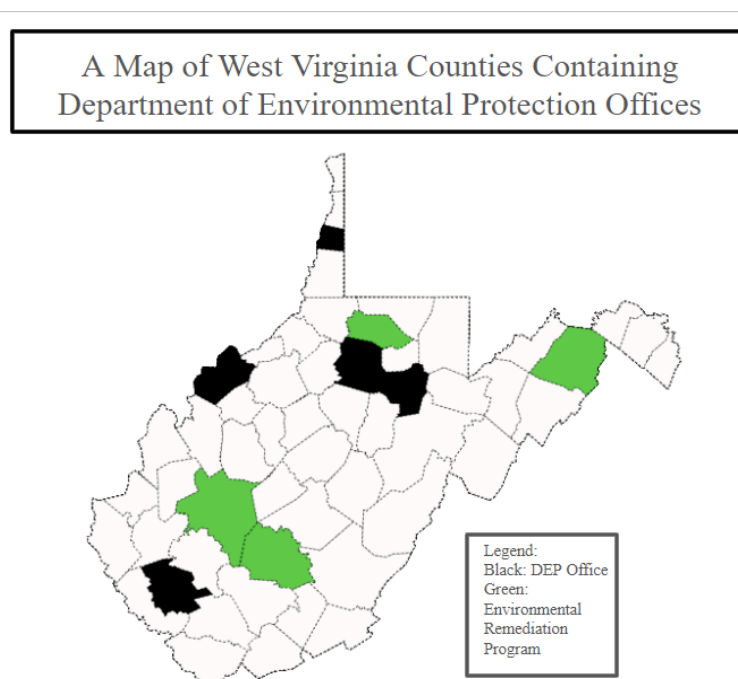


Figure 1b: A drill-down of Figure 1 – Levels Between OER and the Secretary of DEP



Map 1: Counties that have DEP Office locations (black): Ohio, Harrison, Barbour, Wood;
Counties that have Environmental Remediation offices (green): Kanawha, Fayette, Hampshire,
Marion



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