



Streamlining the Environmental Remediation Process

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Introduction

Cleaning contaminated properties—whether it be to satisfy federal and state environmental regulators, insurance settlements, litigation claims or property purchasers—is big business in the US. Industry research organization IBISWorld estimates remediation and environmental cleanup services is a \$17 billion annual market employing nearly 75,000 people.¹

In *Superfund: Transforming Communities — FY 2018 Accomplishments Report*, the US Environmental Protection Agency writes:

In FY 2018, through enforcement instruments, EPA obtained over \$453 million in PRP commitments to clean up Superfund sites and to reimburse the Agency approximately \$80 million for its past costs associated with cleanup work at Superfund sites. Additionally, EPA billed PRPs approximately \$80 million for oversight costs associated with cleanup work performed by PRPs at Superfund sites. Approximately 60 percent of ongoing remedial construction projects are being performed by PRPs.²

In brief, environmental remediation is a costly liability for many companies. In our experience, the costs and the related time spent to get these properties remediated and off the books have the potential to spiral out of control if technical and regulatory issues are not managed properly. Thus, controlling and minimizing the cost and time associated with environmental remediation is of paramount importance. This paper presents an overview of five essential factors that have been shown to help companies avoid technical and regulatory roadblocks that often lead to increased costs of contaminated site remediation projects. These factors focus on expediting the

environmental remediation process, providing valuable cost savings gained through a faster and more streamlined approach.

1. Know your regulations, guidance and policies to avoid the run-around

An environmental consultant's understanding and ability to implement applicable regulations, guidance and policies of the regulating agency is a key factor in avoiding the technical and regulatory issues that increase the costs of contaminated site remediation. Consulting experts who can apply their experience working directly with Superfund, RCRA Corrective Action and state remediation program managers are often able to gain streamlined approvals of regulatory document submittals, avoiding time-consuming rounds of regulatory comments and follow-on regulator negotiations. Correct implementation of regulations, guidance and policies has the added benefit of building the regulator's confidence and trust in the environmental consultant—and his or her client—throughout the environmental remediation process.

We have seen how a consulting expert's in-depth knowledge of EPA and state regulator regulations, guidance and policies helps clients understand and implement new EPA initiatives that are focused on streamlining the remediation process. EPA's RCRA First program ([RCRA First](#)), for example, rewards those who use their knowledge of the remediation process and work collaboratively with EPA during each phase of the remediation process, cutting time—and costs—along the way. Similarly, we have seen clients benefit from initiatives in EPA's Superfund Task Force ([Superfund Task Force](#)), implemented in 2019, including streamlining the Superfund documentation process, reducing EPA oversight of investigation and remediation activities, and adding flexibility to the investigation/remediation process.



2. Data quality matters – a lot

Understanding federal and state agency-specific quality assurance (QA) requirements and implementing those requirements throughout the planning, data collection, analysis and reporting processes is a key to avoiding regulatory and technical roadblocks. EPA and state QA programs have specific technical guidance and data evaluation and reporting requirements that need to be followed. Too often, uninformed and underprepared parties do not understand the technical information needed to satisfy these QA program requirements, resulting in extended timeframes during the planning

stage of the project, and regulator questions regarding the validity and usability of data generated during site investigations after field work is complete.

An approach that utilizes experience working with federal and state regulatory agencies to prepare compliant QA project plans (QAPPs) for environmental sampling and analysis—before field and laboratory data are generated—is critical to success. After



data are collected and analyzed, focusing on detailed data review, verification, and validation as part of the remediation data reporting process is a critical step in all remediation projects. Presenting the results of this data review to the regulator through a data usability assessment, summarizing how the data supports project and data quality objectives, is key to winning the regulator over. This has been especially critical for projects requiring more specialized analytical

methods, such as low-level pesticides, volatile organic compounds in the vapor phase, hexavalent chromium, dioxin/furans, PCB Congeners and per- and polyfluoroalkyl substances (PFAS). We have seen an approach that strictly follows agency-specific QA requirements and documents data usability streamline the remediation process at dozens of sites, including those with specialized analytical methods.

3. Aligning client and regulatory agency goals means a cost-effective remedy

Attaining and implementing a cost-effective remedy that achieves regulatory agency goals, while at the same time addressing a company's plans for short and long-term site use, is a critical function of a consultant. Thus, it is important for the consultant to align these goals when proposing remedial measures.

To foster this process, the first step is to take the time to understand the client's goals for the site and whether or not a long-term commitment—such as an institutional or engineering control (land use control, e.g.)—on the property is consistent with the client's plans. The next step is to combine an analysis of regulatory requirements such as Applicable or Relevant and Appropriate Requirements (ARARs) with human health and ecological risk assessments to develop risk-based site cleanup levels (remediation goals). This is



followed by an evaluation of remedial alternatives that can achieve the remediation goals in cost-effective manner, address the company's plan for site use, and gain approval within the applicable EPA or state jurisdiction..

It is critically important that the consultant use experience gained working with the EPA and/or state regulator, along with knowledge of applicable regulations, guidance and policies, when proposing the cost-effective remedial alternatives. We have been involved in several sites where this approach has streamlined the selection and approval of a cost effective final remedy that addresses our client's goals and all regulatory agency requirements.

4. It's OK to talk to the regulator – really; in fact, it can help

If the goal is to remediate the property and make it a productive part of the owner's portfolio, foot-dragging and opposing the regulator at every turn is not really the best strategy. While some regulator approaches might seem heavy-handed and unreasonable—and we have certainly seen some agencies test those limits—a strategy that emphasizes open communication throughout the investigation and remediation process is often the most successful. Again, this is where the skill and broad experience of a seasoned environmental expert is critical to a remediation project's success.

When interacting with regulators, it is imperative that the expert demonstrates his or her thorough understanding of the applicable regulations, guidance and policies, and to follow up with written plans and reports that document this understanding. Returning to an earlier theme, this builds a level of confidence with the regulator, knowing that the consulting expert is focused on meeting the regulatory agency requirements as well as the goal of protecting human health and the environment. This also allows the consultant to drive time-critical decisions in the remediation process. This communication process is especially important today, as highly experienced regulatory staff members reach retirement age and are replaced with staff members having less experience in the remediation program and less site-specific institutional knowledge—some times less than the experts on the other side of the table.

5. Stakeholders count

Stakeholders associated with environmental remediation sites vary widely depending on the scope of the project, and can consist of community members, municipal representatives, environmental organizations, Indian tribes and other concerned citizens and organizations. While protecting human health and the environment will be critical to these stakeholders, most do not have an in-depth understanding of the regulator's



regulations, guidance and policies and the technical information submitted by companies to satisfy these requirements. In addition, stakeholder concerns are often driven by site- or issue-specific factors such as site reuse/redevelopment, property values, cultural impacts and toxicological issues with chemicals at the site. These stakeholders are often passionate and some may be willing to use the judicial system to

derail or delay site remediation progress. Thus, if stakeholder concerns are not addressed properly, they can lead to delays in remediation schedules and unanticipated costs in resolving issues.

It behooves clients to take an active approach in reaching out, collaborating, and gaining buy-in from stakeholders. This collaborative approach can be enhanced by effectively communicating with stakeholder representatives, understanding and addressing their concerns, while keeping the remediation process moving forward. Also collaborating with the regulatory agency/ies during this process can avoid mixed messages when stakeholder concerns are addressed in community relations documents and public meetings. Over the last 35 years, we have gained valuable experience overseeing the transfer of dozens of remediated properties from government control (such as Department of Defense facilities) to redevelopment authorities and private developers for industrial, commercial and residential use. We have also overseen the transfer of remediated land supporting the establishment of national wildlife refuges and other natural resource areas. In each of these cases, stakeholder collaboration was critical in achieving site redevelopment/reuse through a cost-effective remediation process.

Conclusion: The remediation process *can* run smoothly



As a decades-long participant in the site remediation industry, we have seen far too many site remediation projects get bogged down by regulatory and technical disagreements, resulting in project delays and cost overruns. The five factors discussed above were forged from failures, providing a blueprint for what we know is a successful strategy for companies to avoid costly delays

and save money in the site remediation process. The factors also contribute to the overall goal of regulatory programs: cleaning up contaminated sites to the point where they can be redeveloped or reused in a safe manner.

¹ <https://www.ibisworld.com/united-states/market-research-reports/remediation-environmental-cleanup-services-industry/>

² *Superfund: Transforming Communities — FY 2018 Accomplishments Report*, USEPA



Rob Young is a Professional Geologist (PG) with more than 30 years of environmental and management consulting experience. He is well versed in federal and state regulations, as well as necessary guidance for a number of regulated solid waste and hazardous waste locations throughout the country—from former military bases to federal Superfund sites. He is an expert in groundwater monitoring, particularly as it relates to permitting and site remediation. He is a frequent instructor for federal and state environmental agencies on solid and hazardous waste issues and corrective action and quality assurance techniques, and he has made several public presentations on a variety of environmental topics.

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