

2021 ITRC Final Proposal

Proposed Project Title

ITRC QUEST – Quickening Environmental Solutions and Training

Proposal Contacts

Thomas Wallace, State of Mississippi
Department of Environmental Quality,
601-961-5240, TWallace@mdeq.ms.gov

Harold Templin, State of Indiana Department of
Environmental Management,
317-232-8711, htemplin@idem.in.gov

John McVey, State of South Dakota
Department of Environment & Natural
Resources,
605-773-5488, john.mcvey@state.sd.us

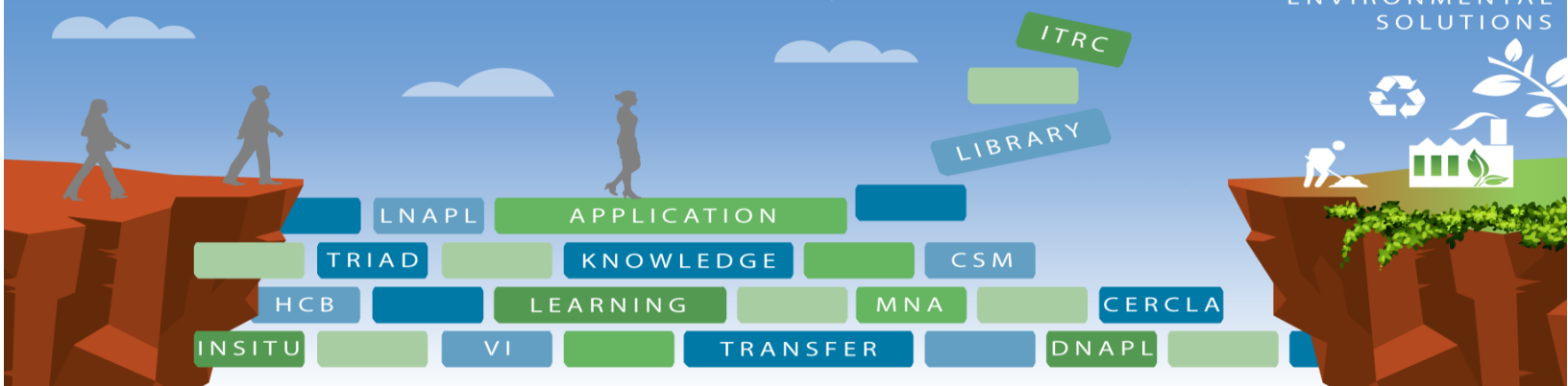
Additional Contacts

Douglas Bacon, State of Utah Department of
Environmental, 801-536-4282,
dbacon@utah.gov

Sara Pearson, State of Michigan Department of
Environment, Great Lakes, and Energy,
517-420-3219, pearsons@michigan.gov

Abstract

Over the years, ITRC products have helped to provide a common understanding and acceptance of environmental challenges and solutions. While sometimes regulatory acceptance finds its way into law or policy, that acceptance can be lost when staff move on. Many beneficial ITRC products go underutilized because newer staff are unaware of their existence. States and the broader environmental community have expressed a need for lesson modules that more quickly prepare new staff for evaluating the advantages and limitations of environmental solutions, for making key decisions, and for managing and optimizing the implementation of these solutions. This proposal seeks to develop lesson modules incorporating existing ITRC products to help new environmental program staff gain rapid exposure to years of lessons learned and proven best practices and help them to better understand the nuances of the environmental profession. Developing lesson modules gives ITRC the opportunity to help new employees supplement and quicken their environmental education and training, while increasing ITRC's audience and membership. Collaboration with the POC network, industry affiliates, federal partners, stakeholders and other partners in developing these modules helps to produce the best products and to benefit the broader environmental community. These new modules will be an excellent outreach tool and provide a foundation for expanding the user base to other agencies in support of ITRC.



Problem Statement and Highlight of the Importance to the States and the Broader Environmental Community

As the environmental profession has progressed over the last decade it has lost both technical expertise and project management efficiency. We have seen a considerable loss of knowledge and experience from employees retiring as well as from economic reductions leading to the loss of experienced staff. At the same time, the profession has endeavored to stay abreast of newer remediation technologies and products to more effectively and efficiently address environmental impacts across multiple media. Meanwhile, an influx of new employees and inexperienced staff has created a significant demand for training and educational products to quicken their competencies as technical project managers and environmental professionals. ITRC has produced an abundance of technical resources throughout its history, but it is often difficult for new staff to identify pertinent resources. For example, the ITRC Remedial Process Optimization – Exit Strategy document was successfully used to support the US Air Force RIP 2012 initiative, and was incorporated into both Naval Facilities Engineering Command guidance and EPA RCRA Corrective Action Training. Despite that, a new employee would be hard pressed to even stumble upon the ITRC Exit Strategy document without some sort of guidance.

An example of the significant impacts of loss of knowledge can be found at the Mississippi Department of Environmental Quality, which has 68 people eligible for retirement, representing 17.5% of its workforce and over 1,700 years of environmental experience. Most states do not have in-house training (2018 People, Products, and Process Survey) and often struggle due to budget and salary constraints to train, maintain, or hire experienced professionals to replace those who exit. States have acknowledged this concern in the 2020 State Survey, indicating their desire for ITRC to address knowledge transfer and bridge the chasm. States are not alone; our federal and private partners have also expressed that the loss of institutional knowledge is a big concern and oftentimes training budgets don't match training requirements for new personnel. Meanwhile, private industry has been hit by economic downturns throughout the last 15 years, causing layoffs of experienced personnel and limitations on hiring practices. Although hiring freezes are lifted as the economy swings up, private industry still experiences cycles of knowledge gaps, and similar demands for training and experienced professionals. In the past, despite limited training and travel budgets, in-house mentoring of new staff was always an option, but the impact of the COVID-19 virus and subsequent 'stay-at-home' policies are forcing many professionals to work remotely. The loss of face time with employees plays a significant impact on their rate of professional growth. Consequently, working remotely has created a new demand across the professional landscape as agencies and industry look to meet the needs of their staff and utilize remote applications.

The environmental community as a whole needs a resource by which their newer staff may be provided with the initial concepts of their profession not often taught in schools (or in their educational or prior professional background) and can be remotely and easily accessed as needed. These resources need to be available on platforms that fit the educational style of the next generation of professionals. Large, hundred-page guidance documents are a great resource for experienced staff but are not as easily used to pull out initial and critical concepts that newer personnel need for decision making.

To help eliminate the gap and quicken knowledge transfer, this proposal seeks to highlight accepted best practices and create a bridge by extracting core concepts from the wealth of ITRC published products into an accessible format. Conceptually, consider a five-minute video on chlorinated solvent degradation and the associated chemistry, assessment, and remediation core concepts (used by several ITRC guidance documents). Easily searchable, this product can help bridge the knowledge gap by explaining core concepts while providing “where-to-go-next” references for in-depth documents such as ITRC’s “Advanced In-Situ Treatment”. From these products, ITRC will be able to expand its outreach within the broader environmental community by providing relevant, accessible educational resources for its next generation of professionals.

Project Deliverables

Within 24 months of selection, the team proposes to provide online training in the form of video products and additional web tools. The primary deliverables for this team will be a high quality, short form video series, a potential podcast, and/or other training platforms for environmental remediation concepts. The team will begin by developing an initial series of education topics based upon existing ITRC guidance documents, as well as team and stakeholder input. These topics will cater to the inexperienced environmental professional and broader environmental community, while connecting them to the in-depth technical guidance that ITRC traditionally provides. This framework has already been established by teams such as Stormwater, PFAS, and Advanced Site Characterization, which have produced short form videos to help educate on their respective topics. As ITRC has experience with short form video production by both its teams and independent contractors, this approach can be easily transitioned to meet the needs of this proposal.

By way of example, an initial offering may be a short form video series drawing relevant topics from Triad, Risk Assessment, Conceptual Site Modeling, Exit Strategy planning, and LNAPL. This format will provide education on widely used concepts that are consistently included in ITRC guidance documents, but not often used outside of the remedial environmental profession and unlikely to be covered in a traditional curriculum. These videos will provide links and references on where to find the in-depth, advanced guidance resources at ITRC. For the training topics and delivery media, the team would solicit input from the POC network, IAP, stakeholders and federal partners.

To evaluate the quality and impact of the initial deliverables, the team will solicit review and direct feedback via surveys from new staff across the broader environmental community and the states. This should allow for modification and refinement of the products within the 24-month period. As these educational topics would benefit from visual, animated, or enhanced graphical presentation for explanation on some concepts, the team will need to reach out to partners (or contractors) with the skill set and experience to ensure a high-quality product.

Where less visual representation is necessary, products like a podcast will be considered. Topical series on success stories, complex sites, current developments, emerging concerns, and their relationships to ITRC could be some of the podcast series that would be beneficial to states and the broader environmental community. Bringing in experienced professionals (with a technical and public education background) from across the partnered landscape of ITRC to share and discuss their expertise would be an excellent resource and contribution. Producing relevant, environmental community based deliverables, with real-time product review, in widely distributable media formats can help close the knowledge gap.

Additional Information

Great outreach opportunities are provided by this project's deliverables. A high-quality product that introduces relevant, widely accepted environmental information catapults ITRC into a top content provider spot with exponential growth in the awareness and usability of its resources throughout the environmental community. In addition, as ITRC seeks to expand its deliverables into Remediation Plus subjects, the awareness of ITRC outside of traditional Remediation applications is far lower. By building from the short form video and podcast framework on Remediation topics, ITRC can develop topical Remediation Plus content that can be used by anyone for outreach in addition to education. An example could be a short form video on how groundwater plumes can contribute to cyanobacteria blooms. A video like this provides not just education, but an exposure pathway for a remedial project manager to share with biological or field service staff by which they'll become familiar with ITRC. By further refining ITRC's short form video framework, teams can continue to provide relevant content that can help environmental professionals keep pace with emerging concerns and developing technologies.

This proposal does not seek to replace other training options that are available (e.g., in-class training), but seeks to supplement those options by providing another set of tools by which ITRC may reach other parties across the environmental profession; nor does the proposal seek to replace the baseline academic training one gets from standardized course work directed towards the typical science degrees. Rather, it seeks to take that new professional and quickly broaden their environmental knowledge using available ITRC information to understand how best to tackle the complex, commingled and interconnected environmental challenges our programs address.

With this proposal, ITRC not only provides a bridge to the excellent in-depth technical guidance and training for which it is acknowledged, but becomes synonymous with environmental guidance and training for the next generation of professionals.