Incorporating Resilience and Adaptation into the SuRF-UK Sustainable Remediation Framework

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Background/Objectives. Climate change is one of or the biggest challenge facing society. It is driving changes to the climate system such as disturbance in the hydrological cycle, rising sea levels and more frequent extreme weather events. In the contaminated land sector, projects need to be able to adapt to the new and changing environment in a way that moderates the harm and exploits any benefits; but also be resilient with the capability to anticipate, prepare and respond to the multi-hazard threats presented by climate change and minimize the damage to social, environmental, and economic well-being.

Approach/Activities. Governments, regulators and practitioners have begun to consider the impact of climate change and subsequent risk management implications on both the fate and transport of contaminants and the influence of impacts on different remediation technologies. Aligned with these developments SuRF-UK has developed outline guidance about the current provision for incorporating climate change and broader considerations of resiliency in the context of the SuRF-UK Framework. There are several segments of SuRF-UK guidance that address resilience:

1. When carrying out sustainability assessment within a project lifecycle, consider the headline indicator category, “Project Lifespan and Flexibility” which includes four sub-indicators that directly address issues of resiliency to climate change, financial or societal impacts
2. When setting remediation specifications, consider Part A of the SuRF-UK Framework,– the extent to which resilience needs to be incorporated should be clearer at this part of the project; there are several UK-specific resources that could be used to inform a climate change vulnerability assessment to help define potential future risks
3. When selecting remediation options, consider Part B of the SuRF-UK Framework, – here it is possible to consider the vulnerabilities of the different selected technologies to impacts of climate change
4. Across all phases of project from investigation onwards, consider Sustainable Management Practices (SMPs) – these relatively simple, common-sense actions that can be implemented at any stage of a contaminated land project or portfolio of works; SMPs that enhance the resiliency of a project could include incorporating natural attenuation into the project strategy, this would ensure that the fate and transport of contaminants were considered in the event the primary risk management mechanism failed.

Results/Lessons Learned. Ultimately, climate change and financial and institutional changes can introduce risks to projects and thereby undermine the effectiveness of certain risk management options. This presentation will describe how the SuRF-UK Framework allows evaluation of resilience to be built into projects through incorporation of indicators at an early stage of the project and at the point of remedial option selection. Furthermore, the framework allows for the adoption of SMPs that can be implemented throughout the project lifecycle to maintain durable and effective risk management in a dynamic environmental, economic and social context.