Incentives for the Application of Inherent Safety for Chemical Security

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ABSTRACT
The momentum for inherent safety continues as a strategy for chemical security. H.R. 2868 was the latest of a string of bills introduced in the U. S. Congress to regulate inherently safer technology (IST) for purposes of reducing potential security risks. This is highly controversial given the potential for IST regulations to be overreaching and to have some unintended consequences and severe operating constraints on and costs affecting the chemical industry. Also, since 1996, several jurisdictions have mandated consideration of inherently safer design for certain facilities, and such requirements have been proposed at the Federal level in the United States but have yet to be accepted. Scaling up from Contra Costa County or the limited number of facilities in the State of New Jersey to a national requirement will be historic.

Arguably the current CFATS regulation promotes inherent safety, but these strategies are not required to be considered, documented, or implemented. One reason that IST is often misunderstood and underutilized is the lack of knowledge of how to apply it in this context, how to judge its effectiveness, and how to consider it in a holistic manner. In particular, there is a need for more guidance, especially in practical, step-wise approaches to conduct inherently safer studies. This paper explains the concept and application of IST in a security context, and gives examples on how it can be used for addressing some issues introduced by CFATS. The paper will show how these decisions must be made carefully given the cascading effects possible throughout the value chain of the chemical sector. The current CFATS regulation lacks incentives for industry to use IST thus creating the demand for a specific regulation that demands that IST be done. The paper will explain the current dilemma of CFATS- that given the lack of specific feedback from DHS on the benefits and impacts of intended changes, and the lack of specific guidance on how regulatory burdens may be reduced and security improved, industry is uncertain on how the value of IST investments. An improved set of guidance for DHS to give to industry is recommended.