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Confronting Complexity with Regulatory Excellence:
Recommendations in the Wake of the Philadelphia Refinery Explosion*

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Co-chairs Abernathy and Thiel, as well as other members of the Refinery Advisory Group and other City officials present here this evening, I appreciate the opportunity to appear before you to speak briefly about principles of regulatory excellence and their implications for public officials contemplating the future of the Philadelphia Energy Solutions (PES) refinery site and the thousands of jobs that have been connected with it.

By way of background, I am currently the Edward B. Shils Professor of Law and the Director of the Penn Program on Regulation at the University of Pennsylvania.¹ The focus of my research and teaching for the last quarter century has been on government regulation, with a particular substantive emphasis on environmental and health and safety regulation. Recently I served on the National Academy of Sciences committee that released the report *Designing Safety Regulations for High-Hazard Industries*,² which I then subsequently briefed by invitation to members of the U.S. Chemical Safety and Hazard Investigation Board. I currently chair the Rulemaking Committee of the Administrative Conference of the United States, a federal agency that develops recommendations for improving the work of administrative agencies. I am also the chair of the Regulatory Policy Committee of the American Bar Association's Section of Administrative Law and Regulatory Policy. My most recent books include *Regulatory Breakdown: The Crisis of Confidence in U.S. Regulation* and *Achieving Regulatory Excellence*.³

At the outset, I also wish to express my deep personal gratitude for the diligent and brave workers at the PES facility, as well as all of the City's many heroic first responders, who worked on the scene to contain the refinery fire and explosion and prevent the loss of life. All of us who live or work in the City are extremely fortunate for their tireless efforts, often made at risk to themselves, and for those of all the workers and officials who have subsequently been taking steps to neutralize, monitor, and clean-up conditions in order to protect health and safety.

* This testimony was prepared for presentation before the City of Philadelphia Refinery Advisory Group's Environment Committee, delivered August 27, 2019. Copyright © 2019 Cary Coglianese. All rights reserved.

¹ I provide my current academic appointments and other affiliations in this testimony merely for the purpose of identification. I am testifying here only in my individual capacity and not on behalf of the University of Pennsylvania or any other organization with which I am affiliated.

² NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE, *DESIGNING SAFETY REGULATIONS FOR HIGH-HAZARD INDUSTRIES* (2018), <https://www.nap.edu/catalog/24907/designing-safety-regulations-for-high-hazard-industries>. For a brief summary of this report, see Cary Coglianese & Thomas R. Menzies, *Designing Safety Regulations for High-Hazard Industries*, *THE REGULATORY REVIEW* (Oct. 4, 2017), <https://www.theregreview.org/2017/10/04/coglianese-menzies-safety-regulations-hazard-industries/>.

³ A complete list of my publications can be found in my vita, available at www.law.upenn.edu/coglianese.

* * *

The Advisory Group, as with all of us in the public, understandably seeks to anticipate what the future of the PES refinery will look like after the incident of June 21, 2019. Although the exact future of the facility is impossible for me or anyone else to forecast at this time, it is possible to describe with great confidence the general features that will be associated with that future: *complexity*, *uncertainty*, *dynamism*, *tradeoffs*, and *value choices*.

Whatever the precise path ahead looks like, it will be populated with *complexities* and *uncertainties*. If the refinery is reopened or repurposed for another chemical-processing operation, it will continue to bring with it a low tolerance for the kind of catastrophic error that characterizes any high-hazard industry, especially one located so proximate to a densely populated city. If the site is redeveloped for other uses, the hazardous chemicals that remain in the soil and groundwater will likely pose their own economic and environmental complexities as the corrective action clean-up process continues. With any path forward, some of the probabilities of the hazards will be capable of estimation, but others will not be—and even the existence of some other hazards may be uncertain.

The world will not sit still while all of the complexities and uncertainties surrounding the site can be resolved. *Dynamism* in market conditions over the last decade already have created financial challenges besetting the privately owned and operated refinery.⁴ With further shifts in the nation's energy mix looming in the years to come, it might well be unrealistic to expect that market conditions for any already struggling refinery operation will improve dramatically. Furthermore, other changes in society and the economy will surely emerge—from new technologies to new economic development patterns within Philadelphia—and these changes will likely shape the path forward.

In the face of complexities, uncertainties, and changing conditions, one thing will be certain: Decision-makers in both the private and public sectors will face inevitable *tradeoffs* and the need to make *value choices*. How many people must lose their jobs to protect the interests of shareholders and creditors? How much safety is enough safety for workers and community members to demand? How clean is clean? These and other decisions will require making choices implicating values such as efficiency, equity, and justice.

In this respect, as challenging and unclear as the future for the PES site may be, it will not be entirely different from other challenges that government officials confront on a regular basis. These features of *complexity*, *uncertainty*, *dynamism*, *tradeoffs*, and *value choices* pervade many of the most significant policy issues in society—especially those surrounding government regulation. Regulatory challenges arise because society enjoys benefits from many different industrial activities—including refining—but also because society demands that such activities be conducted in a manner that responsibly manages the adverse risks imposed on workers and the broader community. Regulating well requires balancing competing needs and interests in the overarching service of public value.

⁴ See, e.g., Christina Simeone, *Part 1: Philadelphia Energy Solutions Bankruptcy Basics*, Kleinman Center for Energy Policy (Feb. 2, 2018), <https://kleinmanenergy.upenn.edu/paper/beyond-bankruptcy>.

At the Penn Program on Regulation, my colleagues and I study regulation across a range of policy fields and across different parts of the world. About five years ago, I launched a major research initiative focused on identifying the attributes of excellent regulation and developing a framework for improving the quality of regulation. The initiative has involved dozens of researchers from around the world as well as extensive engagement with regulators, regulated entities, and those affected by regulation. Although the research initially began with a particular focus on improving the quality of energy and environmental regulation, the framework that emerged from this initiative offers guidance for the pursuit of regulatory excellence in any setting and policy field.⁵

I mention this project because the nature of the challenge confronting regulators in many domains mirrors in important respects the features of the challenge now confronting the City of Philadelphia. As I wrote a couple of years ago in the first book to emerge from our Program's regulatory excellence initiative:

Regulators tend to face some of the most difficult challenges in society—ones that often present value tradeoffs. These problems frequently involve complex technological operations, social interactions, and new technologies—the very sorts of problems about which there exists a great deal of uncertainty. Accident avoidance, for example, is a common regulatory objective, but the sources of accidents can be both legion and interactive, making it difficult to foresee every pathway that might lead to accidents in systems with highly complex interactions of many moving parts. Regulatory problems are almost by definition problems that markets cannot solve. Furthermore, regulators must often operate under changing conditions.⁶

In addition to the complex nature of the problems they confront, regulators operate in an environment in which their success depends on the actions of others—if no one else, then the private firms they regulate, but usually many others as well. As I have further written:

To an extent greater than most other professions or endeavors, a regulator's performance is ultimately affected by those who reside outside the regulatory institution itself. It is dependent on a diverse and dynamic collection of other individuals and entities: not just regulated entities, but also legislatures and elected officials, regulatory beneficiaries and their representatives, advocacy groups, and other interested segments of the public.⁷

These multiple actors, and their frequently competing values and interests, add to the decision-making and operational challenges confronting regulators and other public officials.

⁵ Several dozen papers and reports from this project can be found online at: <https://www.law.upenn.edu/institutes/ppr/bestclassregulator/>.

⁶ Cary Coglianese, *The Challenge of Regulatory Excellence*, in *ACHIEVING REGULATORY EXCELLENCE* 6-8 (Cary Coglianese, ed., 2017).

⁷ *Id.* at 7.

Although the public official’s challenges may be daunting in these circumstances, with a considerable risk of conflict, disappointment, or failure, it is possible to identify best practices and the contours of success. In the final report for the first phase our regulatory excellence project, I identify the major tenets of regulatory excellence and offer checklists to consult in seeking to advance the following three core aspirational principles of regulatory excellence:⁸

- “An excellent regulator consistently holds itself to the highest standards of integrity.”
- “An excellent regulatory engages empathically with all facets of society when making decisions and exercising authority.”
- “An excellent regulator demonstrates consistently stellar competence by using its available resources to maximize public value.”

These core principles of integrity, engagement, and competence provide a basis for the development of metrics to guide the management of any regulatory or public policy problem. They can serve as overall guideposts to the City of Philadelphia as it works with others on the future of the PES refinery site.

Perhaps most relevant to the work of the Refinery Advisory Group, our initiative on regulatory excellence offered evidence-based guidance for regulators seeking to improve their regulatory performance. Emerging from the project were several comprehensive research papers on issues such as risk analysis, regulatory instrument design, transparency, and public participation—each informing a set of recommendations on how regulators ought to approach priority-setting, problem-solving, external engagement, and performance evaluation. Drawing on this research, I would like to offer key lessons in three main areas—coordination, communication, and compassion—that the City may find helpful going forward.

Coordination. As the Advisory Group is aware, the City of Philadelphia is just one of many organizations and entities that are studying the PES refinery site and whose work will affect its future. First and foremost among these entities are those from the private sector. As neither PES nor the refinery is owned by the City, the site’s future will depend on what plans private banks, investors, and companies seek to pursue at the facility—whether rebuilding and restarting the damaged facility, or pursuing other commercial or other uses of the land. Of course, depending on what steps private sector firms wish to take, their ability to do so will be influenced in various ways by the work of federal and state agencies that are investigating or have regulatory authority over the site and its operation.

The City of Philadelphia does not control the work of these other entities or actors—but it should try to coordinate with them. That coordination will take time and ongoing effort—extending well beyond the limited timeframe of any temporary task force or advisory group—because these various actors have their own internal processes and timetables for their work. For example, the Chemical Safety Board (CSB) is currently investigating the root causes of the June incident. It might well be thought prudent by some to know more about those causes before making determinative operational or regulatory decisions for the future. The interim head of the CSB has reportedly indicated that a preliminary report on the incident could be issued in six to

⁸ Cary Coglianese, *Listening, Learning, and Leading: A Framework for Regulatory Excellence* (2015), <https://www.law.upenn.edu/live/files/4946-pprfinalconvenersreportpdf>.

nine months.⁹ But a final CSB report is another story altogether. A review of all of CSB's investigations over the last ten years indicates that it takes the Board an average of 2.5 years after an incident to issue a final report.¹⁰

Similarly, another process is currently underway in bankruptcy court. The last time PES declared bankruptcy, in 2018, it took only about eight months for the firm to clear through the Chapter 11 process. That was shorter than the average of about 1.2 years that it takes companies to go through the bankruptcy process.¹¹ But it might not be surprising if PES's current bankruptcy proceeding extends beyond even this average duration for most firms. Unlike in the typical Chapter 11 bankruptcy, where a lot of planning occurs before a company files for bankruptcy, PES obviously had no opportunity to anticipate the explosion and could not engage in such planning in advance of its most recent filing.

If PES or its investors should decide to sell the site and a buyer come along who wishes the site to be redeveloped and used for other purposes, the current hazardous waste corrective action work at the site, overseen by the U.S. Environmental Protection Agency with assistance from the Pennsylvania Department of Environmental Protection, will hold its own implications and need for coordination.¹² Although remediation at the site has already been ongoing for years, it could take still additional years before the site meets even its current cleanup target for industrial use—and this will likely take longer still if the site is to be cleaned up to meet other uses. By frame of reference, hazardous waste cleanups at other major industrial sites has not infrequently taken decades to complete.¹³

In short, the timeframes of these other, related processes will affect the pace of future use or development of the PES site. Future use or development of the site will involve multiple actors at a pace that will be out of the City's ultimate control. Coordination will be crucial among the various federal, state, and local authorities involved, as well as current or future private firms or developers interested in the site. At the end of the day, the value that the public receives in the future from the PES site and its use will depend not on the decisions made by any single organization, but through the joint efforts of many public and private organizations. The City could play a valuable role in helping to support and coordinate these various efforts to ensure that they move forward in as sound and efficient a manner as feasible.

Communication. Coordination between the various private and public sector entities involved with the future of the site will obviously depend on effective communication taking

⁹ Andrew Maykuth and Frank Kummer, *Chief Investigator of the Philly Refinery Explosion Describes a Landscape of Twisted Steel*, PHILADELPHIA INQUIRER (June 27, 2019), <https://www.inquirer.com/business/philadelphia-refinery-fire-chemical-safety-board-csb-investigation-20190627.html>.

¹⁰ I am grateful to my outstanding research assistant, Mary Ann McNulty, for compiling and analyzing this data for me.

¹¹ Foteini Teloni, *Chapter 11 Duration, Preplanned Cases and Refiling Rates: An Empirical Analysis in the Post-BAPCPA Era*, 23 AMERICAN BANKRUPTCY INSTITUTE LAW REVIEW 571, 573, 582-83 (2015).

¹² EPA, Hazardous Waste Cleanup: Philadelphia Energy Solutions Refining and Marketing LLC, <https://www.epa.gov/hwcorrectiveactionsites/hazardous-waste-cleanup-philadelphia-energy-solutions-refining-and-marketing>.

¹³ Martha L. Judy & Katherine N. Probst, *Superfund at 30*, 11 VERMONT JOURNAL OF ENVIRONMENTAL LAW 191, 242 (2009).

place between them. But just as vital will be continued communication with members of the public who are affected by the incident and interested in the future of the PES site, including labor groups, neighbors, civic associations, local businesses, and educational and nonprofit institutions. In this regard, the City has an important responsibility not only to keep the public informed of relevant plans or developments, but to involve the public actively to the greatest extent feasible in the planning and development process. The establishment of this Refinery Advisory Group, and the convening of public hearings such as this one, are excellent first steps. As I have written elsewhere, “[a]ll things being equal, a greater number of opportunities for engagement will be better than fewer opportunities, and earlier opportunities will be better than later ones.”¹⁴

To be effective, communication with the public needs to be multifaceted and interactive. Important communication will certainly take place by information being disseminated out to the public from government and private sector firms. Transparency is critical. But communication also needs to flow in the reverse direction as well—as it is in this and the other hearings the Advisory Group is convening. Some of the lessons from our research on regulatory excellence apply to effective communicative interactions in the context of the City’s future involvement with the PES site:¹⁵

- “As with personal relationships, listening is essential. Listening, of course, is not the same as agreeing. The regulator needs to deliver public value, which means that it will at times (perhaps even often) make decisions that are respectfully in tension with some interests in society.”
- “[R]egulators have available to them a variety of different tools for soliciting public input: public notices, comment periods, public hearings, informal meetings and phone conversations, advisory committees, workshops, adjudicatory proceedings, negotiations, and the Internet and social media. As with regulatory instruments, the excellent regulator uses a variety of methods, adapting them to the purposes and circumstances at hand (including the capacities and needs of interested or affected individuals and groups).”
- “For the public to be able to contribute meaningfully and intelligently during comment periods, regulators should, whenever feasible, disclose a full, detailed draft of their proposed actions. If time does not permit a regulator to allow for public comment on the full draft, comments should be accepted after the action is taken so that any appropriate amendments could be made or reasons could be given as to why changes are not made.”
- “Excellent regulators communicate clearly with the public about expectations. When regulators undertake collaborative forms of engagement, they should be especially clear about the goal of the engagement as well as what will happen if agreement cannot be reached.”
- “Public engagement is not something that just takes place in formal hearings or via comment periods. It occurs in every individual interaction between a regulatory employee and someone outside the regulatory organization, whether on the telephone, in a meeting, or in an inspection encounter.”

¹⁴ Coglianese, *supra* note 8, at 49.

¹⁵ The following passages are from Coglianese, *supra* note 8, at 49-51.

Perhaps the most important takeaway for the City would be to think about communication as conversational—as involving an ongoing, back-and-forth dialogue with all interested and affected segments of the public.

An important feature of this conversational process, one which unfortunately too many regulators and other public officials overlook, is to demonstrate to members of the public that they have been heard. Their voices do matter, as they provide valuable information and guidance on value choices that inevitably must be made. As a result, in addition to convening hearings and taking input, this Advisory Group and City officials would follow best practices by reporting back to the public on what they heard at these hearings and any other public engagement sessions. This is an ongoing responsibility, especially given the likelihood of a prolonged process ahead for the PES site. City officials will do well by their constituents to explain, whenever relevant proposals or plans are developed or decisions are made, how what they have heard may have (or may have not) affected choices that have been made. The public deserves to know that their concerns have been heard and to be provided with reasons for key decisions that affect them.

Compassion. Lastly, it will always be vital to remember how much is at stake for those who live and work in Philadelphia. The establishment of this Advisory Group already demonstrates that City officials appreciate how much this site matters. In such an understandably significant, and stressful, circumstance, public officials at all levels of government will need to respond with respect and compassion for those whose lives will be directly affected by the future of the refinery site. Some of these impacts have already been felt. They have been felt most recently by all of the PES employees who are now out of work, and by their families. So too have these impacts been felt by those who have been exposed to pollution in the past from the site, or who live with the risks of other future catastrophic incidents like the one that occurred in June. The risks, benefits, harms, and opportunities that will come in the future from the PES site will clearly depend on what use is made of it—but unquestionably those in Philadelphia will be affected for decades to come.

* * *

In closing, let me applaud the work that the Refinery Advisory Group is undertaking on behalf of all Philadelphians. You are performing an important role in helping with the coordination, communication, and compassion that will be so vital to deliver public value through excellence in regulation and public service. Your role and responsibility in this respect is one that obviously will need to be shared by all City officials, as well as their counterparts working at the levels of federal and state government. Ultimately, the road ahead is not an easy one. But by government officials seeking excellence in the service of the public, Philadelphia can best hope to unlock the fullest potential that the PES site holds for the future.