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► A cautionary note on expediting regulatory approvals of industrial projects

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In these days of growing emphasis in both Canada and the United States on reducing regulatory timelines to spur development of major projects, a bit of reflection helps put the issue into context. Understanding where we are requires looking back on our history that brought us to today.

There are good reasons why industrial projects require legal permissions from government authorities before their initiation, construction, and operation. Such regulatory approvals and permits typically involve submission of technical documents, environmental reports, and safety plans. Public consultation is required for projects that have significant environmental or social impacts. This may involve several agencies at municipal, provincial/territorial or federal levels, and may be followed by audits and inspections to ensure compliance with laws, codes, and standards. The process can be time-consuming, costly, restrictive, complex, and risky. It is seen by some as government overreach and as a hindrance to innovation.

In Canada, Bill C-5, the "One Canadian Economy Act", aims to "[accelerate] the regulatory process for infrastructure projects which are designated as being in the national interest", while "enhance[ing] regulatory certainty and investor confidence". In the US, the focus is on environmental regulations, by streamlining procedures, reducing litigation risks, centralizing permitting systems, and by introducing legislative reforms to reduce delays and improve coordination among regulating agencies^{6,7}.

These efforts are viewed by many as positive steps to deal with what is seen as overregulation. But the question is will such policies come at the expense of reducing safety and reliability and hindering efforts to minimize the environmental impact of large projects for which regulations were devised to prevent? A history lesson reminding us of why we are where we are might be in order. It is worth looking back and examining why regulations, along with codes and standards, were developed in the first place.

Introduced in the early days of the industrial revolution, government regulations were mostly to guard workers' health and welfare⁸. However, regulations were also instituted to control emissions to protect the public and the environment. For example, in 1863, the Alkali Act⁹ was introduced in the United Kingdom to limit hydrogen chloride emissions¹⁰. In the 1880s, some American cities passed ordinances to limit smoke emissions¹¹. Later, regulations were introduced to curb monopolistic practices and encourage competition¹².

Along with government regulations, learned societies were formed to formalize engineering practices via codes and standards. The American Society of Mechanical Engineers (ASME) "was founded in 1880 to provide a setting for engineers to discuss the concerns brought by the rise of industrialization and mechanization"¹³. In 1884, ASME established the Boiler Testing Code, and in 1911 it introduced the Boiler & Pressure Vessel Code in response to several boiler explosions; the latter code was then incorporated into law in the USA and Canada¹². In 1898, the American Society for Testing Materials was set up to address frequent railroad tracks failures by implementing standardized material testing methods¹⁴.

The American Institute of Electrical Engineers (AIEE) was formed in 1884¹⁵, while the Institute of Radio Engineers (IRE) was founded in 1912 to develop standards for radio and electronics technologies¹⁶. These two institutes were merged in 1963 to form the Institute of Electrical and Electronics Engineers (IEEE)¹⁵. National organizations later emerged to develop consensus-based standards, such as the American National Standards Institute (ANSI)¹⁷ in 1918 and the Canadian General Standards Board (CGSB) in 1934¹⁸. Unified global standards were also developed by the International Electrotechnical Commission (IEC), formed in 1906¹⁹, and the International Organization for Standardization (ISO), established in 1947²⁰.

The long history of regulation, codes, and standards, going back to the building Code of Hammurabi (circa 1754 BCE)²¹, is indicative of their importance. They emerged to ensure safety of workers and the public, protect the environment, and guarantee a minimum level of quality and reliability. In effect they provide a form of insurance to businesses and sustain them by minimizing work interruptions and rejection of faulty products, while enhancing public trust and confidence. While regulations, codes and standards are regularly revised to incorporate best practices, operational experience, and new technologies, they also run the risk of being cumulative and burdensome. Some say that regulators know how to add but not subtract. Economists and economic thinkers had resisted government regulations, as far back as 1949 when Ludwig von Mises saw government regulations as stifling of creativity and entrepreneurship and tended to lag behind technological and economic progress²². A quote attributed to the 1976 Nobel Laureate Milton Friedman is "Corruption is government intrusion into market efficiencies in the form of regulations"²³, which is inline with his criticism of

government intervention that in his view leads to inefficiency²⁴. Dee Hock, businessman and author, is quoted saying, "*Heaven is purpose, principle, and people. Purgatory is paper and procedure. Hell is rules and regulations*"²⁵. Hock advocated for chaordic systems, a blend of chaos and order, which emphasizes flexibility over bureaucracy. Gary Hamel believed that "the best economic system... minimizes the regulatory burden on business"²⁶.

While economists saw the downsides of regulations, lax regulations have social, legal, environmental, and technical consequences. Streamlined processes may hinder public consultation, resulting in a decrease in transparency and communal trust. It can lead to regulatory capture with regulators becoming dominated or unduly influenced by the industry they regulate.

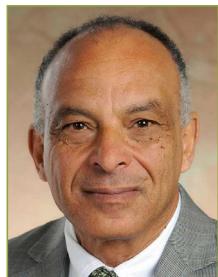
Streamlining may create legal vulnerability if it bypasses or undermines established legal requirements, including duty to consult with Indigenous communities and other stakeholders, causing project delays instead of expediting them. Reduced or shortened review processes may lead to inadequate environmental assessments, with consequences that may be difficult and costly to remedy in the future. In the rush to approve projects, there is a risk of lowering technical or safety standards, compromising quality and reliability, which may lead in the long-term to expensive repairs and retrofits. Short-term savings from faster regulator approvals may come at the expense of higher long-term costs.

These same undesirable effects can result if regulations are weak or lacking, as was the case in the 2023 implosion of the TITAN submersible that resulted in the death of five people as part of an effort to reach the sunken hulk of the Titanic. The investigation report of that event²⁷ concluded that "both domestic and international regulatory frameworks for submersible operations were insufficient to address the complexities of modern submersible technologies and practices when the TITAN tragedy occurred" and recommended stricter regulations and enhanced oversight. This enforces the need to for regulations to evolve to meet the demands of new and emerging technologies. It can be argued that the guidelines provided by regulations and standards provide a framework in which engineers and designers can innovate, while maintaining safety and reliability and gaining public trust.

The highest level of regulation is found in the aerospace and nuclear power industries due to the potential for catastrophic failure. A recent example of tragic aircraft accidents caused by violations of regulations is the Boeing 737 MAX crashes of Lion Air Flight 610 in October 2018 and Ethiopian Airlines Flight 302 in March 2019, which caused the deaths of 346 people and led to the grounding of the 737 MAX fleet worldwide. These crashes were caused in part by insufficient scrutiny by the U.S. Federal Aviation Administration, the regulator, as it delegated part of the aircraft's certification process to Boeing. This led to weak oversight, shortcuts in design and inadequate pilot training and operational performance²⁸.

The most recent major nuclear power industry accident, Fukushima Daiichi (Japan, 2011), was also caused by regulator failure. As the Fukushima Nuclear Accident Independent Investigation Commission stated "at the time the Great East Japan Earthquake occurred [March 11, 2011, magnitude 9.0, off the northeastern coast of Japan], the structure of the Fukushima Daiichi Nuclear Power Plant was not capable of withstanding the effects of the earthquake or the tsunami. Nor was the nuclear power plant prepared to respond to a severe accident. In spite of the fact that Tokyo Electric Power Company (TEPCO) and the regulators were aware of the risk from such natural disasters, neither had taken steps to put preventive measures in place"²⁹. The Commission attributed this to regulatory capture, "in which regulatory authorities become the "captives" of nuclear operators and devoted to maximizing the interest of the nuclear operators that are supposedly placed under them", as elaborated on further by Kurokawa and Ninomiya³⁰. It is hoped that lessons learned from the Fukushima Daiichi disaster be kept in mind as the U.S. Nuclear Regulatory Commission undergoes major reforms to accelerate nuclear energy deployment and streamline licensing³¹.

Decrease in regulations provides a small economic benefit, as McLaughlin and Wong's analysis showed: "a 10 percent increase in state-level regulatory restrictions will reduce real GDP by 0.37 percentage point"³². This is about one-seventh an annual GDP growth rate of 2.6%. One can deduce that the opposite is true, that is a 10% decrease in regulations would increase the GDP by 0.37%. The increase may be even less than that because relaxing regulations removes some of the safety and economic protection and enhanced quality and reliability provided by regulations, while increasing the long-term costs associated with faulty products, failures, and accidents. Weakening and relaxing regulations may help secure legal permits but can lead to the loss of the social license gained by community trust and public acceptability. One failure can overshadow many prior positive achievements. Let us not rush to easing regulations for the sake of expediency.



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▶ References

- 1 Standards are technical specifications developed by professional or industrial organizations or industry to ensure safety, quality, and consistency. They are voluntary, unless adopted into a government regulation or code.
- 2 C-5 – An Act to enact the Free Trade and Labour Mobility in Canada Act and the Building Canada Act, June 2025, [C-5 \(45-1\) - LEGISinfo - Parliament of Canada](#).
- 3 CEQ Releases Guidance to Streamline NEPA Reviews, September 2025, [CEQ Releases Guidance to Streamline NEPA Reviews – The White House](#).
- 4 Zachary Liscow, Reforming Permitting to Build Infrastructure, The American Enterprise Institute, September 2025, [Reforming Permitting to Build Infrastructure | American Enterprise Institute - AEI](#).
- 5 Christian Roberts and Suzie Heap, Permitting: Streamlining delivery of today's infrastructure opportunity, 3 KPMG LLP, March 2023, [Permitting: Streamlining delivery of today's infrastructure opportunity](#).
- 6 John Drake, The Road Ahead: What Congress Must Prioritize in Next Infrastructure Bill, U.S. Chamber of Commerce, May 2025, [What Congress Must Prioritize in Next Infrastructure Bill | U.S. Chamber of Commerce](#).
- 7 Tom Millar and Joe Vercher, Reforming the Nuclear Regulatory Commission: An Overview of President Trump's May 23 Executive Order, Winston & Strawn LLP, June 2025, [Reforming the Nuclear Regulatory Commission: An Overview of President Trump's May 23 Executive Order | Winston & Strawn](#).
- 8 Judson MacLaury, Government Regulation of Workers' Safety and Health, 1877-1917, U.S. Department of Labor, October 2025, [Government Regulation of Workers' Safety and Health, 1877-1917 | U.S. Department of Labor](#).
- 9 An Act for the more effectual condensation of Muriatic Acid Gas in Alkali Works, 26 & 27 Vict. c. 124, Parliament of the United Kingdom, July 1863.

10 Hydrogen chloride was a by-product of the production of salt cake (sodium sulfate) by the reaction of sodium chloride (table salt) with sulfuric acid. Salt cake is employed in the of making wood pulp for the manufacture of kraft paper and was used in old baking recipes.

11 World History II: From 1400 (OpenStax), [10.6: Regulation, Reform, and Revolutionary Ideologies - Humanities LibreTexts](#), last accessed October 3, 2025.

12 For example, the Sherman Antitrust Act (1890) and the Clayton Act (1914), mentioned in "The Antitrust Laws", Federal Trade Commission, [The Antitrust Laws | Federal Trade Commission](#), last accessed October 3, 2025.

13 140 Years and Counting, Engineering History, ASME, [Engineering History - ASME](#), last accessed October 4, 2025.

14 ASTM International, History, [History | ASTM](#), last accessed October 4, 2025.

15 IEEE History, [IEEE History | IEEE](#), last accessed October 4, 2025.

16 Robert W. Lucky, 100 Years of the Institute of Radio Engineers, April 2012, [100 Years of the Institute of Radio Engineers - IEEE Spectrum](#).

17 ANSI History, [Walk the timeline of ANSI's 100 year history](#), last accessed October 4, 2025.

18 Norman Hillmer, Canadian General Standards Board, The Canadian Encyclopedia. December 2013, <https://www.thecanadianencyclopedia.ca/en/article/canadian-general-standards>.

19 History, [History](#), International Electrotechnical Commission, last accessed October 4, 2025.

20 The ISO story, [ISO - About ISO](#), last accessed October 4, 2025.

21 Fritz Gunther, "The Timeless Importance of Building Codes: Lessons from Hammurabi's Code", New York Electrical Inspection Agency, May 2025, [The Timeless Importance of Building Codes: Lessons from Hammurabi's Code - New York Electrical Inspection Agency](#).

22 Ludwig von Mises, Human Action, Ludwig von Mises Institute, 1949.

23 Regulation Quotes, [TOP 25 REGULATION QUOTES \(of 698\) | A-Z Quotes](#), last accessed October 5, 2025.

24 Milton Friedman, Capitalism and freedom. The University of Chicago Press, 1962.

25 Dee Hock, One from Many: VISA and the Rise of Chaordic Organization. Berrett-Koehler Publishers, 2005, p. 162.

26 Hamel, Gary. "Capitalism Is Dead. Long Live Capitalism." Opensource.com, 29 Apr. 2011, <https://opensource.com/business/11/2/capitalism-dead-long-live-capitalism>, last accessed 6 Oct. 2025.

27 Report of the Marine Board of Investigation Into the Implosion of the Submersible TITAN (CG1788361) in the North Atlantic Ocean Near the Wreck Site of the RMS TITANIC Resulting in the Loss of Five Lives on June 18, 2023, United States Coast Guard, MISLE Activity Number: 7724663, August 2025.

28 Summary of the FAA's Review of the Boeing 737 MAX, Federal Aviation Administration, November 18, 2020, [737 RTS Summary.pdf](#).

29 Kiyoshi Kurokawa, et al. "The National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission." 2012, <https://perma.cc/NE3G-TCHZ>.

30 Kurokawa Kiyoshi, and Andrea Ryoko Ninomiya, "Examining Regulatory Capture: Looking Back at the Fukushima Nuclear Power Plant Disaster, Seven Years Later." U. Pa. Asian L. Rev. 13 (2018): 47, <https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1034&context=alr>.

31 Ordering the Reform Of The Nuclear Regulatory Commission, Presidential Action, The White House, Executive Orders, May 23, 2025, [Ordering the Reform of the Nuclear Regulatory Commission – The White House](#).

32 Patrick A. McLaughlin and John T.H. Wong. "The Causal Effect of Regulations on Economic Growth: Evidence from the US States", Mercatus Center at George Mason University, December 2024, [The Causal Effect of Regulations on Economic Growth: Evidence from the US States | Mercatus Center](#).

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