



Federal Energy Regulatory Commission



# U.S. Electric Markets

**A Brief History, A Little Bit of Law,  
and An Overview of Surveillance**

June 23, 2021

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Federal Energy Regulatory Commission  
Office of Enforcement





# Disclaimer

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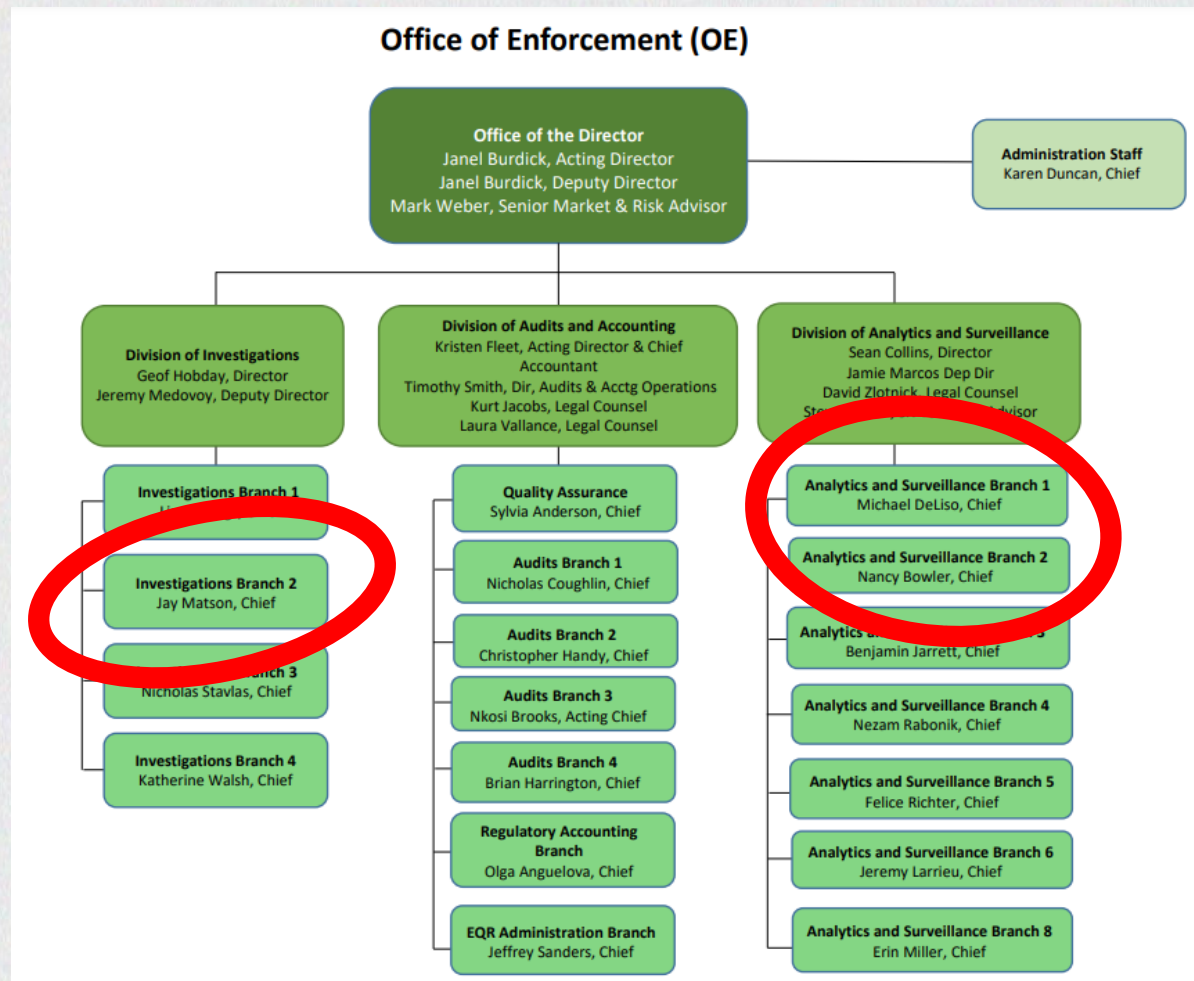
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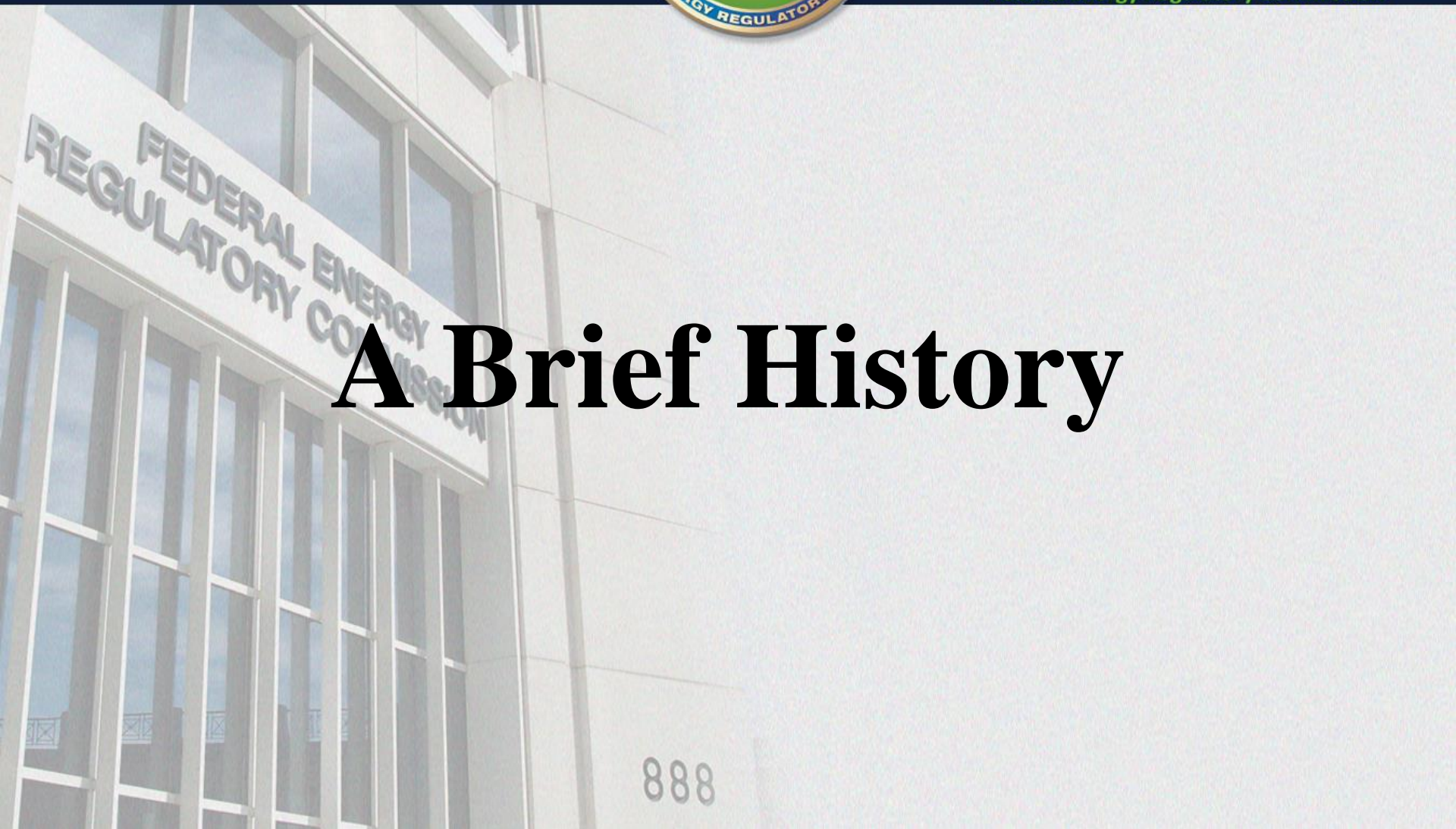
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# A Brief History





# Centralized Generating

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## California Electric Light Co.

- San Francisco area
- First use of central generator to serve customers

## Pearl Street Station

- New York City
- direct current generator
- By 1884 . . .
  - 508 customers
  - 10,164 lamps





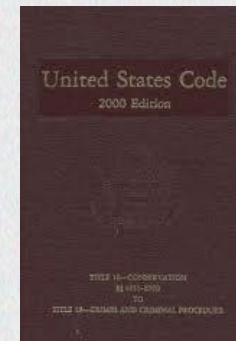


# Federal Laws Adopted

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1935 – Congress passes legislation that implements significant regulatory oversight of the industry at the federal level.

- Public Utility Holding Company Act (PUCHA)
- Federal Power Act (FPA)







# The 1970s/1980s . . . Comprehensive Deregulation

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# The Foundation of Electric Competition

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- 1996: Order Nos. 888 & 889
  - Functional Unbundling
  - Uniform terms of service for all transmission customers, including the transmission provider
  - Open Access Transmission Tariff (OATT)
  - Encourages development of Independent System Operators (ISOs)
  - Standards of Conduct
- Late 1999: Order 2000
  - Introduced RTOs

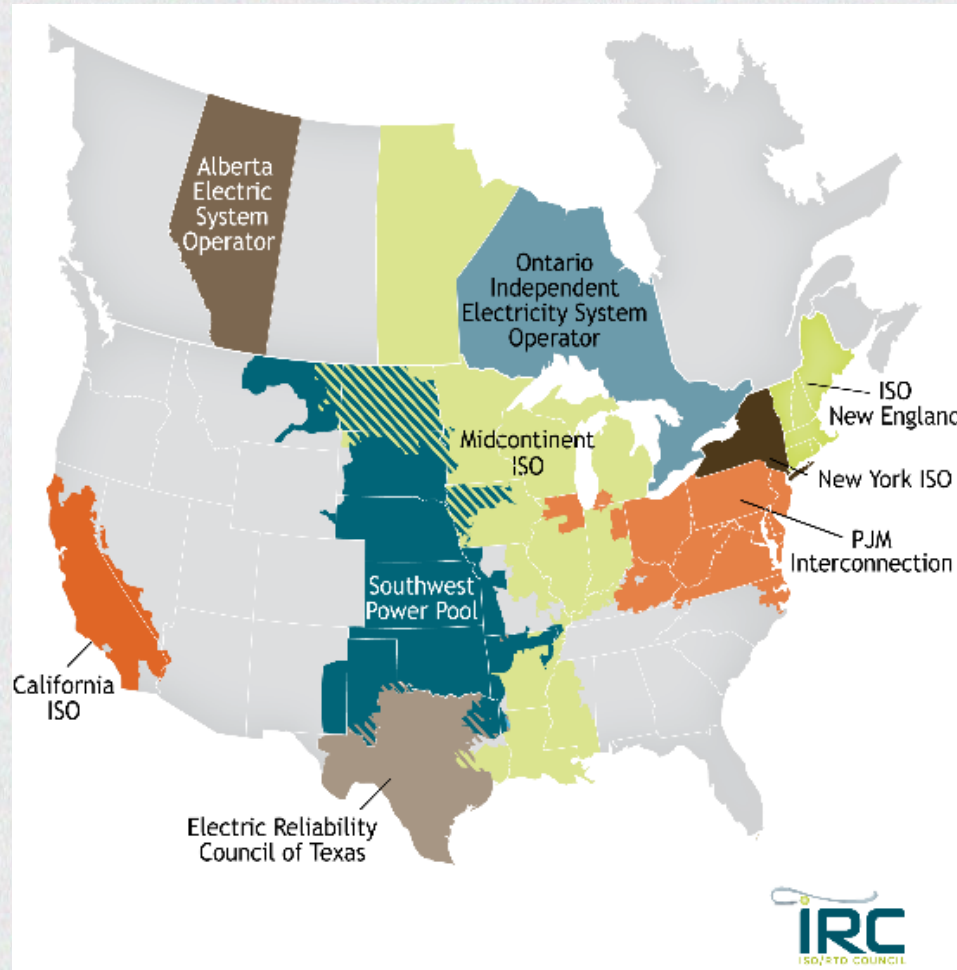






# Organized Markets

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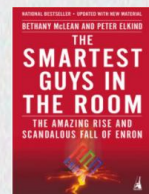
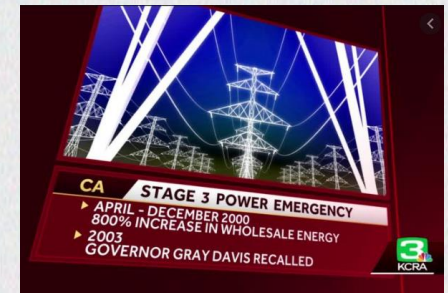




# Bumps Along The Road

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- California Markets “Melt Down”
  - Prices spike
  - Black Outs occur
  - PG&E files for bankruptcy
  - Brings deregulation movement to a halt
- Enron Fails
  - Had been one of the “loudest” proponents of competition
  - Gamed the system (which contributed to California’s problems)
- Interconnection Requests Spike
  - Many more than had been anticipated
  - Often a slow, contentious process







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# A Little Bit of Law







# The Energy Policy Act of 2005

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- Comprehensive in scope
  - Promoted alternative energy sources, biofuel, clean coal, innovative technologies, demand response and energy conservation
  - Among other things:
    - PUHCA “repeal”
    - PURPA reform
    - “Backstop transmission siting authority”
    - Established framework for reliability standards
    - Increased FERC’s ability to penalize







# Market Manipulation

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- **Statutory Provisions**

Federal Power Act, Section 222

16 U.S.C. § 824v

Natural Gas Act, Section 4A

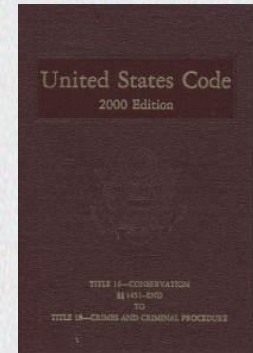
15 U.S.C. § 717c

- **FERC Rule**

*Prohibition of Energy Market Manipulation,*  
Order No. 670, FERC Stats. & Regs. ¶ 31,202,  
*order on reh'g*, 114 FERC ¶ 61,300 (2006).

- **FERC Regulation**

18 C.F.R. Part 1c







# Statutory Language

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It shall be unlawful for **any entity** (including an entity described in section 201(f)), directly or indirectly, to use or employ, **in connection with** the purchase or sale of electric energy or the purchase or sale of transmission services subject to the jurisdiction of the Commission, **any manipulative or deceptive device or contrivance** (as those terms are used in section 10(b) of the Securities and Exchange Act of 1935 (15 U.S.C. 78j(b))), in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of electric ratepayers.

Federal Power Act, Section 222, 16 U.S.C. § 824v;  
*see also* Natural Gas Act, Section 4A, 15 U.S.C. § 717c-1





# Market Manipulation

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## 18 C.F.R. Part 1c.2

It shall be unlawful for **ANY ENTITY**, directly or indirectly, **IN CONNECTION WITH** the purchase or sale of electric energy or the purchase or sale of transmission services **SUBJECT TO THE JURISDICTION OF THE COMMISSION**,

- (1) to use or employ any device, scheme, or artifice to defraud,
- (2) to make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
- (3) to engage in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity.





# Scope of Manipulation Authority

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We do not intend to construe the Final Rule so broadly as to convert every common-law fraud that happens to touch a jurisdictional transaction into a violation of the Final Rule. Rather, in committing fraud, the entity must have intended to affect, or have acted recklessly to affect, a jurisdictional transaction.

Order No. 670 at P 22.





# SEC Precedent

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We intend to adapt analogous securities precedents as appropriate to specific facts, circumstances, and situations that arise in the energy industry.

Order No 670 at P 30.

Therefore, the Commission intends to recognize, on a case-by-case basis, that the roles of the Commission and the SEC are not identical in determining whether it is appropriate to adopt securities precedents to specific energy industry facts, circumstances, or situations.

Order No 670 at P 31.





# Scienter

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## Intent - or - Recklessness

Order No 670 at PP 52-53.





# Can I have a list please?

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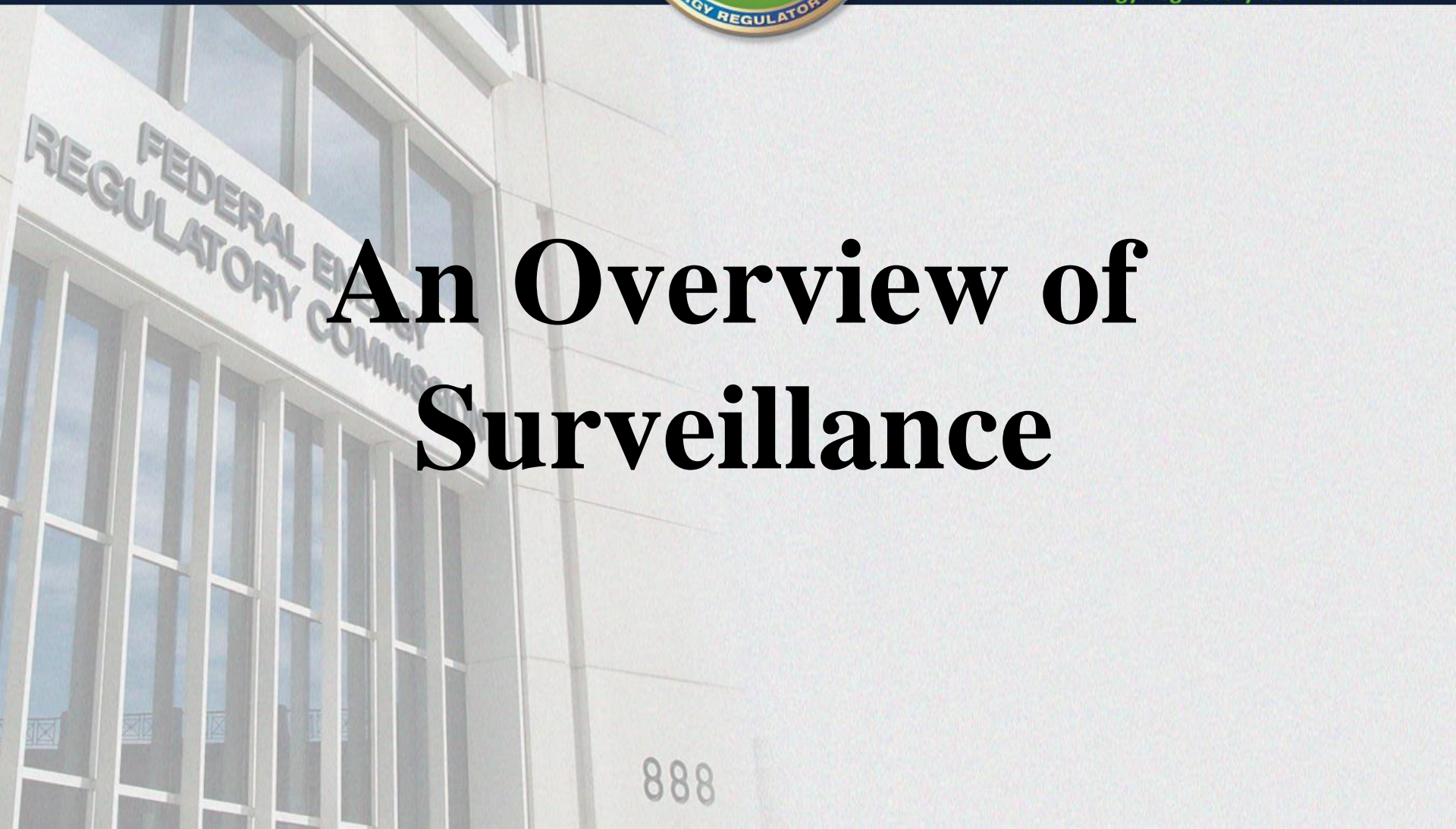
It is not possible to provide an exhaustive list of all types of manipulation because determining whether certain conduct constitutes manipulation is a fact-specific inquiry. Moreover, market participants are increasingly sophisticated, and “[t]he methods and techniques of manipulation are limited only by the ingenuity of man.” Manipulative schemes are ever-changing and, as a result, the Commission cannot detect all forms of manipulation in advance.

Staff White Paper on Anti-Market Manipulation Enforcement Efforts Ten Years After EPO Act of 2005 (November 2016) at 16 (citing *Cargill v. Hardin*, JP Morgan, Chen).





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# An Overview of Surveillance





# Surveillance Overview

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- The US wholesale power markets and selected natural gas hubs
- The surveillance challenge
- Tool, Target, Benefiting Position paradigm
- Data overview
- Broader surveillance process

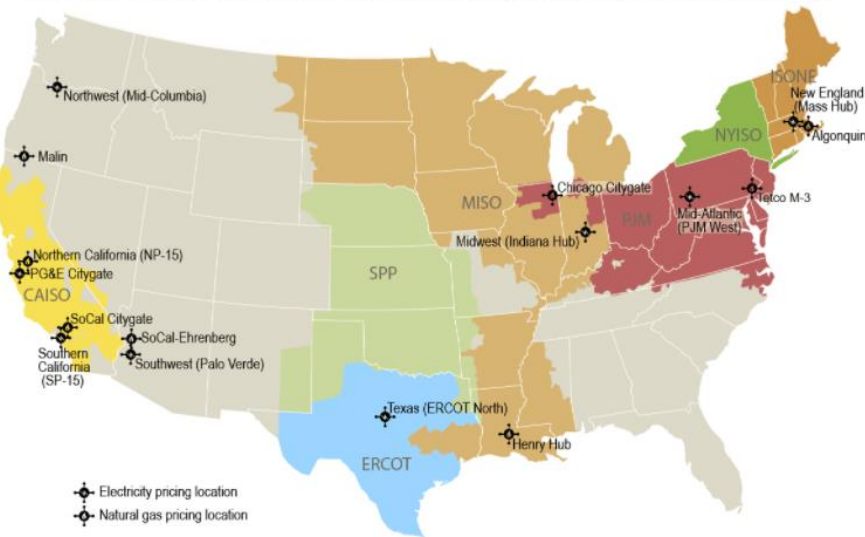




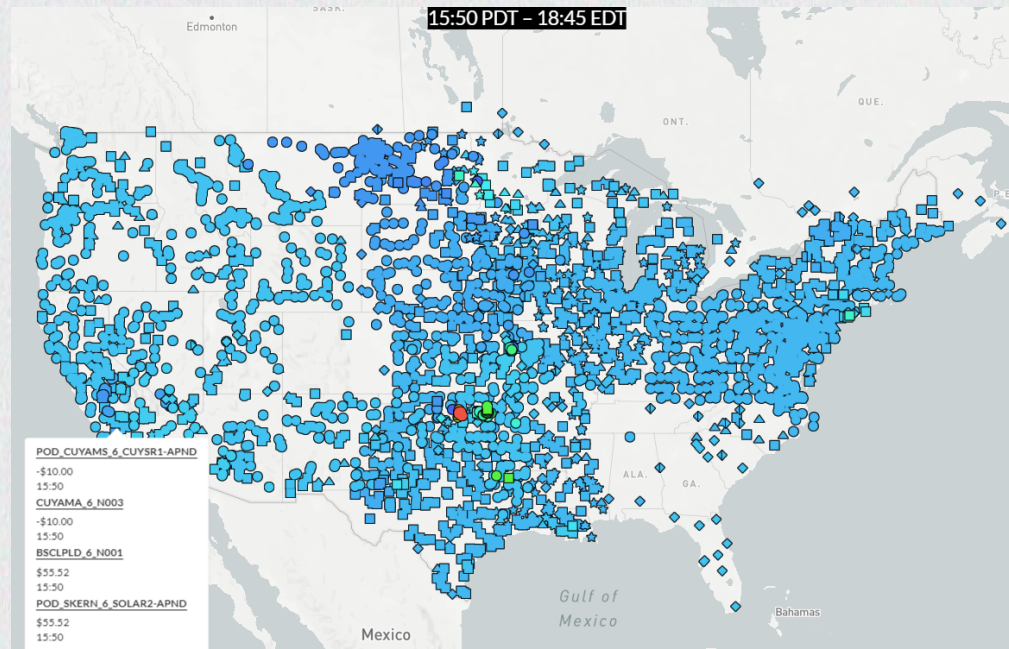
# US Electric and Gas Markets

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Selected price hub locations for wholesale electricity and natural gas reported by Intercontinental Exchange



Note: Colored areas denote Regional Transmission Organizations (RTO)/Independent System Operators (ISO)  
 Source: U.S. Energy Information Administration based on Ventyx Energy Velocity Suite







# Surveillance Challenge

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- Complex and evolving
- An exhaustive classification of manipulation schemes is impossible
- Two broadly applicable categories:
  - Cross-Market Manipulation
  - Gaming of Market Rules





# Tool, Target, Benefiting Position Paradigm

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- Tool
  - A tradeable instrument (usually physical) *or* a physical asset used by a potential manipulator
  - Characterized by uneconomic or sub-optimal trading
  - Potential manipulator’s use of the “tool” may have the goal of
    - Affecting an index price
    - Sending a false signal to the market or to market software
    - Targeting an out-of-market payment outside its intended purpose





# Tool, Target, Benefiting Position Paradigm

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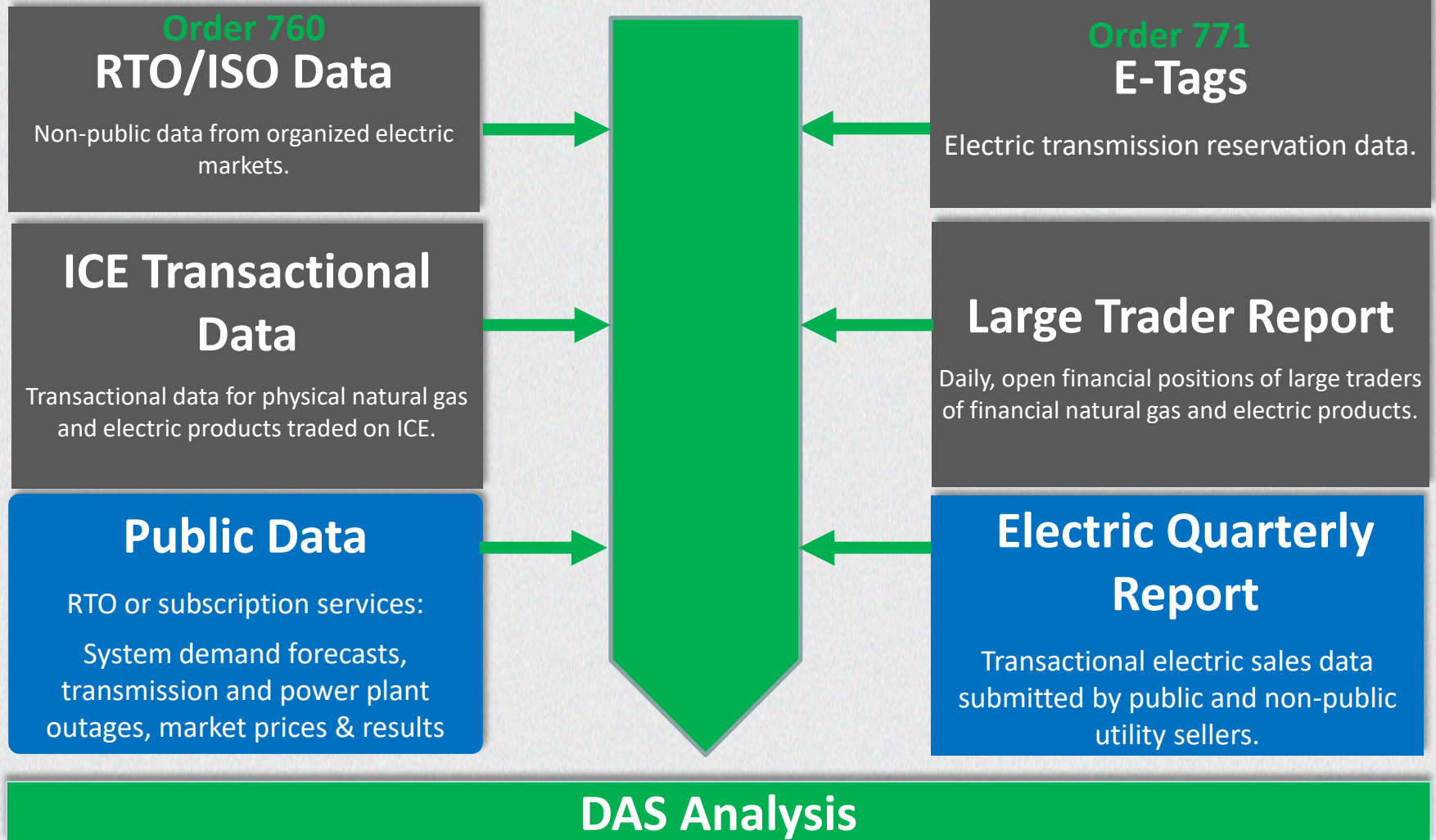
- Target
  - Indexes
  - Market software
  
- Benefiting Positions
  - Swaps, futures, options
  - Regional Transmission Organization products
    - Financial Transmission Rights (FTRs)
  - Generation Portfolios
  - Out-of-Market “Make-Whole” Payments





# Data Overview

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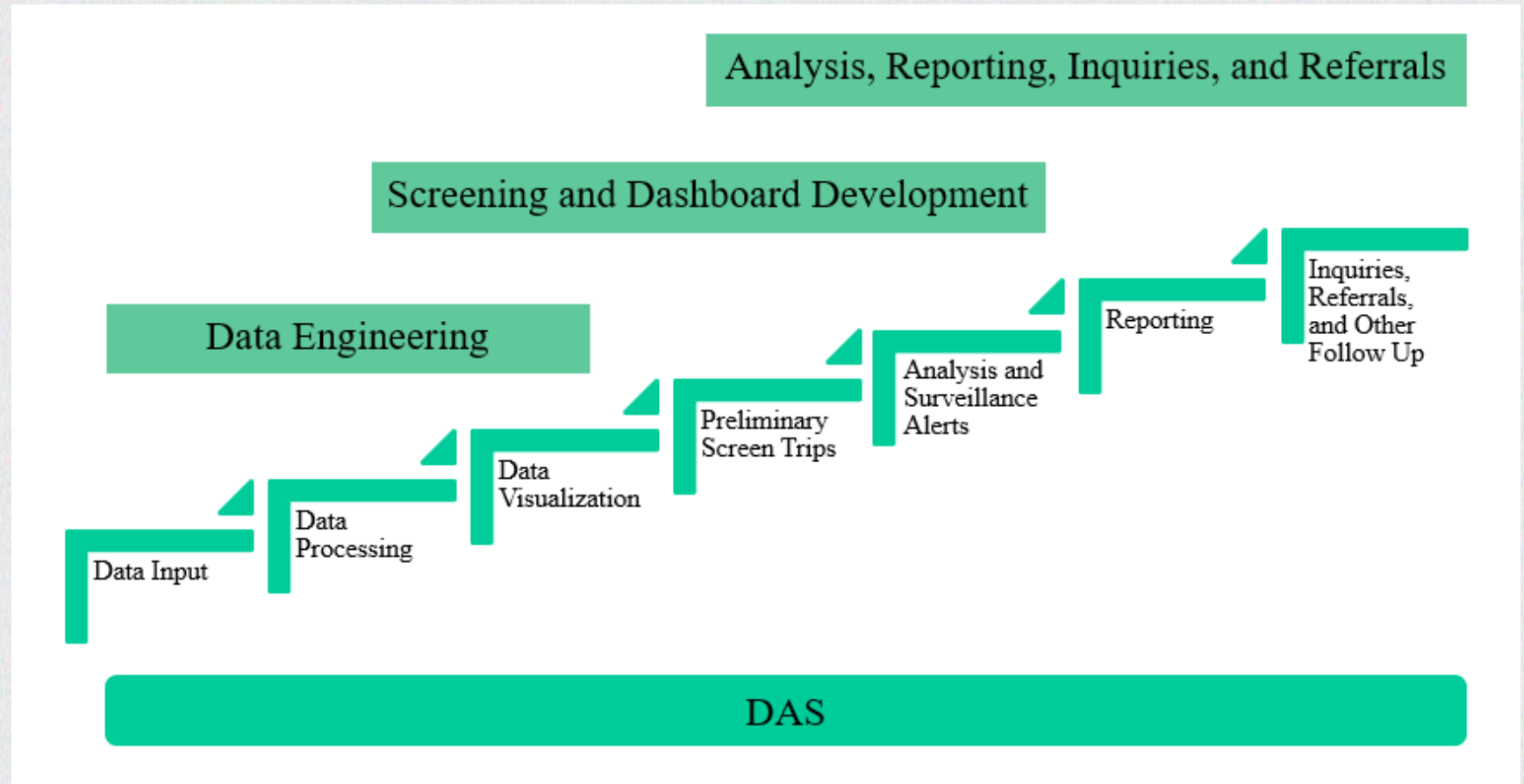






# Surveillance Process

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# Surveillance Process Data Engineering

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- Data Branch and IT
  - provide environment, manage incoming data and commercial products
- Surveillance
  - develops metadata, data models, and creates views and data marts
  - creates and maintains reports and interactive dashboards enabling continuous surveillance





# Surveillance Process Screening & Dashboard Development

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- Common Screening Criteria
  - Leverage
    - Large financial/index exposure compared to physical activity
  - Ability to influence the price
    - Market share
    - Framing
    - Marking the Close
  - Behavior
    - Indifference to losses
    - Evidence of aggressive trading





# Surveillance Process Analysis, Reporting, Inquiry

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- Analysis
  - Screen Review and Follow-Up
- Reporting
  - Weekly Reporting on a Monthly Cycle
  - Tracking process in dashboards
  - Monthly and Annual Reporting
- Inquiry Process