

Crude Oil in Newburgh

Virtual Pipeline. Real Risks.



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Presentation Outline

- 1. A Crude Background**
- 2. The Virtual Crude Oil Pipeline –
What are the risks**
- 3. What's at risk in the Hudson Valley**
- 4. Pending Oil Terminal Plans...**
- 5. Action Items & Next Steps**

Crude Oil = Unrefined Petroleum

Before 2012, little or no crude oil was sent through the Hudson Valley



Photo: Ben Garvin

Bakken Crude

- ✓ **Light**
- ✓ **Highly Explosive**
- ✓ **Low Flashpoint**
- ✓ **Majority of current crude shipments in NYS**
- ✓ **Output is increasing**

Oil companies are shipping billions of gallons of Bakken crude through the Hudson Valley, even after a series of accidents, derailments, and explosions throughout North America.

Crude Oil = Unrefined Petroleum

Before 2012, little or no crude oil was sent through the Hudson Valley



Photo: DOI

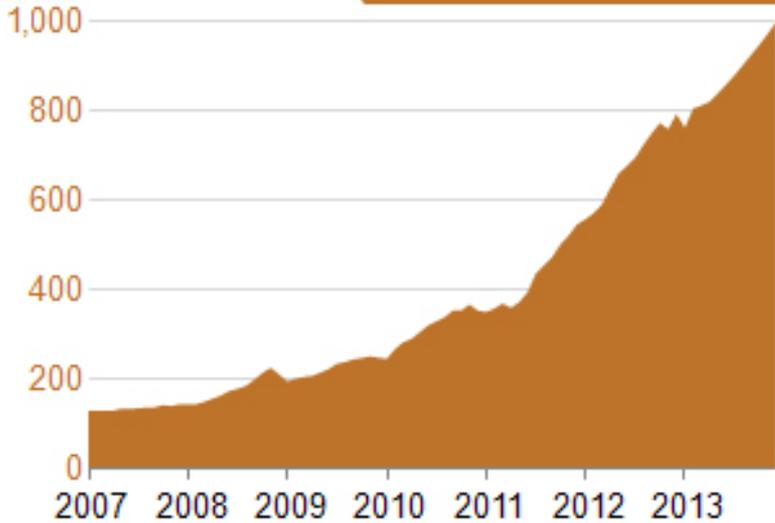
“Tar Sands” Crude

- ✓ Heavy, sinking oil
- ✓ Impossible to clean up
- ✓ Must be heated to flow
- ✓ Often diluted with other hazardous chemicals – “Dilbit”

Oil companies are looking to increase the amount of tar sands crude shipped through the Hudson Valley by expanding ports, boiler systems, and rail access.

Bakken
Oil production
thousand barrels/day

Oil +26
thousand barrels/day
month over month



More Oil = More Oil Transport

Recent spike in domestic crude production resulted in the activation of trains, barges, and tankers to get crude to refineries along the coasts.



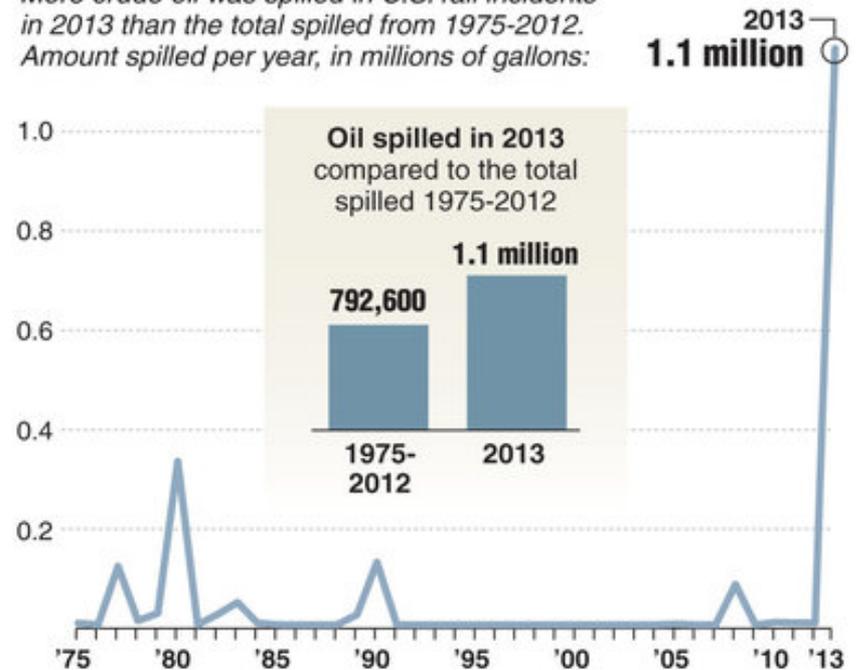
Bakken-to-Albany rail route for crude oil trains

More Shipped = More Spilled

- From 1975 – 2012, 792,000 gallons of oil was spilled from trains
- In 2013 alone, over 1 million gallons spilled, more oil than was spilled over the previous 37 years

Spike in oil spills from trains

More crude oil was spilled in U.S. rail incidents in 2013 than the total spilled from 1975-2012.
Amount spilled per year, in millions of gallons:



Source: U.S. Pipeline and Hazardous Materials Safety Administration
Graphic: Judy Treible

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“Bomb Trains”

Explosive Bakken crude oil is a game-changer in rail disasters

- “Unit trains” carry 80-120 tanker cars each. Each tanker holds about 30,000 gallons.
- DOT-111 tank cars have insufficient lining, external shields and venting to protect against punctures or gas build-up.
- Of 92,000 DOT-111 cars in use, only 15% are up to current standards.
- Warnings on Bakken crude and/or DOT-111 cars have come from the oil and railroad industries, as well as U.S. and Canadian governments.
- ***Canada has taken action to phase out DOT-111 cars in 3 years.***
- ***U.S. Regulators pledge to issue new rail car standards by 2015, but set no clear timeframe or deadline.***

Lac-Mégantic, Quebec

*July 2013 – Train Derailment and Explosion of Bakken Crude Oil
47 people killed, downtown buildings leveled*



Photo: Sûreté du Québec

Aliceville, Alabama

*November 2013 – Train Derailment and Spill of Bakken Crude Oil
4 months after derailment, Associated Press reports “oil still oozing”*



Photo: John Wathen, Hurricane Creekkeeper

Casselton, North Dakota

*December 2013 – Train Derailment of Bakken Crude Oil
Thousands of residents evacuated from a 10-mile-wide area*



Photo: EcoWatch

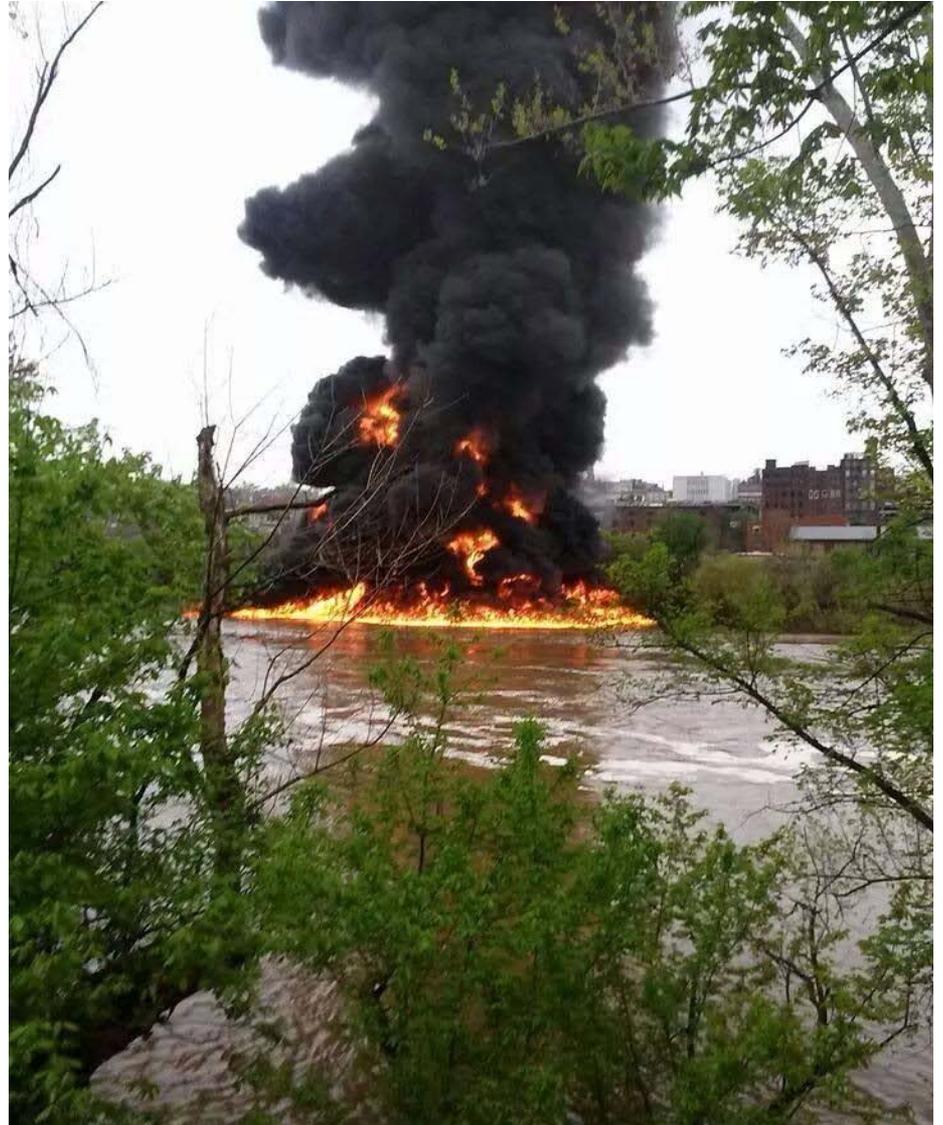
Lynchburg, Virginia

*April 2014 – Train
derailment, explosion and
spill into the James River –
“The river is on fire.”*

*Downtown evacuated due
to toxic smoke and fire
danger.*

*CSX Rail Line – same rail
as New Windsor*

Picture credit – James Riverkeeper



NYS Crude Oil Train Accidents



Photo: Chad Gomes / Riverkeeper

December 2013, West Nyack: Empty oil train hits tractor trailer.

December 2013, Cheektowaga: Oil train derailment.

February 2014, Town of Ulster: Empty oil train derailment.

February 2014, Selkirk: Oil train derailment.

February and March 2014, Albany and Buffalo: Inspection “blitzes” find dozens of defects in tracks and DOT-111 crude oil cars.

April 2014, Glens Falls: Ammonia train derailment.

Local Emergency Response

New Challenges – Funding Cuts – Major Disasters

*“The large-scale shipments of crude oil by rail simply didn't exist 10 years ago, and our **safety regulations need to catch up with this new reality**. Most communities across the nation are not prepared to handle oil train derailments such as the one in Lac Megantic.”*

- National Transportation Safety Board Chairman Deborah Hersman

*The clock is ticking where the number of trains that rumble across Main Street has **grown from five a day to nearly one an hour**. As long as these rail cars are out there and they're being used, potential exists for a major disaster.*

- Jim Arie, Fire Chief, Barrington, IL

“When I saw what happened in Lac-Mégantic, the behavior of the product catching fire and having the ignition it had and the fire conditions it had, that wasn't what I expected for typical crude oil. Now hearing that this crude oil is different because of where it comes from, it raises concern. It's not safe.”

-David LaFountain Fire Chief, Waterville MA

Crude-by-River Transport

- Double hulls are good at preventing spills from grounding, but not after collisions.
- Spill response effectiveness varies widely, depending on marine conditions and the type of oil spilled – Light crude like Bakken floats. Tar sands oil sinks to the bottom.
- The Hudson River is turbid and subject to strong tides and currents, and winter ice, making recovery very difficult if not impossible in certain conditions.
- Everyday, barges carrying 4 million gallons, and tankers that can carry 8 million gallons or more travel on the Hudson. The Exxon Valdez spilled 11 million gallons and 25 years later, fresh oil is still found.

Mississippi River

*Feb. 2014 – Barge-on-Barge Collision, Bakken Crude Oil Spill
65 miles of river closed after 31,500 gallons spilled; spill response able to
recover only 95 gallons.*



Photo: The Advocate

Galveston Bay

*March 2014 – Barge-on-Ship Collision, Bakken Crude Oil Spill
168,000 gallons of oil spilled*



Photo: Houston Chronicle

Hudson River

*December 2012
Tanker Grounding*

The first crude oil tanker on
the Hudson,
the ***Stena Primorsk***,
ran aground 6 miles south of
the Port of Albany

Crash tore open the outer
hull; fortunately, no oil was
spilled

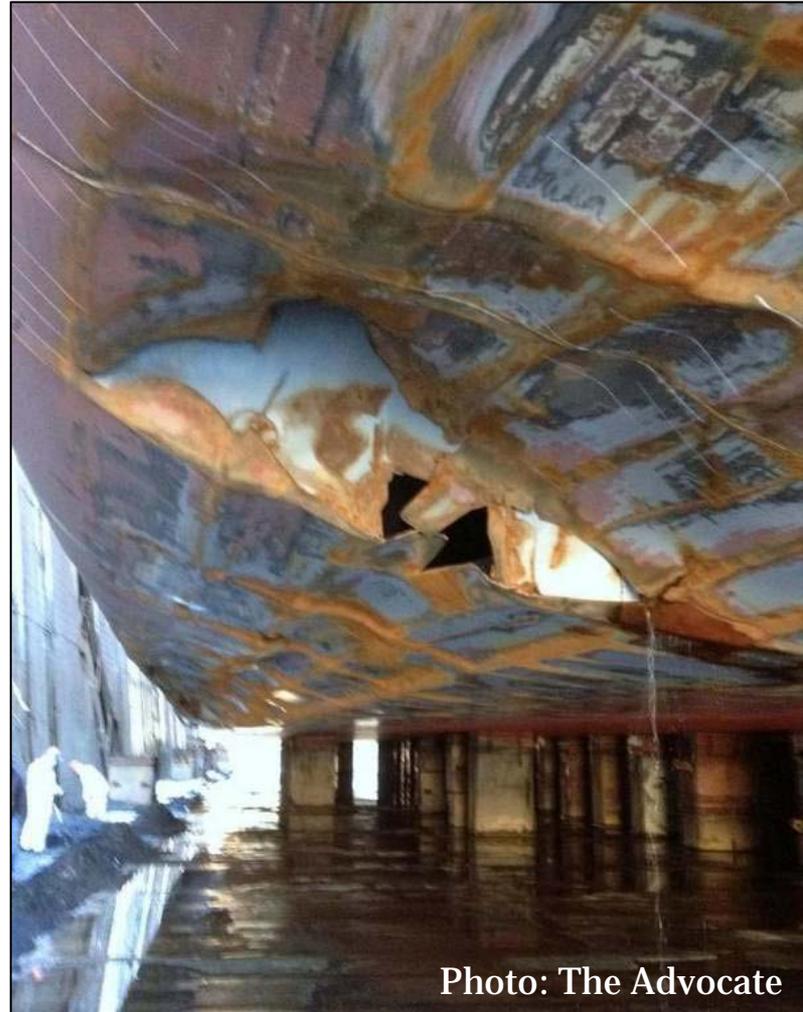


Photo: The Advocate

Kalamazoo River, Michigan

2009

Pipeline Spill of
Heavy, Sinking
Crude

Much of river
remains closed 4
years later

80 Miles of
River affected

\$1.5 Billion
spent on
cleanup, no end
in sight



Crude Oil Transport Risks to the Hudson Valley

Train derailment of Bakken crude oil

...could lead to devastating explosions and fire.

On-Water Spill of Bakken crude oil

... even successful spill response might only recover 20-25% of the oil.

On-Water Spill of Tar Sands crude oil

...successful spill response for this heavy, sinking oil might just be 5% of the oil.

River at Risk

- **Fish Habitat**

- The Hudson is vital spawning habitat for fish throughout the Atlantic Ocean.

- **Endangered Species**

- Many local endangered and threatened fish, birds, and mammals rely on river resources and habitat for survival.

- **Recent Improvement**

- Billions have been invested in toxic cleanup, access and community waterfronts.

- **Irreplaceable**

- 40 state-designated significant habitats on the Hudson River and its tributaries.



Photo: Riverkeeper

Public Health at Risk

- **Community Safety**

- Rail lines, and the river itself, means trains, barges, and tankers move oil through many of our communities on a daily basis.

- **Drinking Water**

- From the Hudson water intakes to the Lake Deforest Reservoir, millions of peoples' drinking water is at risk.

Some of those communities include:

- Dutchess County
- Ulster County
- Rockland County
- Parts of Orange County and North Jersey

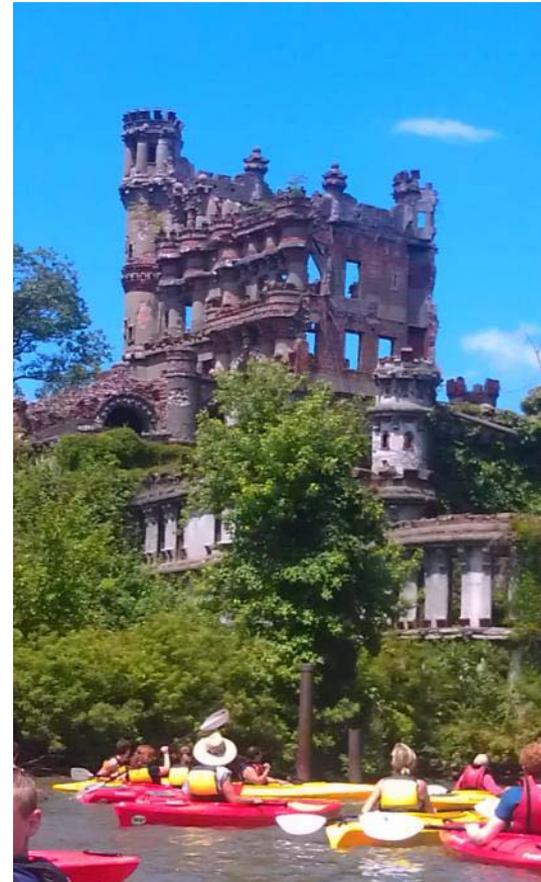


Lake Deforest Reservoir

Photo: Lee Ross

Economies at Risk

- **Tourism**
 - Our \$3.1 billion industry would be at risk, while taxpayers bear the costs of clean-up—not the oil companies.
- **Coastal Access**
 - Public investments have restored waterfronts, created parks and improved water quality – all now at risk.
- **Recreation**
 - Fishing, sailing, kayaking, swimming and other uses would be devastated in the event of a spill.



Bannerman Castle

Photo: Riverkeeper

Environmental Justice

- NYS policy requires enhanced public participation process, high standards to minimize environmental impacts, and dispute resolution services.
- DEC has designated EJ communities next to Global's proposed New Windsor Rail Terminal Expansion Project and Albany Rail Terminal.



Oil trains in Newburgh

Photo: Riverkeeper

Orange County Resources at Risk

- Hospitals, schools, parks and waterfront businesses located near train line
- Public drinking water intakes
- Critical habitat for endangered sturgeon, striped bass and other species
- Scenic Areas of Statewide Significance – Gateway to the Hudson Highlands and Storm King Mountain



Hudson River Spill Response

New Types of Oil = New Challenges

- **Bakken** crude floats, but is highly flammable
- **Tar sands** crude sinks, and contains other hazardous chemicals
- **Recovery rates** for light and sinking oils are very low
 - Sinking oil – 5%
 - Bakken and other light crude – 20% at best



Photo credit – James Riverkeeper

Hudson River Spill Response

New Types of Oil = New Challenges

- Regional Coast Guard Plan outdated – must be updated to include Bakken and tar sands “sinking oil” scenarios
- More frequent, more realistic drills are needed
 - Global Partners hosted the first spill drill in years November 2013.
- Habitat maps that identify protected species and critical habitat used in the Area Contingency Plan are out of date



Photo credit – EPA

NYS's "Virtual Pipeline"

5+ billion gallons of crude oil—most if not all Bakken crude



- **Global Partners LP** and **Buckeye Partners LP** have permits to transfer 2.8 billion gallons of crude oil per year from trains to Hudson River vessels at oil terminals in the Port of Albany.
- **CSX** rail lines carry two unit trains per day—about 2.2 billion gallons of crude oil per year—through Western NY and down the Hudson Valley into New Jersey.

Expansion Plans

Increase of up to 1.8 billion gallons, w/ heavy crude

Port of Albany

- Global Partners LP has applied to install boilers at its Albany terminal to facilitate the transfer of heavy crude oil—likely from the Alberta tar sands—from train to vessel. Public comment open until June 2.
- Buckeye Partners LP has told investors it envisions Albany and the Hudson River as important parts of a virtual pipeline between Canadian tar sands and its BORCO terminal in the Bahamas, one of the largest petroleum storage facilities in the world.

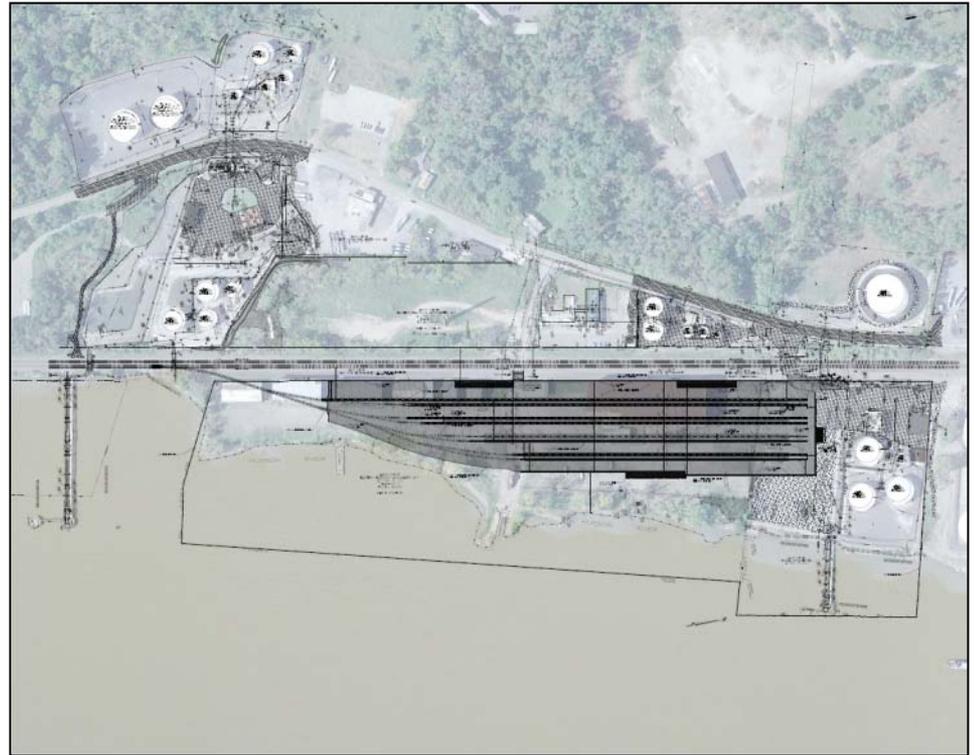
Port of New Windsor

- Global Partners has applied to expand its oil terminals and install boilers to allow for the transfer of up to 1.8 billion gallons per year of heavy crude oil from train to river vessel.

Proposed: New Windsor Terminal

Global Partners LP

- Throughput capacity between 1.3 and 2.4 billion gallons/year.
- Storage space for at least 120 railcars.
- Capability to heat heavy crude oils.



New Windsor Terminal

Proposed Site Plan



New Windsor Terminal

Proposed Construction Plan

Demolition

- Demolition of existing structures
- Contaminated soil remediation

In-River Construction

- 512-square foot dock expansion into the Hudson River
- Driving of 6 steel H-pilings into the riverbed

On-Land Construction

- 3 structures totaling 5,000 square feet
- Installation of flares
- Installation of steam or hot oil boilers to heat rail cars and tanks
- Installation of floating roofs to store products with high levels of volatile organic compounds

New Windsor Terminal

Approvals Required

**National Marine
Fisheries
Service**

**New Windsor
Board of
Planning**

**NYS
Department of
Environmental
Conservation**

U.S. Army Corps

**Department
of State**

What We Can Do

✓ **Emergency Order**

- ✓ Ask the U.S. Department of Transportation to issue an emergency order banning use of DOT-111 rail cars to transport crude oil.

✓ **Full Review**

- ✓ Ask the NYS Department of Environmental Conservation to order a full environmental review of the potential impacts of all pending permits for New Windsor and Albany oil terminals.

Thank you!



riverkeeper.org/crude

#NotOnMyWatch

scenichudson.org

#NoCrudeOnHudson