Historical Analysis of Oil and Gas Well Plugging in New York: Is the Regulatory System Working?

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Introduction:
New York’s oil and gas industry is just nine years from its bicentennial, since the pilot project, a natural gas well near Fredonia, was drilled in 1821. One hundred thirty years later, there is a dedicated and sophisticated Bureau of Oil and Gas Permitting and Management (BOGPM) within the Division of Mineral Resources (DMN) of the state Department of Environmental Conservation (DEC). State guidance documents and regulations have undergone multiple updates, including those newly proposed in the revised draft Supplement to the Generic Environmental Impact Statement for the Oil, Gas and Solution Mining Regulatory Program, and 6 NYCRR Parts 52, 190, 550 – 556 and 560. But before state regulators adopt new rules, we should pause to evaluate how the regulatory system has managed industrial activity under the old ones. And few aspects of the regulatory framework are as cogently diagnostic as New York’s record on plugging abandoned oil and gas wells.

Abandoned wells issue: With great attention paid these days to proper oil and gas well construction, appropriate control of chemicals and wastes, and other production issues, post-production plugging and cleanup has received relatively little notice. But as production from the first oil and gas wells declined, this was recognized as an issue. New York became the first state to require the plugging of abandoned wells in 1879. No particular state entity existed to monitor compliance or enforce the plugging law, but an 1882 amendment to it offered half of any collected fines to informants who reported violations. From that time forward, regulating this aspect of the petroleum industry has posed a unique challenge.

Well accounting issues: Accounting for abandoned oil and gas wells is complicated by the fact that New York’s DEC does not maintain a single system for recording them. Annual reports from 2002 onward suggest that the locations of fully half of the state’s orphan abandoned oil and gas wells are unknown, and from the 2009 annual report, “Most of the [abandoned] wells date from before New York established a regulatory program.” Thus it appears that state regulators have given up on old wells for which location or operational data are missing; for clarity, we will call them “forgotten”. Abandoned oil and gas wells in known locations, but for which the DEC lacks current ownership data, dominate the Priority Plugging List. Although some of these wells have been plugged with the use of agency or external funds, most have not. Therefore, we may refer to this group as “generally ignored”. The primary focus of the DEC, then, is on those inactive wells for which all information is actionable: “standing inventory”. The boundaries which delimit these groups are not always clear, but the fresh discovery of a “forgotten” well typically results in its transfer to the “generally ignored” category, and the loss of ownership information may move a well from “standing inventory” to “generally ignored”. Plugging oil or gas wells results in their removal from the state’s accounting, although they are still abandoned structures.

Conclusions and Recommendations:
New York’s DEC has failed to enforce the state’s laws which require inactive oil and gas wells to be plugged. From this viewpoint, the agency is clearly not prepared to manage this industry’s expansion into shale gas development. Regulators and industry operators should clean up their old mess before they make a new and potentially larger one.

Summary:
The aim of this work was to evaluate New York State’s regulatory program for plugging inactive oil and gas wells. Analysis of reports from the Division of Mineral Resources, Department of Environmental Conservation, reveals that 75% of the state’s abandoned oil and gas wells were never plugged. Inadequate enforcement efforts resulted in steady increases of unplugged oil and gas wells abandoned since 1992. Further, no program exists or is proposed to monitor plugged abandoned wells. These results suggest that comprehensive regulatory reform and increased agency resources will be required to effectively regulate conventional or shale gas development in New York.

Results:

Year: 1994 2009
Total Projects: 61,000 75,000
Active Wells: 12,857 10,982
Plugged Wells: 13,070 15,748
Unplugged Wells: 35,000 48,000
Abandoned Wells: 48,000 64,000
% Plugged: 27 25