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Northeast Home Heating Oil Reserve

In response to rising retail heating oil prices during the winter of 1999-2000 (see **Figure 1**), the Northeast Home Heating Oil Reserve (NEHHOR) was created and authorized by presidential directive and enacted legislation (P.L. 106-469). The reserve was formally established in March 2001. As defined in 42 USC §§6250 et seq., Northeast states include Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, and New Jersey. Today, the NEHHOR consists of approximately 1 million barrels—42 million gallons—of ultra-low sulfur distillate (ULSD) fuel held in commercial storage facilities. ULSD has multiple uses, to include heating, transportation, and electricity generation. Administered by the Department of Energy (DOE), the NEHHOR is not part of the Strategic Petroleum Reserve (SPR) and operates under specific authorities intended to address regional heating oil supply interruptions and price dislocations.

Figure 1. Retail Heating Oil Prices (Nominal)
Selected Northeast Home Heating Oil Reserve Events



Source: CRS, price data from the U.S. Energy Information Administration

Notes: To date, the only Northeast Home Heating Oil Reserve emergency release was for Hurricane Sandy relief efforts in 2012.

Background and Establishment

Residents in Northeastern states are major consumers of distillate fuel oil, which is often used for space heating. During the winter season of 1999-2000, approximately 78% of the nearly 6 billion gallons of distillate sold to U.S. residents were delivered to Northeast customers. Following a near doubling of retail heating oil prices between February 1999 and February 2000, the Administration and Congress acted to establish and authorize a government-controlled heating oil reserve containing no more than 2 million barrels, or 84 million gallons.

In July 2000, President Clinton directed the Secretary of Energy to establish a 2-million-barrel home heating oil reserve in the Northeast. Using SPR acquisition authorities,

the Administration executed transactions to exchange SPR crude oil for heating oil products and to lease commercial storage capacity in the Northeast region. In part to provide release authority that could be responsive to regional heating oil supply shortages and interruptions, Congress formally authorized the NEHHOR through passage of passed the Energy Act of 2000 (P.L. 106-469).

In 2011, DOE sold all heating oil barrels in the NEHHOR—approximately 2 million at that time—and allowed storage contracts to expire. Sale proceeds were used to acquire approximately 1 million barrels of ULSD, and new commercial storage contracts were established. Further, Congress enacted legislation in 2011 (P.L. 112-74) that limits NEHHOR inventories to no more than 1 million barrels of petroleum distillate. Conversion of NEHHOR inventory was motivated by laws, regulations, and standards requiring the use of low sulfur fuels. NEHHOR barrels are currently held in storage terminals located in Connecticut, Massachusetts, and New Jersey (see **Table 1**).

Table 1. Northeast Home Heating Oil Reserve
Storage locations and volumes

Terminal Operator	Location	Barrels
Buckeye Partners	Port Reading, NJ	300,000
Buckeye Partners	Groton, CT	300,000
Global Companies	Revere, MA	201,000
Gulf Oil	Chelsea, MA	200,000
Total		1,001,000

Source: U.S. Energy Information Administration

Notes: As of August 2022.

NEHHOR Release Authorities

Releasing barrels from the NEHHOR requires a presidential finding that a severe energy supply interruption exists. Such a finding is predicated on one of two conditions: (1) a heating oil market dislocation resulted from the supply interruption, or (2) any other circumstance that constitutes a regional supply shortage that could be alleviated by an NEHHOR release.

Market Dislocation

For the purpose of a severe energy supply interruption finding, existence of a dislocation in the heating oil market is based on two specific criteria. First, the difference in price between retail heating oil and crude oil increases by more than 60% compared with the average price differential observed during the five previous heating oil seasons (October through March), and continues for seven

consecutive days. Second, the price differential increases during the most recent week for which price information is available.

Practical application of these statutory criteria is reflected in DOE “trigger” reports published during each heating oil season. These reports include required price differentials for each month during the upcoming season. Should actual price differentials exceed the required trigger spread, and continue increasing the following week, a heating oil market dislocation could be deemed to exist and a release could be authorized.

Other Circumstances

The President also has a less prescriptive condition under which a severe energy supply interruption finding could be made. Other circumstances, as determined by the President, that constitute a regional supply shortage could justify a NEHHOR release. Supply shortages would need to be of significant scope and duration, and an NEHHOR release would need to directly assist with significantly reducing adverse impacts associated with the supply shortage. While terms such as “significant” and “supply shortage” are not defined in NEHHOR statutes, commercial inventory levels are often referenced to assess the adequacy of regional distillate supplies. Nevertheless, this release condition provides the President with broader discretion for authorizing an NEHHOR release.

Release Procedures and Requirements

The Secretary of Energy is responsible for developing NEHHOR release procedures, in consultation with the heating oil industry. Releases can take one of two forms: (1) competitive sales, which are awarded to the highest bidders, or (2) exchange agreements, which require that awardees return an equivalent volume of ULSD plus some additional barrels at a future date. Furthermore, only entities that sell and distribute petroleum distillate are eligible to purchase or exchange NEHHOR barrels.

NEHHOR Releases

To date, NEHHOR release authorities and procedures have not been activated in response to heating oil supply interruptions. However, ULSD in the reserve has been withdrawn for transportation and power generation purposes to support emergency relief efforts in the aftermath of Hurricane Sandy.

In October 2012, Hurricane Sandy damaged energy infrastructure and contributed to fuel shortages in parts of the Northeast region. Following a presidential declaration of a severe energy supply interruption, NEHHOR barrels were transferred to the Department of Defense to support first responders and other emergency operations. In total, approximately 120,000 barrels (nearly 5 million gallons) of ULSD were provided under a loan agreement with the Defense Logistics Agency. The NEHHOR was replenished by the end of December 2012. This intragovernmental ULSD loan represents the only emergency drawdown of the reserve to date.

Future of the Reserve

With limited use in response to emergency fuel shortages, and no releases in response to heating oil market dislocations and supply interruptions, the utility and benefits provided by the NEHHOR have been questioned. For example, DOE’s fiscal year (FY) 2021 budget justification proposed to disestablish the NEHHOR, stating that the reserve “has never been used for its intended purpose, is costly to maintain, and generally does not provide value to taxpayers.” The House Appropriations Committee rejected DOE’s proposal and Congress appropriated funding to maintain the reserve.

Additionally, DOE’s FY2022 budget justification did not request budget authority to maintain the reserve. However, Congress appropriated \$6.5 million for NEHHOR storage, operation, and management activities. DOE’s FY2023 budget justification requests \$7 million for NEHHOR operations.

In May 2022, the U.S. Government Accountability Office (GAO) published a report assessing the effectiveness of DOE-administered petroleum product reserves, including the NEHHOR. Concurring with DOE concerns with the cost of maintaining petroleum product reserves, limited use, and small product holdings relative to regional market size, GAO concluded that these reserves “are not well suited to address risks” as currently structured. Release conditions and criteria and the amount of time necessary to comply with competitive bidding requirements are two structural challenges cited in the report.

Policy Considerations

Due to the uncertain nature, scope, and duration of any future heating oil supply disruptions, as well as market dynamics and supply/demand balances when disruptions might occur, determining the appropriate parameters for an effective regional heating oil reserve is challenging. Policy decisions with respect to size (i.e., distillate inventories), location, release conditions, and drawdown criteria could result in a reserve that is either effective at reducing the impact of severe supply interruptions or provides few benefits to the region it is intended to serve. To assist with evaluating petroleum product reserve parameters, Congress could direct DOE to perform NEHHOR economic benefit analysis and sizing optimization studies. DOE conducted a similar analysis for the SPR in 2016.

Regional heating oil demand is one parameter that could be evaluated when considering petroleum product reserve policy. Residential distillate consumption in the United States declined from approximately 6 billion gallons in 2000 to approximately 3 billion gallons in 2020, a decline of nearly 50%. However, U.S. residential heating oil consumption is still concentrated in the Northeast states. According to the Energy Information Administration, 5.3 million U.S. households used distillate fuel oil for space heating during the 2020-2021 winter. The Northeast census region included approximately 82% of those households. Regional concentration of residential distillate consumption has been cited in support of maintaining a government-controlled heating oil reserve in the Northeast that can respond to emergency situations and supply disruptions.

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