REGULATORY GUIDANCE
ON DEMAND RESPONSE PROGRAMS

Emergency vs. Non-Emergency Engines
Federal vs. State Requirements

Air Resources Division/Permitting and Environmental Health Bureau

Background:

Demand response is generally used to refer to mechanisms used by ISO New England (ISO-NE, the regional transmission authority) to encourage consumers, whether residential, commercial, institutional, or industrial, to trim their electricity usage at specific times of the day (such as during peak demand hours), during high electricity prices, or during emergencies (such as preventing or responding to a blackout condition). Demand response programs typically offer incentives to businesses that participate by temporarily reducing their electricity use when demand could outpace supply.

Demand response can be further divided into two specific categories of interest to engine operators in NH:

- ISO-NE Real Time Emergency Generation (RTEG) program (ISO-NE OP4, Action 6); or
- ISO-NE Real Time Demand Response (RTDR) program (ISO-NE OP4, Action 2).

Real Time Emergency Generation:

Emergency demand response programs are not called upon on a frequent basis. Instead, they are typically dispatched once a specifically defined event takes place. Historically in NH, RTEG has been declared by ISO-NE to avoid involuntary service interruptions during times of supply scarcity when the reliability of the grid is threatened. This typically meant that there was a deviation of line voltage or frequency of 5 percent or greater below standard voltage or frequency on the grid and the possibility of a blackout was imminent.[1]

On May 4, 2016, the D.C. Circuit Court removed the provisions in the federal rules that previously allowed for engines to operate as emergency engines when used for up to 100 hours per year for:

- Emergency demand response when the reliability coordinator under NERC had declared an Energy Alert Level 2 as defined by NERC; and
- Periods where there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency.

As a result, any engine that is contracted to participate in an RTEG program after May 4, 2016 will be regulated as a **non-emergency engine** under federal rules (NSPS and NESHAP).[2] Under NH rules, an "emergency generator" is allowed to operate:

- During an emergency such as a power outage;
- During the normal maintenance and testing procedure as recommended by the manufacturer; and
- For RTEG programs.
- The term does not include a load shaving unit or peaking power production unit.

This definition allows an engine to operate in an RTEG program and be regulated in NH as an **emergency engine**. As such, the engine would have to meet the more stringent requirements of either the federal rules for non-emergency engines and state rules for emergency engines.

Real Time Demand Response:

Economic demand response or peak shaving is employed by utilities to allow electricity customers to curtail their consumption of utility-generated electricity, often by replacing it with customer-generated electricity, to save money on their electric bill. Participants in economic demand response programs are generally called upon to reduce their electric consumption voluntarily, well in advance of when voltage or frequency reductions or EDR are called upon by the regional transmission authority. Any engine that is utilized for the RTDR program would be considered a **non-emergency engine** under federal and NH rules. The recent D.C. Circuit Court decision did not change anything in this regard.

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[1] Please note that electric utility companies may have their own peak shaving or demand response programs, but they do not qualify as an emergency demand response program and engines operated under these programs are considered non-emergency engines.

[2] See EPA guidance regarding the D.C. Circuit Court decision at: https://www3.epa.gov/ttn/atw/icengines/docs/RICEVacaturGuidance041516.pdf).

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