It uses in on-site renewable resources.

The contract required that the contractor purchase and install one Venmar EKO 1.5 heat recovery ventilator (HRV), which was estimated to cost $1,600. The specified HRV is manufactured in Germany. An HRV is a piece of mechanical equipment that provides mechanical (as opposed to natural) ventilation for facilities like the NZERTF and allows the building to be sealed tight against air leakage.

The specified HRV is essential to meet the project objective, as it reduces the energy required to heat and cool the home while providing acceptable indoor air quality. Without the specified residential-sized HRV, the annual energy required for the home exceeds the amount that can be produced by the solar panels and thus the facility would not meet its design objective of net zero energy on an annual basis.

Based on NIST’s and the contractor’s review of the market place and various vendors’ product availability, NIST determined there were no HRVs manufactured in the United States that met the contract specifications or NIST’s requirements. Pursuant to section 1605(b)(1) and (2) of the Recovery Act also allow the head of a Federal department or agency to issue a “determination of inapplicability” of these provisions to any procurement of the listed items if the restrictions would be inconsistent with the public interest; if the iron, steel, or relevant manufactured good is only available at an unreasonable cost; or if it is not produced or manufactured in the United States in sufficient and reasonably available quantities and of a satisfactory quality (“non-availability”). Pursuant to sections 1605(b)(1) and (2), NIST has determined that the required heat recovery ventilator is not available in the United States.

In September 2010, NIST awarded an American Recovery and Reinvestment Act of 2009 (ARRA or Recovery Act) contract in the amount of $2,580,110 to Therrien Waddell for the construction of a NETZERO Energy Residential Test Facility (NZERTF) at NIST in Gaithersburg, MD. The objective of the NZERTF is to demonstrate that a home, similar in aesthetics to a home in surrounding communities, can produce as much energy on an annual basis as it uses in on-site renewable resources.

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