



www.nhwaterwell.com

Information: New Hampshire Water Well Association

Information in this document is provided in good faith to inform the public about groundwater and water wells. Well owners should ensure that their well contractor has obtained permits (if required) and has referred to local codes, rules, regulations and laws for site selection, construction, maintenance and operation of water wells and water system equipment.

EMERGENCY WATER SUPPLY – HAND PUMP OR GENERATOR?

More than 85% of New Hampshire is forest or woodland. Virtually all electricity to homes is supplied via overhead wires. Ice storms, wet snowfall and high winds can cause falling branches and trees to disrupt electric supply. Utility crews may take days to restore power. Over 200,000 homes in New Hampshire have independent private wells. What happens to your water supply when the power goes out?

Hand pumps

Some home-owners have installed hand pumps on their wells that can be operated manually in the event of power failure. The depth to water below ground is a deciding factor for the type of hand pump you might use. If the water level is closer than about 20 feet, then a simple drop pipe can be inserted into the well. For water levels below 20 feet a pump cylinder will be needed. If you are planning to install a hand pump it is recommended that a well contractor be consulted regarding:

- the feasibility of adding a hand pump to your existing well
- the selection of the most appropriate pump for your needs
- installation so there is no risk to the operation of the existing electric pump
- installing a well cap (seal) to ensure there is no compromise to the safety of your well water

The cost of shallow well hand pumps is in the hundreds of dollars range, for hand pumps to deliver water from greater depths, there are pumps in the one thousand to two thousand dollar range. Well conversions don't come cheaply and small diameter wells probably won't be wide enough to accommodate both the typical 2 inch diameter cylinder for a hand-pump and the existing submersible pump pipe & wiring. If the well is low yielding you may only be able to pump a few gallons at a time from a shallow hand pump. There is always a possibility of freeze-up in a hand pump installed in an outside location and most pump models have drain ports that empty the pump after use so that there is no water left in the pump mechanism.

How far below the ground surface is the water level of your well? The level in winter may be very different from the level in summer. If you don't have a record of basic information about your well then you will definitely need the advice of a well expert before you order a pump. You will also need to hire the services of a professional pump installer. Some pump installers will only guarantee their work or warranty products on equipment they supply. Check first before you purchase a pump at your local hardware store that you will then need a professional to install.

Electric Generator

As an alternative to a hand pump, a back-up electric generator will provide power to your whole home in an emergency and will enable you to continue to pump water. Most home pumps only run for a short time each day and are not large consumers of power. Generators have wattage ratings. One horsepower (Hp) is equivalent to 746 watts. Most residential water pumps are rated between one-half and two Hp for normal operating conditions but will need 50% more power at start-up unless equipped with a VFD (variable frequency drive). Building codes require that all generators that are tied into a building connected to a public utility power grid must use a "double-pull double-throw" (transfer isolation) switch to prevent the risk of backfeeding current from the generator to the main grid. It is recommended that a water well professional is consulted before purchasing or installing a generator. An under-powered generator could cause damage to your well pump.

(©AGWT 2013)

A licensed water well contractor – your best source for information