We claim:

1. A system, comprising: an energy storage chamber that comprises a compressible medium at a first pressure; a pipe at a second pressure connected to a liquid-filled borehole containing a liquid therein and penetrating a subterranean formation, wherein the second pressure is a high pressure above atmospheric pressure that is suitable for use in hydraulic fracturing treatment of the subterranean formation or that is provided by the subterranean formation itself, and wherein the first pressure is substantially different from the second pressure; and a fast operating valve connected to each of the energy storage chamber and the pipe; wherein the valve is configured to open and close a flow path between the energy storage chamber and the pipe through the valve to generate a tube wave in the liquid-filled borehole, wherein the pressure of the compressible medium in the energy storage chamber is changed from the first pressure by the second pressure, and wherein the pressure of the compressible medium in the energy storage chamber is changed back to the first pressure by a charger connected to the energy storage chamber, wherein the compressible medium and the liquid are different mediums, wherein the fast operating valve is a regenerative valve having a moving element disposed therein, the moving element having a first area that is exposed to the first pressure and a second area that is exposed to the second pressure, wherein the moving element is configured to be held in a closed position upon a port until an external force is applied to move the moving element away from the port, and wherein, once the moving element is moved away from the port, one of the first pressure and the second pressure acts on the second area to push the moving element to a fully opened state.

2. The system of claim 1, wherein the valve comprises a control chamber, a treating chamber that is separate from the control chamber and is not in fluid communication with the control chamber, and a poppet that extends into each of the control chamber and the treating chamber and is capable of reciprocating within the control chamber and the treating chamber.

3. The system of claim 2, wherein the treating chamber is in fluid communication with each of the energy storage chamber and the fluid-filled borehole when the valve is in an open state.

4. The system of claim 3, wherein the poppet comprises a control piston disposed inside the control chamber, a treating seat disposed inside the treating chamber, and a stem connecting the control piston and the treating seat.

5. The system of claim 4, wherein the control piston is configured to move relative to a stem of the poppet.

6. The system of claim 4, wherein the treating seat is configured to engage a structure so as to seal off a fluid passage from the treating chamber to the fluid-filled borehole.

7. The system of claim 3, wherein the valve further comprises a buffering chamber that is separate from the control chamber and is not in fluid communication with the control chamber, wherein the poppet extends from the buffering chamber through the control chamber to the treating chamber and is capable of reciprocating within the buffering chamber, the control chamber, and the treating chamber, and wherein the poppet comprises a hollow passage that provides fluid communication between the buffering chamber and the fluid-filled borehole.