



**Chandra X-ray
Observatory Center**

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Nova Aquilae: An explosive white dwarf star in orbit around a normal companion star in the constellation Aquila.

(Artist Illustration: CXC/M.Weiss)

Caption: Four times over an 8 month period Chandra observed a white dwarf star undergoing a nova outburst. As the expanding hot gas cloud cleared, an underlying pulsation of X-ray brightness, and an enormous X-ray flare that originated from the white dwarf's surface layers were discovered. The pulsations are thought to be due to the white dwarf expanding and shrinking over a 40 minute period. The cause of the X-ray flare is a mystery. This artist's illustration depicts gas flowing from a large red companion star into a disk around a white dwarf star. A nova outburst occurs when a critical mass of hydrogen gas piles up on the surface of the white dwarf.