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a common approach to representing near fault ground motion in engineering analysis is to explicitly consider and select records with strong directivity pulses pulse records we use three dimensional high resolution physics based earthquake simulations to test this approach in the context of scenario based ground motion record selection and near fault effects typically includes those locations that are 10 km far from the active fault that is capable of generating large magnitude earthquakes however near fault earthquakes may sometimes be observed in greater fault distances the near fault ground motion possesses significantly long period pulse in the acceleration time history that is consistent with velocity and displacement histories the long period response of the near fault ground motion is more excessive than the far fault ground motion near fault earthquakes with pulse like seismic ground motion along the horizontal and vertical directions are investigated if both fault normal and 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