How to Save Schrödinger's Cat

The cat is in a box with a flask of poison controlled by a quantum device which puts the cat in a superposition of alive and dead

$$|CAT\rangle = \frac{1}{\sqrt{2}}\left(|\text{alive}\rangle + |\text{dead}\rangle\right)$$

$|\text{alive}\rangle = |1\rangle$ $\quad$ $|\text{dead}\rangle = |0\rangle$

If we observe it now, it will have 50% chances of being alive and 50% chances of being dead

We can save it by applying a couple of quantum gates before observing: Z followed by H

$$|CAT\rangle \xmapsto{Z} \frac{1}{\sqrt{2}}\left(|0\rangle - |1\rangle\right)$$

$$\xmapsto{H} |1\rangle = \text{alive}$$