Hello, this a video for Engineering Measurement & System Monitoring unit, learning outcome two where we have to calibrate sensors and the example used here is a capacitance level sensor.

The input in this example is filling up a tank so zero percentage is the tank empty and one hundred percentage is the tank full. Then the next column shows the process value as the litres in the tank from zero to eight litres, which can be seen on the site glass on the side of the tank. Then we are checking the output of the level transmitter which is measured in milli amps and it is on a four to twenty milli amps scale. When the tank is empty the output should be four milli amps, when it is at one hundred percentage it should read twenty milli amps.

To start taking readings the tank would be empty and then filled up to one litre. This readings are filled in the column “as found”. Then the error can be calculated by taking the “as found” away from the “target” values. The maximum error is picked out and filled in the box. This value is used to calculate the maximum error percentage of full scale value, which is the percentage tolerance for the device. The expected value would be about five percent, if it is for indication purposes.

The capacitance level probe instrument can be adjusted to take the readings closer to the target value, then the test can be repeated filling in the “as found” column so a new error can be worked out.

Thank you for listening.