

ABSTRACT

DATA-DRIVEN UNSUPERVISED ALGORITHM FOR ANALYZING SENSOR DATA TO DETECT ABNORMAL VALVE OPERATION

A computer-implemented method, system, and computer program product are provided. A plurality of maintenance messages (MMSGs) are identified. Each MMSG is associated with at least one shut-off valve. A sensor parameter is identified based on an analysis of sensor parameters associated with the shut-off valves of each MMSG. A threshold value for the sensor parameter is identified as being associated with abnormal operation of the respective shut-off valves. A sensor associated with a first shut-off valve captures values for the sensor parameter during a first and second predefined time period, the first and second predefined time periods associated with an opening and a closing of the first shut-off valve. Upon determining that a difference between the maximum values of the sensor values captured during the first and second predefined time periods exceeds the first threshold value, a determination is made that the first shut-off valve is operating abnormally.

[Fig. 1]