

Pressure provider

System Description

Abstract

This document describes a pressure provider system, handling the generation and provides an endpoint the get the most recently generated value of pressure. If a generated value would be above a critical limit a critical pressure event will be published to the event handler support system.

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1 Overview

This document describes the pressure provider system. This system calculates a pressure level based on the previously written pressure level, read from a csv file with the key being the timestamp written in milliseconds and the value the current pressure level. A randomly generated value will be added to the pressure value read from the file, multiplied with a linear factor. The linear factor depends on the value of the previous reading, and will be closer to 0 the higher the reading was.

If a pressure level above the critical limit was generated a critical pressure event will be published with the current pressure reading in the payload.

2 System Role

This system provides a service for getting the most recent pressure value. This service is accessed via the HTTPS protocol and needs a token from the authorization core system to be accessed.

This system consumes the control rod insertion service in order to control the reactor temperature and pressure levels. This is done via HTTPS secured REST service, secured by the authorization core system. For extra security the system subscribes to events, in order for a quicker shutdown if needed.

3 Services

3.1 Consumed Services

3.1.1 [Event Publish](#)

Makes the pressure provider events available to the event handler.

3.1.2 [Service Registry](#)

This service is consumed to make sure that the system becomes accessible to other systems.

3.1.3 [Orchestration](#)

This service is used to determine what [Event Publish](#) and [Contract Negotiation](#) services to utilize.

3.2 Produced Services

3.2.1 [Get latest pressure](#)

Fetches the most recent pressure value and returns it as an integer.