Reactor consumer

System Description

Abstract
This document describes a nuclear reactor consumer system, handling the insertion of control rods in order to regulate reactor temperature and pressure levels. In order to do this it consumes various services and events.

Contents

1 Overview

This document describes the reactor consumer system, which is in charge of inserting control rods into the reactor. Under normal conditions the system consumes a rod insertion service in order to fetch the recommended rod insertion percentage based on the current pressure and temperature readings in the reactor. The consumer is also subscribed to critical temperature and cricital pressure level events, which if received will result in a 100% rod insertion in order to shut down the reactor and prevent an eventual disaster.

2 System Role

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 Rod insertion percentage query

This service is consumed in order to fetch the recommended rod insertion percentage from the control rod provider.

3.1.2 Orchestration

This service is used to make it possible to consume the other services in the system-of-systems.

3.1.3 Event subscribe

This service is used to subscribe to events.