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Capacity Analysis of AbbVie's Pharmacopeia Purified Water System

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Capacity Analysis of AbbVie's Pharmacopeia Purified Water System

A Major Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

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Date: April 19, 2019

Approved:

Professor Stephen Kmiotek, Major Advisor

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AbbVie is a global biopharmaceutical company, which focuses on patient care and sustainability. Our team worked with the Worcester, Massachusetts site to evaluate their current United States Pharmacopeia Purified Water (USP PW) system usage and capacity to determine the feasibility for expansion. Our project focused on the USP PW storage tank in which we conducted an analysis to determine average flow rates, number of times the tank is filled per day, and the current capacity of their piping systems. We also conducted a theoretical analysis to assess the feasibility of utilizing a higher operating band. Using these findings, our team was able to identify any capacity constraints of the USP PW system. We then created provided recommendations to AbbVie to mitigate the identified constraints.

This MQP contains information deemed confidential to the business interest of the industrial sponsor. Please contact Stephen Kmiotek at skmiotek@wpi.edu for additional information.