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Equipment Modifications to a Pharmaceutical BioProcess

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Equipment Modifications to a Pharmaceutical BioProcess

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

by

Daniel Eckler

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Approved:

Professor Stephen Kmiotek, Major Advisor

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ABSTRACT

This project provides a detailed assessment of the modifications made to a pharmaceutical bioprocess based on data gathered in a previous collaboration. The previous collaborative project demonstrates insufficient cleaning of dead-legs, in a piping system, at a wide range of flow rates. The modifications result in the bioprocess operating with greater predictability and efficiency.