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BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of:
Application No. 2013-01

TESORO SAVAGE, LLC

TESORO SAVAGE DISTRIBUTION
TERMINAL

CASE NO. 15-001

SWORN PRE-FILED TESTIMONY
OF LARS OLAVSON

I, Lars Olavson, state as follows:

1. I swear under the penalty of perjury of the laws of Washington and the United States that the following testimony is true and correct.

2. I am over eighteen years of age and am otherwise competent to testify in this case. My testimony is based upon my education, training, experience, professional qualifications, and understanding of the matters herein.

I. INTRODUCTION, PROFESSIONAL BACKGROUND, AND OTHER QUALIFICATIONS

3. I am a mechanical engineer with Intermountain Consumers Professional Engineers Inc. (ICPE) with 35 years of practice in heavy industrial project engineering. I am licensed in the State of California and my license number is M26227. I have extensive experience in meeting the requirements of the American Petroleum Institute (API) specification 650 for both open oil and water storage tank applications and American Society of Mechanical Engineers (ASME) pressure vessels and piping.

II. PROJECT EXPERIENCE AND OPINION

4. My responsibility on the Vancouver Energy Project was to specify and integrate into a site plan four (4) ambient storage tanks and two (2) heated storage tanks. All six tanks store approximately 400,000 barrels of oil each with an approximate net

SWORN PRE-FILED TESTIMONY OF LARS OLAVSON - 1

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1 working capacity of 340,000 barrels each. I developed a specification, which included a
2 drawing set, for both the ambient storage tanks and the heated storage tanks which meets
3 the requirements of Applicant Tesoro Savage Petroleum Terminal LLC, d/b/a Vancouver
4 Energy, API, and the National Fire Protection Association. The tanks are 240 feet in
5 diameter and 50 feet high with internal floating roofs which reduce emissions during
6 operation. The tanks will be constructed of high strength steel and designed by the
7 manufacturer, T Bailey, to withstand a seismic event in the facility location, as defined by
8 the GRI soils report. The API 650 code is developed from years of operating experience
9 including storage areas subjected to real earthquakes.

10 5. It is my professional opinion, and my reliance on the professional opinions
11 of others within ICPE and the other Project design and engineering team members, that
12 the storage tanks meet or exceed the requirements of the applicable standards, laws, and
13 regulations governing the design of the storage tanks.

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SWORN PRE-FILED TESTIMONY OF LARS OLAVSON - 2

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DATED this 3th day of May, 2016.

Lars Olavson
Lars Olavson, Declarant

STATE OF Utah)
COUNTY OF Washington)

Lars Olavson, being duly sworn upon oath, deposes and says: The foregoing testimony is true, correct and complete to the best of my knowledge, information and belief and is given subject to the laws of perjury in the State of Washington.

GIVEN under my hand and official seal this 13 day of May, 2016.

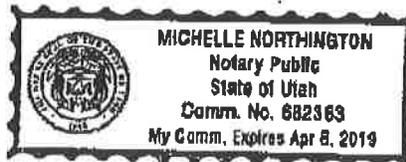
NOTARY PUBLIC in and for the State of:

Michelle Northington
Residing at: 1691 N. 2000th Street, Suite 200, St. George, UT

My Commission Expires: April 8, 2019

Printed Name of Notary:

Michelle Northington



SWORN PRE-FILED TESTIMONY OF LARS OLAVSON - 3

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