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BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

IN RE APPLICATION NO. 99-1

EXHIBIT ____ (DS-T)

SUMAS ENERGY 2 GENERATION
FACILITY

APPLICANT'S PREFILED DIRECT TESTIMONY

DOUGLAS SOVERN

Q. Please introduce yourself to the Council.

A. My name is Douglas T. Sovern. My business address is URS Corporation,
1400 Century Square, 1501 Fourth Avenue, Seattle, Washington 98101-1616.

Q. What is the subject of your testimony?

A. My testimony will address two topics: First, my background and experience.
Second, the Second Revised Application's proposal for further flood analysis
and reasonable mitigation.

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BACKGROUND

Q. What is your title and occupation?

A. My title is Civil Engineer. I am employed by URS Corporation as a hydraulics engineer, specializing in drainage and flood control, stream rehabilitation, stormwater/wastewater treatment, and subsurface drainage.

Q. Please describe your education and experience.

A I obtained a Bachelor of Science in Civil Engineering, and a Masters of Science in Hydrology, both from Colorado State University. I have since spent 35 years planning and designing urban drainage and flood control projects, as well as stream rehabilitation, stormwater treatment, and hydraulic structures projects. My education and experience are further described in my resume, which is provided as Exhibit ____ (DS-1).

Q. What is your role in the SE2 project?

A. I was retained to assist the assessment of flood impacts from the fill of the SE2 site and, if necessary, development of appropriate flood mitigation measures.

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FLOOD ANALYSIS PROPOSAL

Q. Are you familiar with the Second Revised Application’s proposal for further flood analysis?

A. Yes. SE2 has proposed to complete unsteady modeling of potential flood impacts at the site using not only the 100-year flood event, but also lesser events, such as 10-, 25- and 50-year floods. Once the modeling is complete, SE2 has committed to reasonably mitigating adverse off-site impacts that the modeling discloses.

Q. In your opinion, should this proposal address concerns about potential flood impacts from the fill proposed for the SE2 site?

A. Yes, this proposal should meet all reasonable concerns about flood impacts from the SE2 site.

First, employing an unsteady model to analyze potential flood impacts from this relatively small site is extraordinary. A steady state model has already been run and it indicates that the fill will not have a significant impact. The unsteady model is complex and expensive to run, and is more than is usually done in my experience. This level of analysis of potential impacts from filling the site should be more than sufficient.

Second, as Ms. Cooper suggested in her prior testimony to this Council, the amount of floodwater displaced for the SE2 facility is not likely to be large

1 enough to significantly affect flood levels and velocities off-site. The fill
2 associated with the SE2 facility would be very small relative to the existing
3 flood storage volume in the floodplain around the site. Thus, while any fill in
4 the floodplain will cause some increase in flood elevation and velocity, the
5 effect from filling the SE2 site will likely be so small that the increase will be
6 unappreciable. In effect then, the level of encroachment from this relatively
7 small site is unlikely to contribute in any measurable way to either flood
8 elevations or velocities and is unlikely to cause any *adverse* off-site impacts.
9 The proposed unsteady modeling will confirm the potential flood effects of the
10 proposed project.
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22 Third, in the unlikely event the unsteady model indicates that an adverse off-
23 site impact may occur, the SE2 proposal commits that the impact will be
24 reasonably mitigated. This commitment should resolve any lingering concerns
25 about potential flood impacts caused by the project.
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31 **Q. You mention mitigation. How would adverse off-site impacts be**
32 **mitigated?**
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37 A. I cannot answer that question directly at this point because the specific
38 mitigation would depend on the adverse impacts to be mitigated, if any.
39 Information to date suggests that no adverse impacts will occur so there is no
40 basis to evaluate appropriate mitigation. The proposed unsteady flood
41 modeling will confirm this information, or, if it demonstrates a potential
42 adverse impact, the unsteady modeling will provide the necessary data
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1 regarding magnitudes and locations for appropriate mitigation measures to be
2 designed.
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6 Speaking generally, however, the floodplain of Johnson Creek and the Sumas
7 River is composed of direct runoff from each of the watersheds and overflows
8 from the Nooksak River that flow in the alignments of the creeks and Sumas
9 River. The floodplain is extremely wide compared to the flood flows, resulting
10 in low average velocities. In such situations, potential flood mitigation
11 measures often include excavating nearby floodplain areas not directly
12 associated with surface water bodies to increase the hydraulic capacity of the
13 remaining floodplain area. Excavation can provide increased flow capacity
14 during dynamic flooding conditions. This holds true even if the excavated area
15 is below the seasonal high groundwater table, because water flows more easily
16 through an open channel than it does through soil. Such excavation can take
17 many forms, including ponds and secondary flow channels.
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31 **Q. Do you have any reason to believe that adverse flood impacts from the SE2**
32 **site could not be mitigated?**
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37 A. No. As I said, given the small volume of the proposed fill relative to the
38 floodplain volume, the project is unlikely to appreciably affect flood elevations
39 and velocities in the area, and adverse impacts requiring mitigation are very
40 unlikely to occur. If an adverse impact were determined, it would also be of
41 relatively small magnitude and the surrounding floodplain provides many
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1 alternatives for mitigation. There is no reason to believe that adverse flood
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3 impacts from the SE2 fill could not be fully mitigated.
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6 **END OF TESTIMONY**
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