BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

IN RE APPLICATION NO. 2002-01

BP WEST COAST PRODUCTS, LLC.

BP CHERRY POINT COGENERATION PROJECT

APPLICANT'S PREFILED REBUTTAL TESTIMONY

MARK S. MOORE

Q. Please reintroduce yourself to the Council.
A. My name is Mark Moore. I am the project manager for the Cherry Point Cogeneration Project.

Q. What testimony will you be addressing in this rebuttal?
A. I will be responding to portions of the testimony filed by Bill Elfo, Kate Stenberg, Douglas Goldthorp, Hal Hart, and Paul Wierzba.
**Bill Elfo's Testimony**

**Q.** In his testimony, Sheriff Elfo suggests that the Site Certification Agreement should include a requirement that the Certificate Holder pay for "unanticipated and extraordinary costs" incurred in connection with the construction of the Cogeneration Project. How do you respond to that suggestion?

**A.** In the past, the refinery has hosted larger numbers of craftsmen than are anticipated for the Cogeneration Project, without requiring significant additional services from the Sheriff’s office. For instance, during the 1999 Crude Flexibility project and associated major Crude and Coker unit maintenance period, some 2,000 craftsmen per day were added to the 400 contractors normally working at the refinery. As Sheriff Elfo testified, these activities "have not imposed service demands for which the Sheriff's Office could not meet within its existing manpower and budgetary levels." Given the significant tax revenues that the County will receive as a result of the Cogeneration Project, we would not expect that the County would need any additional revenues for project-related activities. In fact, Sheriff Elfo acknowledged in his testimony that he "would anticipate the Sheriff's Office will be fully capable of meeting the manpower needs during the construction phase of the project."

Nonetheless, if the construction of the Cogeneration Project requires specific unanticipated services which result in additional overtime for the Sheriff's Department, we would be willing to reimburse these costs as long as they were reasonable and approved in advance. We would like to know what these costs would...
be in advance to see whether we could mitigate them. Good communication between the project team and the Sheriff’s department will be a necessary part of this process.

Q. Sheriff Elfo also expresses concern about terrorist activities and suggests that the Cogeneration Project furnish space within the Cherry Point industrial area for a Sheriff Department substation. What is your response to that suggestion?

A. Whether or not the Cogeneration Project is built, BP is willing to provide office space for a police substation at the Cherry Point refinery.

Kate Stenberg's Testimony

Q. At page 15 of Kate Stenberg's testimony, she recommends several additional mitigation measures. I would like to get your reaction to some of her suggestions that concern the project's construction and operation. First, she suggests that "all outdoor lighting should be shielded to prevent any light from extending north of Grandview Road or up into the sky." What is your response to that suggestion?

A. We understand the desire to minimize the off-site impacts of lighting at the facility. At the same time, we need to balance that desire with the need to provide sufficient lighting for worker safety and for site security. As I understand it, Dr. Stenberg is concerned specifically about the potential impact of lighting on the blue heron that reside on a 180-acre plot of land that BP donated to the Whatcom Land Trust for use as a heronry in 1996 and 1999. The heronry is located approximately 2.5 km
northwest of the Cogeneration Project site. The refinery and its parking lots are actually considerably closer to the herons, and yet the associated lighting, which is much greater than that for the Cogeneration Project, apparently does not disturb the herons. It therefore stands to reason that lights further away and of a similar type would not bother the herons either. We would commit to using lighting of a type similar to that already used in the refinery.

Q. Next, she recommends "all stacks, cooling towers, and transmission line towers should be kept to minimum heights and must not include lights." What is your response to that suggestion?

A. The equipment proposed for use with the cogeneration project is somewhat standard in design. In general, equipment heights are minimized to the extent possible while still providing the needed functionality. The proposed heights are all specified in the application, and Dr. Stenberg has not identified any problems with the proposed heights. Significantly, the Refinery already has numerous taller structures, which are located closer to the heron colony, and they do not appear to present any problems to the heron. We do not intend to place navigation lights on the HRSG stacks or transmission towers since they will be less than 200 feet tall. However, lights are required on elevated equipment walkways and platforms so technicians may safely operate equipment at night.

Q. Dr. Stenberg testified that "[t]ransmission towers must not include any guy wires." What is your response to that suggestion?
A. The transmission towers used to support lines to the BPA transmission system east of the project site will not require guy wires.

Q. She also suggests that "plant 'start-up' be scheduled for September or October to allow wildlife the maximum amount of time to adjust to changes in noise levels prior to the start of sensitive activity periods (e.g. breeding season staging in February and March for great blue herons)." What is your response to this suggestion?

A. Dr. Stenberg's suggestion simply isn't practical. The Cogeneration Project is expected to cost approximately $580 million. The project owner cannot afford to allow that kind of capital investment stand idle for up to 10 months as she has proposed. Each month of delay in commencing operations might cost the project owner $5-6 million in lost revenues. In addition, delaying the operation of the Cogeneration Project would delay its environmental benefits. In particular, the Refinery would have to continue to generate steam from existing boilers, with their associated air emissions. There are both economic and environmental reasons for bringing the Cogeneration Project on-line as soon as construction is completed.

Furthermore, I find it difficult to believe that a delay in startup would result in any meaningful benefit to the heron colony. Noise engineer David Hessler has performed modeling to conservatively estimate the impact of the operation of the Cogeneration Facility, and he concluded that the Cogeneration Project is not likely to cause any change in the noise levels near the colony (Receptor #7). Likewise, the County's noise consultant Paul Wierzba testified that the impact of noise at the heron...
colony will be "insignificant." (Exhibit 45.0 at 6). Even if the Cogeneration Project
did cause noise levels to increase by a few decibels in areas occasionally used by
herons, I think it is important to keep in mind that the background noise monitoring
done by Golder Associates, David Hessler and the County's consultant show that
existing noise levels vary over short periods of time by more than 30 dBA, ranging
from the mid-40s to the low-80s at Receptor #7, yet the herons do not appear to be
affected by these changes. This suggests that even an increase in noise of a few
decibels would not adversely affect the heron.

It is also important to consider there is a simple cycle power plant – the Point
Whitehorn Peaking Station – located much closer to the heron colony than the
proposed Cogeneration Project. Simple-cycle plants of this vintage can be louder
than combined-cycle facilities such as the one we are proposing, especially when it
comes to low frequency noise. The Point Whitehorn plant was not operating during
the times Golder, Hessler and the County's consultant were conducting their
background noise monitoring, and so the impact of this noise source was not
considered in their analyses. The Point Whitehorn facility doesn't operate all the
time, but it did operate about 46% and 41% of the time, respectively, during 2000
and 2001. This was the same period during which Dr. Stenberg says the heron
colony was successfully reestablising itself. This strongly suggests to me that much
lower noise from the more distant Cogeneration Facility would not adversely affect
the success of the heron colony. Consequently, I do not believe there is any reason
to restrict the Cogeneration Project's operation in the way that Dr. Stenberg has
suggested.
Q. Dr. Stenberg also suggests that "[i]f noise levels are likely to fluctuate during plant operation or maintenance, minimize such starts and stops during sensitive activity periods for wildlife." What is your response to this suggestion?

A. Again, we do not believe it makes sense to restrict the operation of the Cogeneration Project based on concerns about the facility's noise impacting the heron. As I've explained in connection with the previous question, noise monitoring performed by Golder, Hessler and the County's consultant all show that existing noise levels near the heron colony vary considerably over short periods of time. Significantly, these noise level changes don’t take into account the intermittent operation of the Point Whitehorn plant. Point Whitehorn has operated intermittently in the past during both the heron's breeding season (February and March according to Dr. Stenberg) and nesting seasons (March through July according to Dr. Stenberg), yet this noise has apparently not adversely affected the colony. There is no reason to believe that the operation of the Cogeneration Project would either.

Douglas Goldthorp's Testimony

Q. In his testimony, Mr. Goldthorp contends, "the public will no doubt come to rely upon [the Cogeneration Project's] continued operation to supply its emerging energy needs. It is therefore clear that the facility is one that must be sited and designed to withstand significant seismic events." Do you agree with Mr. Goldthorp?
A. I agree with Mr. Goldthorp that the Cogeneration Project design should take into account the possibility of seismic events, and should take reasonable and prudent measures to protect the facility from damage in a seismic event. I also agree with Mr. Goldthorp that the seismic issue is a facility reliability issue, not a public safety issue. Reliability is a key to the financial viability of this project, so no one cares more about the facility being able to stay in operation than BP and those who would finance this project.

However, taking reasonable and prudent measures to address the possibility of a seismic event does not mean gathering all conceivable geological and seismic information. The Uniform Building Code contains requirements for the facility design that are based upon the seismic zone in which a facility is to be located. The Project Site is located in Seismic Zone 3, and the facility will be designed accordingly. Bechtel, the engineering contractor, has also performed a detailed site-specific geotechnical analysis. Sanjeev Malushte will address these issues more specifically in his testimony.

Q. Mr. Goldthorp recommends that a Probabilistic Seismic Hazard Assessment be performed prior to the final design of the facility. Do you agree with that recommendation?

A. We do not believe that a site-specific Probabilistic Seismic Hazard Assessment is necessary to appropriately design the facility. We have reached that conclusion based on information provided by Bechtel about their experience building gas-fired
generation projects, as well as BP’s own recent experience with projects of this type. Sanjeev Malushte will be addressing this issue in more detail in his testimony.

Q. Mr. Goldthorp also recommends that the Certificate Holder implement an ongoing post-construction seismic monitoring program. What sort of monitoring do you believe would be appropriate?

A. Mr. Goldthorp does not describe the sort of monitoring program he is recommending, so it is difficult to respond to his recommendation. What BP is willing to do is conduct a periodic monitoring program similar to the one currently in use at the refinery would be appropriate. Under such a program, various aspects of the facility's structural integrity are checked on a regular basis, and after significant seismic events. Inspections include:

- Inspect major foundation seams for differential movement,
- Inspect major foundation grout pads for cracking,
- Check for proper alignment of major piping shoe supports,
- Check piping spring hangars for proper position,
- Check for piping and cable tray misalignment at building penetrations,
- Review equipment vibration monitoring logs for unusual vibration patterns

Problems or discrepancies are identified during the inspections and appropriate repairs are made. These inspections ensure that structural components would continue to serve their intended function.

The facility will also have vibration monitors on major pieces of rotating equipment. Were a significant seismic event to occur, the plant would likely shut down because
vibration monitors would see the tremors as high vibrations and would trip the equipment.

Hal Hart's Testimony

Q. In this testimony, Mr. Hart recommends that the Site Certification Agreement impose "a meaningful time line for site restoration." What is your response to that suggestion?

A. I believe that imposing this sort of requirement in the Site Certification Agreement would be unnecessary and inappropriate. There is no reason to believe that there will be a problem with a derelict industrial facility at this site, as this is not a stand-alone facility that would be abandoned at the end of the project life. BP has a strong incentive to restore the site so that it could be put to another use. BP has not abandoned derelict equipment and facilities at Cherry Point in the past. On the contrary, BP receives many compliments from visitors about how well the Cherry Point refinery is maintained.

In any event, it would be premature to require restoration to occur within a specific time period now since we don't know what the plan for future site use will be. EFSEC regulations require a final site restoration plan to be submitted to the EFSEC at the time of the restoration, and timing issues are more appropriately addressed at that time.
Paul Wierzba's Testimony

Q. At pages 5-6 of his testimony, Dr. Wierzba recommends a "target" that the project not result in an increase in ambient noise levels of more than 3 dBA or more than 9 dBC. From the applicant's perspective, is that target appropriate?

A. No. Although state law does not require anything more than limiting project noise to 60/50 dBA in residential areas (day/night) and 70 dBA in industrial areas, BP has been sensitive to concerns about project noise during the development of this project, and has already gone well beyond the State regulatory requirements to reduce noise. Noise guarantees have been negotiated with the proposed EPC contractor, Bechtel. Bechtel has agreed to guarantee that the noise produced from the Cogeneration Project will not exceed the "Project Only" Noise levels set forth in Table 8 of the Golder Associates Report found in Appendix K. Those guaranteed levels are set forth below for your convenience:

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Project Only Noise (dBA)</th>
<th>WAC 173-60 Day/Night (dBA)</th>
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<tbody>
<tr>
<td>1 (I)</td>
<td>51.7</td>
<td>70</td>
</tr>
<tr>
<td>2 (R)</td>
<td>44.5</td>
<td>60/50</td>
</tr>
<tr>
<td>3 (I)</td>
<td>49.8</td>
<td>70</td>
</tr>
<tr>
<td>4 (I)</td>
<td>43.2</td>
<td>70</td>
</tr>
<tr>
<td>5 (I)</td>
<td>45.7</td>
<td>70</td>
</tr>
<tr>
<td>6 (I)</td>
<td>45.7</td>
<td>70</td>
</tr>
<tr>
<td>7 (R)</td>
<td>44.4</td>
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<td>8 (R)</td>
<td>37.8</td>
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<td>9 (R)</td>
<td>42.3</td>
<td>60/50</td>
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<td>10 (R)</td>
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<td>11 (R)</td>
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</tr>
<tr>
<td>12 (I)</td>
<td>65.1</td>
<td>70</td>
</tr>
</tbody>
</table>
Significantly, this guarantee ensures that noise from the project will be less than 45 dBA at the residential locations north and northwest of the refinery (Receptors 9, 10 and 11) that appear to be the focus of the County's concern.

Dr. Wierzba’s recommendation to go beyond that guarantee and limit the change in noise to 3 dBA and 9dBC over background is also problematic because it focuses on the potential change in noise levels compared to the existing background. Noise monitoring done by Golder Associates, David Hessler and the County's consultant all show that that existing noise levels are constantly changing, sometimes quite dramatically. Although the engineers can design the project so that the project's noise will not exceed the guaranteed levels, they cannot control the background. In fact, given the variability in the background levels, it is impossible to predict what the "background" level might be a particular moment. As a result, it is impossible to ensure that the Cogeneration Project will not increase the background level by more than 3 dBA and 9 dBC. David Hessler's testimony will further respond to Dr. Wierzba's recommendations.

END OF TESTIMONY