



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

October 24, 2011

Mr. John McAvoy, PE, Major Projects Manager
Federal Highway Administration
Western Federal Lands Building
610 E. 5th St.
Vancouver, Washington 98661

Ms. Linda Gehrke, Deputy Regional Administrator, Region 10
Federal Transit Administration
915 Second Avenue, Suite 3142
Seattle, Washington 98174

Re: Interstate 5 Columbia River Crossing Project Final Environmental Impact Statement
EPA Project Number: 05-052-FHW

Dear Mr. McAvoy and Ms. Gehrke:

F-001-001

The U.S. Environmental Protection Agency (EPA) has reviewed the Interstate 5 Columbia River Crossing Project Final Environmental Impact Statement (FEIS) and Final Section 4(f) Evaluation. We are submitting comments in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The Columbia River Crossing (CRC) FEIS identifies the locally preferred alternative (LPA) as a refined version of Alternative 3 in the Draft EIS. The LPA includes a new river crossing over the Columbia River, improvements to seven interchanges, bicycle and pedestrian improvements, light rail transit from Portland to Clark College in Vancouver with transit stations, park and rides, bus route changes, an expanded light rail maintenance facility, tolls on motorists for project financing and as a travel demand management tool, and transportation demand and system management (TDM and TSM) measures. Depending on project funding, the LPA could be constructed fully or with phasing of several highway elements.

At the Draft EIS stage, we expressed our general support for the proposed project, particularly with respect to its multi-modal features, use of tolls and other TDM and TSM measures to reduce single occupancy vehicle travel and its associated impacts. We also raised concerns with respect to a number of environmental, human health, social, and economic issues, including potential impacts to the Troutdale Spile Source Aquifer and other project area groundwater resources; air quality; environmental justice and impacts to disadvantaged and vulnerable populations; water quality, impaired water bodies, and subsistence fishing uses; land use; and ecological connectivity. We also reviewed and commented on the project financial analysis and potential funding impacts. We would like to express our appreciation for all the good work that has transpired since the Draft EIS was issued, and to thank you for working with

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F-001-001

Thank you for your comments.

F-001-001 us to improve the analysis and disclosure of and mitigation for potential project impacts. Our comments regarding specific aspects of the project are provided below.

Groundwater and the Troutdale Sole Source Aquifer

F-001-002 The FEIS together with the pertinent electronic Technical Reports and Appendices (Geology and Soils, Water Quality and Hydrology, Hazardous Materials and its Appendix F, the Troutdale Sole Source Aquifer Report [mis-referenced as Appendix E in the FEIS, p. 3-334 and elsewhere]) do a good job of presenting available data, potential impacts, and description of proposed monitoring. We recommend that these groundwater-related documents, any updates to them and any new reports, be compiled and made readily visible and available to the public on an ongoing basis throughout project design, construction, and beyond.

The CRC project is currently working with the EPA at test shaft drilling sites to ensure that appropriate subsurface soil and groundwater samples are taken to determine the presence of contaminants where pile driving and shaft drilling would occur. We note the following future groundwater-related activities identified in the FEIS that would benefit from clarification and more specific commitment in the Record of Decision (ROD):

- Focused site assessments for hazardous materials (p. 3-423) would be conducted prior to construction to evaluate existing impacts to soil, sediment, and groundwater. An agency approved work plan would have goals, objectives, and procedures for each site assessment.
- An analysis of impacts to groundwater movement due to project construction of shafts, piles, retaining walls and soil stabilization structures, which are projected to be minor and localized (p. 3-409), is deferred to future evaluation as project design proceeds.
- Ongoing drinking water supply monitoring of groundwater by the City of Vancouver will help to verify that the project does not impact Vancouver's drinking water supply (p. 3-424).

Recommendations:

- Identify the specific agency that would approve the focused site assessment for hazardous materials. Identify who would be notified of any hazardous materials discoveries and the response plan chain of events.
- Indicate where the analysis of impacts to groundwater movement can be obtained or reviewed by the public.
- Disclose any other means or plans to monitor groundwater drinking water supplies that may be affected by project construction and operations.
- Compile and make readily available to the public, on an ongoing basis, all groundwater-related reports/documents as stated above.

Air Quality

F-001-003 Cumulative, Long-Term Construction Impacts: We agree with the statement in the FEIS that construction impacts to the surrounding environment are a concern for any of the build alternatives (p. 2-68). The FEIS states that the highest potential for "temporary" cumulative construction impacts, such as local traffic congestion and rerouting, noise and air pollution, is likely near the bridge landing in

F-001-002

The DOTs commit to the following mitigation measures and are including them in the Record of Decision:

- Focused Environmental Assessment's (FEAs) would be reviewed and approved by the state DOT hazardous material departments within each respective state (Oregon and Washington). These FEAs will be conducted in areas not covered by Environmental Site Assessments (ESA) Phase 1 or Phase 2 assessments and will address the potential to encounter hazardous materials at specific sites, impacts of construction on hazardous materials and any hazardous materials discoveries. As part of the FEA work plan the DOT hazardous materials departments will coordinate with ODEQ, WDOE and/or EPA on any hazardous materials discoveries and implement the response plan.
- All project reports, analysis and plans are available and will continue to be available on the Columbia River Crossing website.
- The City of Vancouver presently monitors drinking water, this information can be compiled and made available to the public either through the CRC website or the City of Vancouver website. During project construction the FEA work plan will address the potential to encounter hazardous materials at specific sites, impacts of construction on hazardous materials and handling any hazardous materials discoveries. Post project construction completion stormwater infiltration facilities will be designed to provide the necessary separation between the bottom of the basin and seasonal high of the groundwater table to minimize any potential of groundwater contamination.

F-001-003

Although construction will last more than 5 years, project construction activities at any one site are not expected to last more than 5 years. Thus, a CO hot-spot analysis was not conducted. If, as more information

F-001-003

Vancouver and on Hayden Island, where other large construction projects are likely and where CRC construction duration and intensity will be high (p. 3-460). Based on the substantial levels of uncertainty regarding the nature, extent, costs, and delays associated with hazardous materials sites discovery and clean up, historical/cultural/archeological discoveries, project financing, construction phasing, overlapping non-CRC activities/construction in the project vicinity (p. 3-459), and other unforeseen construction impacts and delays, we would expect project construction, and its associated array of impacts, to exceed a five year period.

With respect to air quality, this is significant when one considers the threshold used in the conformity rule. Under the transportation conformity rule, "Temporary increases are defined as those that occur only during the construction phase and last five years or less at any individual site" 40 CFR 93.123(c)(5). The conformity rule does not consider construction periods more than five years as temporary.

The Portland Air Toxics Assessment identified construction activities as a significant source of air toxics in the urban area. In the case of the CRC project, construction of new bridges, roadways, interchanges, light rail transit, bicycle/pedestrian facilities, retaining walls, sound walls, bridge removal, and operations in staging areas all individually or cumulatively can be significant sources of regulated pollutants and air toxics. The best case scenario for duration of project construction is six years, with the Hayden Island and southern Vancouver communities experiencing the most prolonged and intense construction activities. In addition, Subarea 2, which includes the southern Vancouver neighborhoods, is projected to experience higher levels of operational air pollutants (carbon monoxide and nitrogen oxide) with the Locally Preferred Alternative (LPA) than under the No Build Alternative due to greater vehicle miles traveled (p. 3-279). The long-term construction emissions and other construction-related stressors, in addition to elevated long-term or permanent operations emissions (even if lower than current emissions) point to the importance of identifying sensitive receptors, particularly those exposed to these long-term impacts, and to using additional emissions controls for construction equipment project-wide, and particularly within the core construction areas.

Recommendations:

- Identify project area sensitive receptor locations in the ROD and ensure that mitigation commitments address these areas.
- Include commitments for additional emissions controls for construction equipment in the Record of Decision (ROD). There is substantial local evaluation of emission control technologies for construction equipment. This year the City of Portland completed two EPA Diesel Emission Reduction Act grants wherein they successfully installed 156 after-treatment devices and 157 direct-fired heaters as an idle reduction strategy on public and private construction equipment. Contact Kyle Diesner, City of Portland, at 503-823-4166 for more information.
- Require retrofitting of construction equipment in construction contracts. U.S. DOT CMAQ money can be used to help fund diesel retrofits and there are many examples of construction retrofit contract language across the Country.
- See the Clean Construction USA website at <http://www.epa.gov/otaq/diesel/construction/> for many examples of construction mitigation measures, case studies, and examples of institutional arrangements for implementing this mitigation.

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is known, construction at any one staging site is expected to last more than 5 years, a hot spot analysis will be completed.

Sensitive receptors were not explicitly identified in the FEIS, as CRC did not conduct modeling for the FEIS. However, results from the latest Portland Air Toxics Solutions (PATS) modeling, were incorporated into the FEIS. Concentration contours for benzene, formaldehyde and diesel PM were presented for the on-road sources and for on- and off-road mobile source categories. These contours provide the public with information about the spatial distribution of these pollutants across the region and in the project area.

As described in more detail in Chapter 3 (Section 3.10) of the FEIS, construction mitigation will focus on controlling dust and exhaust emissions from demolition and construction activities and on minimizing traffic congestion. Regarding dust, the project will comply with WAC 173-400-040 in Washington and Section 290 of ODOT's standard specifications in Oregon, regulations that limit dust emissions. The WAC includes enforcement actions and fines in cases where dust becomes a nuisance and Section 290 includes a list of precautions to be taken to avoid dust emissions.

Regarding exhaust emissions, the contractor would be required to develop a pollution control plan that includes documentation of operational measures that would be used to reduce emissions. This plan would include a requirement for the use of ultra low sulfur diesel and idling location and duration limitations. In addition, the DOTs are evaluating potential additional emission control technologies for construction equipment. The DOTs will continue to monitor and evaluate changes in technology and related regulations. Decisions regarding any additional emission controls will be made during final design.

Stationary sources such as concrete and asphalt mix plants are

F-001-003

- Commit to a full suite of air quality construction mitigation measures to avoid and minimize construction-related emissions to the extent possible.
- Include in the ROD a commitment that WSDOT and ODOT will continue to work with neighborhoods and vulnerable populations to address air quality concerns and impacts as the project moves into final design and construction.

Environmental Justice – Cumulative Effects to Disadvantaged and Vulnerable Populations

F-001-004

We acknowledge and appreciate the benefits associated with the proposed project, and we appreciate the efforts to minimize impacts to disadvantaged populations in the project area through outreach and incorporation of community input. We do remain concerned that the direct and indirect environmental, human health, social, and economic project impacts would likely affect disadvantaged populations within the project area disproportionately as compared to populations that reside outside the project area. It is important to acknowledge that the same project benefits accrue to non-disadvantaged communities outside the construction zone, but without the impacts, or in the case of regressive tolls, with less impact. Also, the general approach to analyzing and mitigating individual impacts, while important and useful, may not fully illuminate and enable a response to the holistic social, cultural, economic, and human health effects that may result from cumulative impacts.

We continue to recommend that available health data be provided to help characterize baseline conditions in affected neighborhoods and to inform efforts to mitigate impacts. The CRC Office indicates that maps of asthma rates and accompanying data and explanation could be provided, but that since the project is having no adverse impact on air quality, there is little need to discuss the potential for disproportionate or adverse effects. We believe this health information should be disclosed and used in describing cumulative effects to vulnerable populations, and applied in project planning and design to reduce impacts throughout the project area, whether or not a community has voiced concern regarding air pollution or other potential project-related impacts. The cumulative effects analysis should recognize that all project-related impacts, whether social, economic, or environmental, have potential impacts to human health and well-being.

We suggest considering augmentation of the mitigation listed for CRC tolling impacts. Allowing disadvantaged people to use their electronic benefit cards (food stamp funds) to purchase transponders and pay tolls is a convenience, but is essentially a decrease in their public assistance funds. Considering the scope of current and additional impacts being borne by the affected neighborhoods and the current economic struggles, it would seem appropriate to offer low income residents free or discounted transponders and free or reduced fare transit passes.

Recommendations:

- Include baseline health data in the ROD, and use it to inform further mitigation commitments.
- To alleviate cumulative effects from past, current, and additional future impacts, consider remedies that are social, economic, and environmental in nature, result in reduced stress, and improve the quality and enjoyment of life in cumulatively affected communities.
- Consider providing free or discounted transponders and transit passes to low income residents.

generally required to obtain air permits from DEQ or SWCAA and to comply with regulations to control dust and other pollutant emissions. As a result, their operations are typically well controlled and do not require additional project-specific mitigation measures.

Strategies to minimize the occurrence and effect of roadway congestion during construction would be developed during the design phase. Alternatives would be refined, impacts to traffic analyzed, and transportation agencies and experts brought in to develop mitigation plans and solutions. Some of these strategies may include encouraging mode shifts to non-SOV trips, construction management techniques/incentives to avoid/reduce congestion, and providing information to travelers to encourage alternate route/travel times.

WSDOT and ODOT will continue to work with neighborhoods and vulnerable populations to address air quality concerns and impacts as the project moves into final design and construction.

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The project will work closely with the affected neighborhoods for the duration of construction, and beyond. As part of this outreach, and fulfilling federal and other guidance on environmental justice, the project will acknowledge and address unique vulnerabilities throughout the community. The FEIS includes mitigation to conduct outreach in multiple languages, to work closely with the State Schools for the Blind and the Deaf in Vancouver, and to actively manage construction related emissions, dust, and other impacts. The mitigation commitments have been updated to include specific work to identify and help mitigate effects that are specific to individuals with health problems or other unique circumstances. It is not possible, without an independent survey and analysis being initiated, to isolate health conditions and affects within the study area specifically. Instead the project will incorporate into its outreach and public involvement programs, a specific emphasis on

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Phased Implementation. Because the CRC project construction may be phased the EIS should acknowledge that, at some point, “temporary” impacts should be considered long term or permanent impacts depending on the nature and duration of effects. Conformity rules under the Clean Air Act identify impacts as temporary only if they last 5 years or less. The question of whether or not this finding should also apply to impacts regarding vulnerable populations, noise, water quality, threatened and endangered species, and so on should be examined.

Long term social, economic, and environmental impacts should be acknowledged and appropriately mitigated. Residents, particularly vulnerable populations, near the bridge landing in Vancouver and on Hayden Island (p. 3-460) could be affected by cumulative construction impacts for an indefinite period of time under a phased scenario. The FEIS mentions mitigation plans, traffic control and business assistance plans as mitigation, but at some point, the effects of long-term cumulative construction impacts may be unsustainable for the most vulnerable populations and businesses. It may be appropriate to consider them as displacements or closures due to the effects of prolonged project construction.

Recommendation:

- Acknowledge and propose mitigation for potential long term/permanent social, economic, and/or environmental effects due to phased implementation.

Financial Analysis

F-001-006

The Financial Plan is key to implementation of a successful, environmentally sensitive project and we appreciate its inclusion in the FEIS. We invited our Regional economist to review the Financial Analysis and would like to offer the following comments as suggestions to strengthen the analysis.

Funding Sources and Fiscal Constraint. According to recent FHWA guidance¹ (p. 5, Q&A 3 and 31, and per the definition of “Reasonably Available”, p. 2), project proponents need to demonstrate that the project “can be implemented using committed, available, or reasonably available revenue sources.” The assumptions regarding anticipated funding sources (Section 4.4.2) indicate that “procuring these funds depends on future actions by federal and state legislators and administrators.” Relevant national, regional, and state economic issues, particularly over the last two years, such as, budget related issues at national and state levels, unemployment impacts, personal income related matters, and so on, could have serious adverse impacts on prospective sources of funding from both federal and state programs. These conditions should be discussed and factored into the Financial Analysis.

Recommendation: Provide rationale for the reasonable availability of CRC funding from the sources identified.

If insufficient Federal discretionary funds are secured for the project, the Analysis indicates that construction may be phased and/or additional capital funds would be required from state sources and/or tolling. As indicated by the CRC Cost Estimate Validation Process² (CEVP), there are only two phases – “Full Build” and “nearly Full Build”, wherein some interchanges would not be fully built to their final

¹ FHWA, 2011. Supplement to January 28, 2008 “Transportation Planning Requirements and Their Relationship to NEPA Process Completion”. February 9, 2011.

² CEVP, 2011. Columbia River Crossing CEVP (Cost Estimate Validation Process). Final Report. August 2011.

human health issues. We will continue to work with the community to identify areas where human health conditions can be improved and how project impacts in these areas can be mitigated.

The project will also continue to explore means of offsetting the impact of tolls, including transponder acquisition. There are some local discounted transit passes for low-income populations, and the specifics of this program will be assessed as the project continues toward opening.

F-001-005

Construction-related impacts to traffic, noise, and air quality are not expected to be so severe as to warrant displacing residents that are outside the impact area of the project and not addressed in the FEIS. The FEIS describes mitigation that would be implemented to minimize construction impacts to nearby residents. The ROD discusses the potential for additional conformity analysis should construction activities last longer than 5 years in any single location.

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Please refer to Chapter 4 of the FEIS for a description of the current scenarios for funding construction and operation of the LPA. This discussion provides an updated assessment of likely funding sources for this project, though it is not common practice to receive funding commitments prior to completion of the alternative selection process. As described in the FEIS, project funding is expected to come from a variety of local, state, and federal sources, with federal funding and tolls providing substantial revenue for the construction. Project staff will continue to work toward confirmation of the major funding sources for the project.

The detailed cash flow analyses requested will be developed as the project moves toward construction. An investment grade tolling analysis will be initiated following the ROD. Both will present financial analysis in

F-001-006

proposed configuration (CEVP, ES-1 and Section 2.4). The Independent Review Panel³ (IRP) states that the difference in the cost/benefit analysis between the LPA Full Build and the Phased LPA is minor (p. 179), which does not offer much flexibility for phasing the project funding where substantial funding may not be available in accord with the project's build schedule (based on the financial, economic, social, political conditions mentioned above). The IRP made additional comments on pages 184-187 of their report that do not appear to be factored into the analysis.

The Finance Plan Scenarios for various Toll Rate Schedules (Exhibits 4.4-4 through 4.4-9) each assume that each year's project revenue exactly matches that year's capital costs. Given the numerous funding sources and the magnitude of the project, it would be useful to include some cash flow scenarios for project financing as well. The cash flow scenarios should include relevant sources of funding and project cost, including any bond/loan issuance and interest.

Toll-Related Issues. The IRP (p. 176) noted there are two areas of the Finance Plan that represent the largest risk to the project, one of which is revenues from tolls. The Financial Analysis toll rate scenarios are shown in 2006 dollars, while the capital costs are in 2011 dollars (see CEVP), hence revenue/funding should also be expressed in 2011 dollars as the base. The conversion is a straightforward exercise and would provide reviewers with more relevant figures for analysis and decision making.

Recommendation: Present financial analyses in 2011 dollars.

The Oregon State Treasury⁴ (OST) CRC Financial Plan Review suggests that "...the CRC assume that projected annual gross toll revenues will be somewhere between 15% to 25% lower than the baseline forecast assumed at the time the 2008 DEIS was adopted" (p. 10), and that "At a 25% toll revenue reduction, estimated project revenues are reduced by 31% or approximately \$407 million." (p. 12) The Impresa Economics study⁵ also raises these issues relative to traffic crossing numbers and resulting toll revenue. The Financial Analysis does not refer to either of these reports with respect to traffic forecasts and toll revenues.

Recommendation: Provide analysis of scenarios that take into account potential reduction in estimated CRC traffic due to alternative/less costly travel routes, and due to recent, current, and near future economic and social conditions, and apply relevant sensitivity analyses.

The Financial Analysis discusses prospective sources of bonds and assumed bond proceeds, but not the key assumptions for financing through a bond issuance. Toll revenues would be pledges to repay bonds and other loans, and CRC must ensure there will be sufficient net toll revenues to pay debt service.

Recommendation: Incorporate the cost of debt service into the Financial Analysis.

³ Independent Review Panel (IRP), 2010. I-5 Columbia River Crossing Project, Independent Review Panel, Final Report. July 27, 2010.

⁴ Oregon State Treasury (OST), 2011. Columbia River Crossing Financial Plan Review – presentation. Debt Management Division, Oregon State Treasury. July 20, 2011.

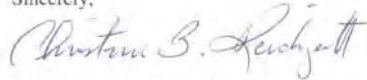
⁵ Impresa Economics, 2010. Financial Analysis of the Columbia River Crossing, Portland, Oregon. October 2010.

a consistent dollar year reference and will incorporate the cost of debt service.

The term "reasonably available" in the referenced guidance refers to a judgment call taking into consideration (a) evidence of review and support of the new revenue assumption by state and local officials and (b) documentation of the rationale and procedural steps to be taken with milestone dates for securing the funds. Evidence of support of the revenue assumptions includes the fact that the finance plan was thoroughly reviewed by state and local officials in both Oregon and Washington as part of receiving Board approvals from each of the participating governments to sign the FEIS. Moreover, the project has been incorporated in the financially constrained Regional Transportation Plan, which also must be based on reasonably available funds. In addition, the FEIS describes in general terms the project milestones and required approvals relating to the implementation of the finance plan.

F-001-006 Thank you for the opportunity to review the CRC Final EIS and to participate in the development of this important project. If you have questions or would like to discuss these comments, please contact me at (206) 553-1601 or by electronic mail at reichgott.christine@epa.gov, or you may contact Elaine Somers of my staff at (206) 553-2966 or by electronic mail at somers.elaine@epa.gov.

Sincerely,



Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

cc: Ms. Heather Wills, CRC Environmental Manager



Commander
Thirteenth Coast Guard District

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Seattle, WA 98174-1067
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16591
October 24, 2011

Ms. Heather Wills
CRC Environmental Manager
Columbia River Crossing
700 Washington Street
Vancouver, WA 98660

Dear Ms. Wills:

F-002-001

I am in receipt of and have reviewed the Final Environmental Impact Statement (FEIS) for the Columbia River Crossing (CRC) project dated September 7, 2011. After reviewing the FEIS, I find that the vertical clearance for the proposed I-5 Bridge across the Columbia River does not fully address the reasonable needs of navigation for vessels which ply this stretch of the Columbia River. The proposed vertical clearance of 95 feet above 0.0 Columbia River Datum (CRD) would impede both current and prospective commercial and recreational vessel movement and would adversely impact businesses associated with the operation and maintenance of these vessels. Adverse impacts can also be reasonably expected to businesses that rely on the commercial manufacturing operations that would be directly impacted by the restrictive vertical clearance of the proposed I-5 Bridge across the Columbia River presented in the FEIS.

In previous correspondence, the Coast Guard pointed out that impacts to navigation will be given serious scrutiny. Specifically, the enclosed letter of May 6, 2011 was written to draw the CRC project's attention to a request for 125 foot vertical clearance, stating that the request was "a reasonable need of navigation." Unfortunately, there is no mention in the FEIS, or the Navigational Technical Report, of a navigation need above 110 feet. For this reason, I must conclude that the FEIS, as currently written, does not fully address the navigational impacts. The Coast Guard, as a cooperating agency for this FEIS will not be able to adopt the FEIS until the adverse impacts to navigation as a result of the restrictive vertical clearance are properly captured.

F-002-001

The project conducted a series of studies and stakeholder outreach efforts to determine the appropriate navigation clearance for the proposed bridges. Many factors were considered in these studies. In addition to vessel height, the safe and efficient operation of aviation (Pearson Field), highway, light rail, and the multi-use path (bicycle and pedestrian) were considered.

The selection of the crossing height (low, mid, or high level) for the proposed bridges over the Columbia River and the placement of the piers are affected by three primary constraints: aviation, navigation, and project geometry (i.e., roadway/transit/multi-use path).

Effects on aviation were evaluated using federal regulations for the safe, efficient use and preservation of navigable airspace (14 CFR Part 77). These FAA regulations are applicable to Portland International Airport (PDX) and nearby Pearson Field. Objects violating the requirements of the Part 77 regulations may be deemed a "hazard to aviation". Three navigation channels (Primary Channel, Barge Channel, and Alternate Barge Channel) are currently designated by the United States Army Corps of Engineers (USACE) and permitted by the United States Coast Guard (USCG). The past and future uses of these three channels were also evaluated.

The primary constraints considered in the evaluation also included geometry related to safe and functional operation of the highway, transit, and multi-use path facilities. All facilities must be able to make required connections to interchanges, surface streets, and stations and to do so in a safe manner in accordance with standards of practice.

CRC conducted studies of current river usage and validated these studies through stakeholder outreach to determine what clearances are required by current river users. These efforts included a boat survey to

16591
October 24, 2011

F-002-001

A bridge across the Columbia River, mile 106.5, the I-5 crossing, with a vertical clearance of 95 feet above CRD 0.0, as currently purposed, would impede both current and prospective navigation, until these issues are adequately addressed or mitigating strategies implemented, the bridge will not receive a favorable endorsement for Coast Guard bridge permit issuance. I understand that the CRC project is arranging a meeting with the waterway user requesting the 125 foot vertical clearance, and we intend to participate. I am providing this letter to meet the FEIS 30-day review period that concludes on October 24, 2011, with the reservation to amend or supplement these comments pending the outcome of future coordination with affected waterway users.

Sincerely,

RANDALL OVERTON
Bridge Administrator

Copy: John M. McAVoy, Project Manager, Federal Highway Administration, Oregon Division
Linda M. Gehrke, Deputy Administrator, Federal Transit Administration, Region 10
U. S. Coast Guard Marine Safety Unit Portland, Waterways Management Division
U.S. Coast Guard Sector Columbia River
U.S. Coast Guard Headquarters (CG-5512)

Encl: Commander (dpw) Thirteenth Coast Guard District letter dated May 6, 2011

identify the types of vessels that use the Columbia River at the project location, their frequency of usage, and required navigation clearance. Additionally, a series of telephone and/or face-to-face interviews were conducted with river users to validate and update the information contained in the boat survey. Along with these efforts, the USCG held a preliminary hearing on the Columbia River Crossing to solicit comments from river users.

The information gathered from the above-mentioned studies and stakeholder outreach was considered in conjunction with the operational statutes for nearby Pearson Field and with requirements for safe and efficient operation of the proposed highway, light rail, and multi-use path facilities. Taking all of these considerations into account, it was determined that a 95-foot vertical clearance will allow all but three known and infrequent river users to navigate beneath the bridge at all times of year. Some of these users could partially disassemble equipment so they could pass beneath a 95-foot vertical clearance.

If a navigation clearance of 125 feet is provided using the deck truss bridge type selected by the Oregon and Washington Governors, then vehicles, luminaries, sign bridges, and tolling facilities would encroach into Pearson Field Part 77 surfaces (14 CFR Part 77). This may prompt the FAA to issue a determination of "Hazard to Aviation" for the project, meaning that the owner of the bridge would assume full liability in the event of an accident. PDX airspace would not be affected. Also, a higher bridge design may require redesigned columns and foundations, resulting in a larger in-water footprint over what is currently required for the deck truss bridge type.

Increasing the height of the proposed Columbia River bridge to provide 125 feet of vertical clearance has impacts to the safety and cost of the overall project. These impacts include additional hazards to aviation; operational and safety impacts to the highway; operational, safety and

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Homeland Security
United States
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16593
May 6, 2011

Mr. Doug Ficco
Director of Project Delivery
Columbia River Crossing
700 Washington Street
Vancouver, WA 98660

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Columbia River Crossing

Dear Mr. Ficco:

F-002-001

We are in receipt of a request from Thompson Metal Fab, Inc.(TMF) for navigational clearance at the proposed Interstate 5 bridge replacement project. Their request for 125 feet of vertical clearance above 0.0 Columbia River datum will be given serious consideration by the Coast Guard. Based on the information in hand it would appear that this request represents a reasonable need of existing navigation.

As you know, TMF is a significant waterfront industry upstream of the proposed project on the north bank of the Columbia River at Vancouver. Among other items, they manufacture large mobile drill rigs that are shipped by barge overseas.

I met with the President of TMF John Rudi in February following some Congressional inquiry for this bridge project. At that time Mr. Rudi made a request for greater vertical clearance than 95 feet above zero datum, a figure that has hitherto been used by the project as a feasible alternative dimension. I requested Mr. Rudi support our discussion in writing. He did so, but the letter was misaddressed, delaying its receipt.

I am enclosing a copy of that letter with its illustrations.

As you know the existing vertical lift bridges provide about 178 feet of vertical clearance when fully raised. The 125-foot concept would also be a considerable reduction of that existing clearance. However, TMF has made a case that 95 feet would seriously impede both their current and prospective cargo movements through the I-5 crossing.

Sincerely,

Austin Pratt
Chief, Bridge Section
By direction of the District Commander

Encl: As noted

maintenance impacts to transit; and increased environmental impacts. The compromises result in a reduced benefit for 5 out of the 6 specific needs addressed in the project's Purpose and Need Statement when compared to the current alternative. An initial assessment of known and quantifiable costs attributable to the increase in vertical clearance for navigation ranges from approximately \$105M to \$150M. Additionally, there would be costs associated with the determination of a revised transit alignment, including analyzing changes in environmental effects and re-engaging the public and stakeholders.

Evaluating crossing level and span length with respect to aviation, navigation, and project geometry shows that the mid-level structure would beneficially affect aviation and navigation. While the mid-level bridge does not favor any single interest, it benefits all interests in an equitable fashion with respect to the aviation and navigation constraints. This was the primary reason the mid-level crossing was selected by the Columbia River Crossing Task Force and was validated through six years of public input, including 27,000 public outreach contacts at approximately 900 events.



THOMPSON METAL FAB, INC.

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March 18, 2011

Austin Pratt
Commander 13th Coast Guard District (dpw)
915 Second Avenue Room 3510
Seattle, WA 98174-1067

RE: Columbia River Crossing – Minimum River Passage Height

Dear Mr. Pratt,

F-002-001 Thompson Metal Fab, Inc. (TMF), situated in the old Kaiser Shipyards on the north bank of the Columbia River, has over 70 years of experience in the fabrication and shipping of numerous heavy industrial as well as marine-related projects. Our company employs over 350 direct labor jobs in its construction of large infrastructure projects, as well as hundreds of indirect jobs in support of our operations. Our facility, located at Columbia Business Center in Vancouver, Washington is unique in its flexibility to construct large industrial projects. Our "roll-on/roll-off" barge slip for river transportation is the only one of its kind on the west coast. The combination of a heavy industrial construction facility and a support yard with marine transportation capability, is an important asset to the region's industrial job base and potential to attract large job producing projects. This capability has given TMF the ability to stay competitive in a business that has largely moved overseas.

Currently the lift span on the interstate bridge is 178' at maximum clearance. It is critical to TMF and the region's industrial competitiveness to maintain a minimum of 125' clearance from zero datum in the new design for the Columbia River Crossing Bridge. Any less clearance will inhibit, not only our ability to attract industrial job-producing projects, but additional users such as the Army Corps of Engineers who depend on structures delivered by barge to support our region's dams and ports east of I-5.

Attached is a partial list of TMF projects that have utilized barge transportation over the past three decades (photos are attached as indicated).



ISO 9001:2008

ASME SEC. VIII



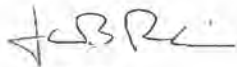
F-002-001 The Columbia Business Center was formerly Kaiser Ship Yard in the 1940s producing Liberty ships for the war effort. From the mid 1950s to 1960, the area was also used for the construction of a number of large offshore oil drilling platforms to support arctic drilling. Nearly every one of these projects required maximum bridge clearance.

A large number of general contractors, fabricators, and other industrial companies utilize the Columbia Business Center's barge facility for river and ocean transportation. Many of these projects also require the highest bridge clearance possible.

The new bridge design may be our region's only chance to ensure future generations the same strategic industrial competitiveness we have now. Do not restrict future jobs and commerce by lowering the passage height of the Columbia River Crossing by less than 125'. The design decisions you make today will possibly last the next 100 years. Please do not choke off the region's future east of I-5 to save a few dollars today.

Thank you for reviewing our information. You and/or your representatives are welcome to tour our facility at any time. If you have any questions, please feel free to contact me.

Sincerely,



John Rudi,
President
Thompson Metal Fab Inc.
360-696-0811
jrudi@tmfab.com



- **Alaska Ferry Conversion.** In 1973, TMF supplied an exhaust funnel, a solarium structure, and modular subcomponents for the passenger ferry that travels the Inland Passage to Alaska. TMF fabricated the components for this major renovation (the ferry was cut in half and lengthened), and delivered them by barge to the shipyard.

- **Georgia Pacific (Toledo, Oregon) 1,680' Wood Chip Material Handling System.** In 1975, TMF fabricated six 280' tube conveyor sections and all support towers for this project. The completed fabrications were transported by barge to Toledo, Oregon and installed. (See attached photo).

- **Conversion of Barges to Chips & Coke/Soda Ash for Pulp and Paper Mills.** TMF worked on these projects from 1979 to 1981. The converted barges were fabricated to ABS and USCG standards. These projects were installed at our adjacent dock and barge facilities on the Columbia River.

- **ARCO Operation Center Housing Expansion (North Slope, Alaska).** In 1985, TMF fabricated modular super-structures, with bases and decking housing modules, which measured 40' in width by 65' in height by 80' in length. The completed modules were loaded onto a barge standing 65' high and were transported to the North Slope in Alaska. (See attached photo).

- **Newport Bay Floating Restaurant.** In 1986, TMF fabricated a one-piece floating platform to support the waterside restaurant. It was fabricated in the TMF shop and then constructed at the Columbia Business Center barge slip. It was then finally transported to its final destination in downtown Portland, Oregon.

- **I-90 East Channel Bridge.** In 1986, TMF fabricated trapezoidal tub girders that varied from 98' to 198' in length and weighed between 60 and 200 tons each. TMF pre-assembled the deck on the girders in the Columbia Business Center and the completed components were then loaded on a barge. These were transported to Lake Washington in Seattle and erected off the barge.

- **210' Dry Dock.** In 1987, TMF fabricated a complete 210' dry dock. This included the steel walls and decks, as well as all ballast tanks and piping.

- **Conoco Milne Point Project (North Slope, Alaska).** In 1987, TMF supplied 3,400 tons of fabricated modular steel structures. The completed fabrications required three ocean-going barge loads.

- **Pacific Marine (Honolulu, Hawaii).** In 1989, TMF fabricated a 365-ton SWATH (Small Waterplane Area Twin Hull) excursion vessel. The fabrication consisted of twin cigar-shaped hulls that were 9' in diameter and 132' in length with vessel beams measuring 53'. TMF's location adjacent to the Columbia River proved valuable for launching the vessel. After sea trials, the *Navatek* vessel headed to Hawaii and is still operating today.

- Parker Drilling Rig 245 - Mobile Oil Drilling. In 1990, TMF fabricated a self-propelled mobile oil drilling rig. The drilling module was 43' wide by 78' high by 150' long and it weighed 3,000 tons. The utility module was 40' wide by 58' high by 130' long and it weighed 1,500 tons. The cutting module was 30' wide by 30' high by 40' long and it weighed 350 tons. The completed drilling rig was transported by ocean-going barge from TMF's facility to the North Slope in Alaska. (See attached photo).

- Powell River Paper Company. In 1991, TMF supplied the fabricated steel for a Chlorine Dioxide Module that measured 35' wide by 76' high by 35' long with a weight of 350 tons. The module was transported by barge in the vertical position (76' high) from TMF's facility to Power River Paper Company in British Columbia, Canada.

- US Army Corps of Engineers John Day Dam - Upstream Navigation Lock Gate. This gate was fabricated in 1991 at our location. The gate measured 28' by 80' by 120' and it weighed 105 tons. It was transported standing up (80' high) for installation. (See attached photo).

- Trapezoidal Steel Tub Bridge Girders for Seattle West Access. The girders were fabricated at our location in 1992 and transported by barge to Seattle, Washington for erection.

- Port of Sacramento 1,100' Bulk Material Handling System. In 1993, TMF fabricated the 275' tube conveyor sections and all support towers. The completed fabrications were transported by barge to the Port of Sacramento.

- Orthotropic Tub Girders - Nimitz Freeway. The Cypress Contract "E" consisted of 13 steel curved tub bridge girders for the reconstruction of the Nimitz Freeway in the San Francisco/Oakland Bay area. The total project weighed 6,000 tons. The largest tub girders weighed 450 tons and measured 50' wide by 250' in length. The completed tub girders required 4 ocean-going barges that delivered the tub girders directly to the job site. (See attached photo).

- Steel Trusses - Portland Expo Center. In 1995, trusses were fabricated at our location for the expansion of the Portland Expo Center. The completed trusses were transported by barge to the job site in Portland, Oregon.

- Bridge Fabrication - 1st Avenue & Duwamish Bascule Bridge Replacement. In 1996, the complete truss section for this project was fabricated and assembled, along with the finish paint, at TMF's facility. This it was transported by barge to the job site in Seattle, Washington. (See attached photo).

- Tri-Met Pedestrian Bridge. In 1996, the pedestrian bridge that crosses the Sunset Highway at Highway 217 was fabricated at our location. The completed fabricated sections were

transported by barge to a nearby location and off-loaded. They were then heavy-hauled overland to the job site.

- Nordic - Calista. In 1997, TMF fabricated Modular Mobile Oil Drilling Rig 3. The rig included 850 tons of fabricated steel and it was 45' wide by 78' high by 110' long with complete turnkey assembly. The rig was transported by barge to the North Slope in Alaska. (See attached photo).
- Pre-Heater Tower for La Farge Cement Plant. In 1997, TMF fabricated this project and it was then transported by barge from the TMF facility to Richmond, British Columbia in Canada.
- Golmar Explorer Recovery Ship Conversion to Oil Drilling Vessel. In 1997, TMF fabricated 2 double-bottom sections, 4 thruster tubs, vessel exhaust stacks, and manifold systems for this project. The completed components were transported by barge from the TMF facility to Cascade General Shipyard.
- PGE Trojan Decommission Nuclear Reactor Project. In 1998, TMF fabricated a 120-ton transport support structure and 5" thick shielding component enclosures. The completed fabrications were transported by barge from TMF to the job site and the decommissioned reactor was transported from the job site by barge to the final storage site at the Richland, Washington Hanford site.
- Esperanza 124 MW Power Barge. In 1999, TMF fabricated and assembled this barge at our facility. It measured 105' in width by 16' in depth by 284' in length with a weight of 1,800 tons. The completed barge was loaded on top of a 400' by 100' barge and transported to Cascade General Shipyard in Portland, Oregon for final assembly and functional operation testing.
- Removable Spillway Weir Structure for the Army Corps of Engineers - Lower Granite Lock and Dam. In 2001, this removable spillway weir was designed to move juvenile fish more efficiently downstream through the dam spillways. The weir was 83' wide by 61' in depth by 115' in length and it weighed approximately 1,000 tons. The weir was completely fabricated at TMF and then transported by barge to Cascade General for repositioning. Then, finally, it was delivered to the job site on the Snake River for installation. (see attached photo).
- Boeing Delta IV Launch Table. In 2003, TMF fabricated a 580-ton launch table. It measured 98' in length by 33' in height by 46' in width. This project also included large 50 to 120-ton flame deflector components. The launch table and flame deflectors were fully assembled at the TMF facility and transported by barge to Vandenberg Air Force Base in California and then off-loaded and installed at the launch site.
- Richmond/San Rafael Bridge. In 2004, TMF supplied 10,000 tons of structural bridge steel for the sub-structure portion of the Richmond/San Rafael Bridge in California. This seismic retrofit

project was fabricated over a 3-year time period. The larger components were transported by barge directly to the job site in the San Francisco/Oakland Bay area.

- **Removable Spillway Weir Structure for the Army Corps of Engineers - Ice Harbor Lock and Dam.** In 2005, this removable spillway weir was designed to move juvenile fish more efficiently through the dam spillways. The unit measured 70' in width by 68' in height by 105' in length and it weighed approximately 950 tons. The weir was completely fabricated at TMF and transported by barge to Cascade General for repositioning and then transported directly to the job site on the Snake River for installation. (see attached photo).
- **Samuel Engineering - Alaska Gold Mining Project.** In 2005, TMF fabricated hoppers, grizzly grates, ball mill chutes, structural supports, modification of the ball mill, and other mining equipment for this project. TMF's facility was used for the marshaling yard and then all of the equipment and fabrications was transported by barge to the mining site in Nome, Alaska.
- **San Francisco/Oakland Bay Bridge Replacement.** In 2006, TMF fabricated two steel orthotropic tub girders that each weighed more than 1,600 tons and measured over 200' in length and 80' in width. The girders were transported by barge directly to the Bay Area for erection.
- **OHSU Portland Aerial Tram.** In 2006, TMF fabricated the center support towers, the lower station and the upper station for the tram project. The major components were transported by barge from TMF to the job site in Portland, Oregon where they were off-loaded and erected.
- **Caltrans - East Tie-In.** TMF was selected by Caltrans (owner) to work with TY-Linn (designer), CC Meyers (contractor), and DCCI (erector) to fabricate 3,100 plus tons of temporary detour steel for the Oakland Bay Bridge at Yerba Vista Island. This project was completed on an extremely "fast track" basis. TMF met, or exceeded, all schedule requirements while maintaining all Caltrans' requirements. The major large components required four barge loads to be transported from TMF to the job site in California. This project was completed in June 2009.
- **Parker Drilling Company/British Petroleum Liberty Oil Drilling Rig (Alaska).** This oil drilling rig was delivered from our facility to the North Slope Alaska in July 2009. TMF furnished approximately 5.5 million pounds of fabricated steel and rig-up support. The rig consisted of three large modules. The Drill Module was 58' wide by 98' high (transport height) by 68' long and weighed 900 tons. The Pipe Barn Module was 158' wide by 45' high by 170' long and it weighed 2,560 tons. Finally, the Drill Service Module was 50' wide by 48' high by 177' long and it weighed 2600 tons. (see attached photo).
- **Parker Drilling AADU Oil Drilling Rigs (272 and 273).** These are currently in the process of being delivered to the North Slope in Alaska. Each drilling rig was comprised of three main modules. The Mud Modules weigh 600 tons; the Drill Modules weigh 700 tons; and the Utility Modules weigh 450 tons (6 modules total). The size of the Mud and Utility modules is 48' wide by 55'

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high by 90' long. The Drill Module was 76' high with the mast in the lay-down position. After being loaded on an ocean-going barge, the tie-down blocking added 23' feet to the overall height. Therefore, the final height of the unit on the barge was 99 feet.

Doyon Oil Drilling Rig 25. TMF furnished over 4 million pounds of steel and aluminum fabrication and served as the primary contractor for this job. TMF managed all rig-up yard activities, including mechanical, electrical, and functional checkout. The rig consisted of 6 individual complexes:

- The Power Complex weighed 550 tons and was 56' long by 40' wide by 42' high.
- The Drill Complex weighed 560 tons and was 96' long by 37' wide by 40' high.
- The Pipe Complex weighed 560 tons and was 68' long by 47' wide by 25' high.
- The Mud Complex weighed 550 tons and was 68' long by 40' wide by 49' high.
- The Pump Complex weighed 560 tons and was 64' long by 40' wide by 52' high.
- The Casing Complex weighed 500 tons and was 60' long by 56' wide by 40' high.

There was also a Rig Mast that was 148' long (when fully extended) by 26' wide (at the base) by 25' high. The overall footprint of this project was 265' by 150' and it weighed 6.2 million pounds.

THOMPSON METAL FAB, INC.

3000 S.E. Hidden Way
Vancouver, Washington 98661

Thompson Metal Fab, Inc. (TMF) has over 70 years of experience in the fabrication of marine related projects.



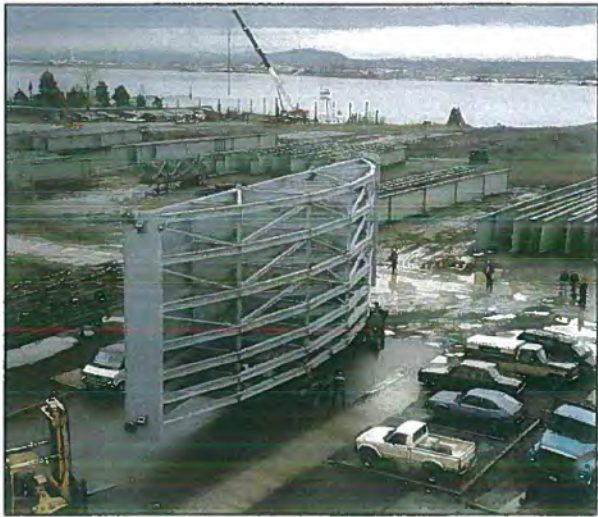
Georgia Pacific (Toledo, Oregon)—1,680 Foot Wood Chip Material Handling System (1975)



ARCO Operation Center Housing Expansion (1985)



Parker Drill Rig 245 (1990)



Up-Stream Navigational Lock Gate (1991)



Orthotropic Tub Girder Fabrication—Nimitz Freeway (1995)



Bridge Fabrication—1st Avenue & Duwamish (1996)



Nordic – Calista Modular Mobile Oil Drilling Rig 3 (1997)



1,000 Ton Removable Spillway Weir for Lower Granite Dam (2001)



950 Ton Removable Spillway Weir for Ice Harbor Lock and Dam (2005)



Parker Drilling/British Petroleum Liberty Oil Drilling Rig (2009)