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BY EMAIL

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Subject: Comments on Jorgensen Forge Corporation (Jorgensen Forge) Property (Jorgensen Forge Site) Remedial Investigation and Feasibility Study Reports

Dear Mr. Johnson:

The Boeing Company (Boeing) appreciates the opportunity to submit these comments on the Jorgensen Forge Corporation Site (Jorgensen Forge Site) public comment draft Remedial Investigation (RI) and Feasibility Study (FS) Reports (RI/FS Reports).

Boeing identified the following incorrect and/or incomplete and misleading information in the RI/FS Reports:

1. **The RI/FS Reports Incorrectly Identify the Source of Contamination Found in the South of OA-11 Area of Concern (AOC) as Boeing's Plant 2 Site and Not the Jorgensen Forge Site.**

(a) <u>There is no evidence that PCBs in the South of OA-11 AOC at the Jorgensen Forge Site are from Boeing's Plant 2 Site</u>

One of the AOCs identified in the RI/FS Reports is the South of Boeing's Other Area 11 AOC (South of OA-11 AOC). In regard to that AOC, the RI Report incorrectly states:

- "[I]t is apparent that PCB-impacted soil radiates out from the Boeing OA-11 Area of Discovery excavation." (RI Report, Section 4.24).

- "PCB-impacted soil is present on the Site within an area radiating out from the Boeing Plant 2 OA-11 Area of Discovery." (RI Report, Section 7.1.11).

- "Remedial activities were completed in 2016; however, additional investigations have identified contamination extending from OA-11 onto the Site." (RI Report, Section 1.6.1).

In addition, the FS Report incorrectly states:

- "PCB contamination in soil in this area has been attributed to historic releases of PCB-containing oil from transformers within a former Seattle City Light substation in OA-11 which was located approximately 12 feet north of the property boundary." (FS Report, Section 3.1).

Boeing's OA-11 was remediated in 2016 as an Interim Measure (IM) under an Administrative Order on Consent and in direct coordination with and oversight from the United States Environmental Protection Agency (EPA). A portion of the OA-11 excavation extended a few feet onto the Jorgensen property, but when PCB concentrations in sidewall samples were found to be increasing rather than decreasing as the excavation moved onto the Jorgensen property, the excavation was stopped in coordination with EPA.

During the Jorgensen Forge Site RI, a maximum concentration of 998 milligrams per kilogram (mg/kg) PCBs was detected in shallow soil on the Jorgensen property in the South of OA-11 AOC at boring SB-2021-052 (Table 21[1]). This concentration is greater than the maximum PCB concentration of 660 mg/kg detected in the Area of Discovery (AOD)[2] in OA-11, and PCB concentrations increase moving southward from the OA-11 IM excavation area onto Jorgensen property, which indicates a source of PCBs on the Jorgensen property. The RI Report also notes that PCBs on the Jorgensen property extend laterally to the west towards the LDW with concentrations greater than 10 mg/kg, which is beyond the westward extent of PCB impacts on Boeing property and in OA-11, which further supports a source of PCBs on the Jorgensen property.

EPA evaluated the source of PCB contamination in the South of OA-11 AOC in connection with the Corrective Measures Study, Statement of Basis (2019), and Response to Comments and Final Corrective Action Decision (2022) prepared for Boeing Plant 2 under the Resource Conservation and Recovery Act. Specifically, in its response to a comment from Earl M. Jorgensen (EMJ) on the draft Statement of Basis, EPA stated the following:

- "EPA relies on key information omitted from EMJ's technical comments, and notes where EMJs comments are not supported by data or other available information."

- "The EPA has also considered the former Seattle City Light substation transformer as a potential source of the PCB concentrations associated with the OA 11 area. These data, however, indicate that PCB concentrations in the former transformer were sufficiently low (<10 ppm total PCBs) such that the transformer is unlikely to have been the primary source explaining the observed PCB concentrations remaining on the Jorgensen Forge Property."

- "[T]here is insufficient justification for EMJ's comment that the concrete stormwater draining trench that ran along the southern edge of the AOD was a conduit for transmitting PCBs. … Therefore, EMJ's comment that the stormwater drainage trench could have been a source of PCBs is not supported by the facts and reasonable assumptions based on those

[1] Although Table 21 identified this as boring SB-2021-052, these data are displayed on Figure 32A-1 as SB-2021-053. Given this discrepancy, it appears that either the table or the figure is inaccurate. However, both sample stations are located some distance from the property line between the Jorgensen property and Boeing Plant 2.
[2] Area of Discovery (AOD) refers to the area where PCBs were first discovered in OA-11 along the Boeing/Jorgensen property line in 2001.

facts."

These EPA responses to EMJ and the supporting technical rationale refute EMJ's assertion that Plant 2 is the source of contamination in the South of OA-11 AOC.

(b) EPA Indicated There May Be PCB Sources on the Jorgensen Forge Site near the South of OA-11 AOC.

The RI Report incorrectly states: "there is no evidence that PCBs were used on the Site area south of and in the proximity to the Boeing OA-11 Area of Discovery while there is documented evidence that transformers with documented releases were present on the Boeing property." (RI Report, Section 4.24).

The potential presence of PCB sources at the Jorgensen Forge Site near the South of OA-11 AOC was evaluated by EPA in connection with the Corrective Measures Study, Statement of Basis, and Response to Comments and Final Corrective Action Decision prepared for Boeing's cleanup of Plant 2. Specifically, in its response to a comment from EMJ on the draft Statement of Basis, EPA stated:

> EMJ's comment that no source of PCBs is located on the Jorgensen Forge Property south of and in proximity to the AOD is a premature conclusion based on insufficient or incomplete facts. For example, information obtained by the EPA through a request issued pursuant to Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9604(e), indicates that there are a number of potential sources on the Jorgensen Forge Property that may relate to the remaining PCB contamination on the Jorgensen Forge Property near the OA 11 area. Most of these potential sources will require additional characterization to determine to what extent, if any, they may explain the remaining PCB contamination in question. The EPA expects that this characterization work will, at least in part, occur as part of the Washington State Department of Ecology Remedial Investigation/Feasibility Study at the Jorgensen Forge Property conducted under the Model Toxics Cleanup Program. … Until such time as each of these potential sources have been adequately characterized such that the extent of their contribution to PCB contamination associated with the OA 11 area is known, it is not possible to eliminate the Jorgensen Forge Property as a source of that contamination.

Therefore, EPA concluded: **"[T]here is a lack of factual support for EMJ's conclusions that the Jorgensen Forge Property south of and in proximity to the AOD could not have been a source of PCBs, and that alleged sources of contamination on Boeing property explain the remaining PCB contamination associated with the OA 11 area."**

The RI Report does not include any information that would change the conclusions reached by EPA, nor does it address documented PCB contamination and releases at the Jorgensen Forge Site. Specifically:

- The RI Report does not include evidence to support its proposition that PCBs on the Jorgensen Forge Site in the South of OA-11 AOC came from the Plant 2 site rather than the Jorgensen Forge Site.

- The RI Report does not include a thorough evaluation of historical operations at the Jorgensen Forge Site near the South of OA-11 AOC, such that PCB sources on the Jorgensen Forge Site can be ruled out.

- The RI Report fails to address documented evidence of PCB contamination and releases at the Jorgensen Forge Site, such as (1) the detection of PCBs in asphalt samples, (2) the detection of PCBs in soil adjacent to the acid tank/former tote storage area, and (3) the discharge of PCBs to the LDW in treated stormwater during building demolition, as documented in an Ecology warning letter dated February 21, 2020. Additionally, little detail is provided about the dangerous waste accumulation area "black shack" adjacent to OA-11, specifically whether those dangerous wastes may have contained PCBs.

In sum, the evidence shows (or at minimum there is insufficient data to rule out) that the Jorgensen Forge Site is the source of PCB contamination in the South of OA-11 AOC.

The RI/FS Reports must be revised to accurately reflect that the evidence does not support the incorrect assertion that contamination in the South of OA-11 AOC came from Plant 2. Specifically, the inaccuracies identified above in RI Report Sections 1.6.1, 4.24, and 7.1.11 and FS Report Section 3.1 (and any similar incorrect statements regarding contamination in the South of OA-11 AOC) should be revised. In addition, the following paragraph in the RI Report should be revised: "Similarly, EMJ investigated PCB contamination along the northern end of the Site that emanates from the Property Line Outfalls and/or the adjacent Boeing property. Pending further discussion with Ecology, EMJ reserves its right to exclude this contamination from further investigation, and does not commit to investigating, containing, or cleaning it up." (RI Report, Section 7.4).

2. **The RI Report Incorrectly Asserts that All cVOC Contamination in Groundwater at the Jorgensen Forge Site Emanated from Adjacent Boeing Sites.**

The RI Report incorrectly states:

> During the RI, EMJ installed wells that monitor contaminated groundwater that emanates from the adjacent properties owned and operated by Boeing. EMJ collected and analyzed water samples from these wells. EMJ does not appear to have an obligation to perform such activities under MTCA Revised Code of Washington 70.105D.020(22)(b)(iv), which excludes from the definition of a liable owner or operator any person who owns or operates property on which hazardous substances have come to be located solely as a result of passive migration through groundwater from another property. Pending further discussion with Ecology, EMJ reserves its right to exclude this Boeing-sourced groundwater contamination from further investigations, and does not commit to investigating, containing, or cleaning it up.

(RI Report, Section 7.4). **This paragraph wrongly states, or at minimum implies, that <u>all</u> cVOC groundwater contamination on the Jorgensen Forge Site emanated from Boeing sites.**

Boeing acknowledges that some evidence supports the possibility that cVOC contamination in groundwater may have migrated from Boeing's Plant 2 site onto a small area on the northern edge of the Jorgensen Forge Site. However, the evidence does not support the assertion or implication

that Plant 2 is the sole source of all cVOC contaminated groundwater at the Jorgensen Forge Site. The RI Report does not provide any evidence that would indicate groundwater contamination at the Jorgensen Forge Site emanated from Boeing's Isaacson site.

(a) Groundwater Data Shows that Most Flow is Towards Plant 2, Not Away from It.

The updated RI Report groundwater elevation contours (shown in Figures 11A, 12A, 13A, and 14A) show that most groundwater flow in Level A of the aquifer *is toward Plant 2* (a fact not depicted in the COC iso-concentration figures cited), not toward the Jorgensen Forge Site. It is therefore highly implausible that contaminated groundwater from Plant 2 would be the sole source of all of the groundwater contamination at the Jorgensen Forge Site; rather, at most, contamination from Plant 2 may have impacted a small area at the northern edge of the Jorgensen Forge Site.

(b) The Shipping Area is a Likely Source of cVOCs; It is Just a Question of How Much.

The RI Report incorrectly finds that there isn't an onsite source of vinyl chloride, stating:

> The distribution and measured concentrations of vinyl chloride within groundwater samples taken from across the Site do not appear to be related to an on-site source. The only identified potential on-site source is the Shipping Area, where solvents were historically used to clean products prior to shipment. As discussed in Section 4.10, soil samples were taken from the boring for MW-58 within the Shipping Area. None of the soil samples taken from the boring contained detectable concentrations of vinyl chloride; in addition, none of the analyzed HVOCs were detected within soil samples taken from this location. Groundwater samples taken from the well did not contain detectable HVOCs.

(RI Report, Section 4.23). This statement ignores (i) that sampling has previously found vinyl chloride concentrations above the cleanup level (CUL) in MW-23 and (ii) that the water level data presented in RI Level A groundwater contour Figures 11A, 12A, 13A, and 14A show that MW-23 is positioned hydraulically downgradient from the Shipping Area. Clearly, the Shipping Area is a likely source of VOCs. Properly interpreted, the evidence shows that the Shipping Area is a likely source of VOC contamination on the Jorgensen Forge Site.

(c) The RI Report Fails to Discuss Likely Sources of cVOCs on the Jorgensen Forge Site Identified in Prior Investigations.

At least three prior investigations of the Jorgensen Forge Site identified areas and activities at the Jorgensen Forge Site that were potential or likely sources of cVOC contamination in groundwater:

- Table 40 of the RI Report (Area 9 - Northwest Corner and Northern Property Boundary; Page 16) notes evidence of potential cVOC usage at the Jorgensen Forge Site in historical documentation, stating: "Historical documents suggest waste solvents, kerosene, and thinners may have been stored in the Former Waste Chemical Storage Building."
- In Section 2.4.1.10 of their 2008 Final Source Control Evaluation Report, Anchor Environmental and Farallon Consulting stated, "used solvent was stored on a concrete pad within the covered storage building on the northwest corner of the Sediment Investigation Area (SIA)."

- In its 1990 Preliminary Site Assessment, Dames & Moore noted the following in regard to the Northwest Corner Drum and Waste Chemical Storage Area: "Drums were stored without secondary containment and uncharacterized."

Together, these lines of evidence rebut the statement in the RI Report that all groundwater contamination at the Jorgensen Forge Site comes from adjacent Boeing properties. At most, VOC contamination from Boeing Plant 2 may have impacted a small area at the northern edge of the Jorgensen Forge Site.

The RI Report, including but not limited to Sections 4.23, 5.1, and 7.4, must be revised to accurately reflect that the evidence does not support the incorrect assertion that all of the VOC groundwater contamination at the Jorgensen Forge Site emanated from adjacent Boeing properties, and that other VOC sources on the Jorgen Forge Site may have existed.

If you have questions about this letter, please feel free to reach out to me.

Sincerely,

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