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GREENACTION FOR HEALTH
AND ENVIRONMENTAL JUSTICE

UNITED STATES NUCLEAR REGULATORY COMMISSION

Before the Executive Director for Operations

GREENACTION FOR HEALTH AND ENVIRONMENTAL JUSTICE, **Petitioner,** **v.** **TETRA TECH EC, Inc.,** **Licensee.**	**DECLARATION OF ELBERT BOWERS IN SUPPORT OF SUPPLEMENTAL FILING NO. 4** **10 C.F.R. § 2.206 PETITION TO REVOKE MATERIALS LICENSE NO. 29-31396-01**

I, **ELBERT BOWERS**, state:

1. This is my second declaration in support of Greeanaction for Health and Environmental Justice's Petition to Revoke Tetra Tech, EC Inc.'s ("Tetra Tech") NRC license. My first declaration was signed on June 19, 2017, and is Exhibit A to the Petition, which was filed on or about June 29, 2017.

2. As stated in my previous declaration, I started working on the radiological cleanup at Hunters Point Naval Shipyard ("HPNS") in January 2001, as an employee of New World Environmental ("NWE"), a radiological subcontractor to Tetra Tech. I became NWE's Radiation Safety Officer Representative ("RSOR") in January 2004. On March 30, 2009, after Tetra Tech invoked use of its own NRC materials license for the first time rather than use NWE's, I "rolled over" from working for NWE to working directly for Tetra Tech as its RSOR, with Navy approval.

3. On April 15, 2010, in my role as Tetra Tech's RSOR, I was approached by Tetra Tech personnel conducting radiation scanning in Parcel D-1. Expectations were to verify there were only background levels of radiation in the parcel. However, an area with extremely high levels of radioactive contamination had been identified. I went to the area and spoke to the Senior Health Physics ("HP") technician who made the finding, and his supervisor Justin Hubbard. They told me what had taken place. I saw at least one 1-gallon plastic zip lock bag containing a soil sample from the radiation-elevated area that was supposed to undergo laboratory analysis. I do not recall receiving subsequent results of any such lab analysis.

4. I took date-stamped pictures of the location of the high radioactivity and its surroundings. The date stamp does not appear on the face of the photos, rather it appears in each photo's "properties file. The pictures are attached as Exhibit 1A-F. The same photos with their date stamps visible are attached as Exhibit 2A-F.

5. To the best of my recollection, I notified my Tetra Tech superior, Radiation Safety Officer ("RSO") Erik Abkemeier, about the finding in Parcel D-1 and I believe he notified the Navy Radiological Affairs Support Office ("RASO").

6. A finding of the radioactive intensity found in Parcel D-1 should have required the entire area, which had previously been deemed to have been non-radiologically impacted based on the historical record, to be re-categorized as radiologically impacted. The entire area should have been investigated to determine the nature and extent of radiological impact. I was of the belief that work plans for investigating soil contamination in Parcel D-1 were being developed and in the interim the fencing around the area would preclude further area access. However, no action to investigate took place by the time I was removed from the project later in 2010.

7. In my role as Tetra Tech's RSOR, I participated in drafting a Memorandum of Understanding ("MOU") between Tetra Tech and, among other companies, Shaw Environmental & Infrastructure ("Shaw"), another contractor engaged in radiological remediation at HPNS. The MOU related to the handling of soil excavated by Shaw from sewer lines in Parcel D-1. Under the agreement, all such soil was transferred from Shaw to Tetra Tech for radiological screening by Tetra Tech personnel at Tetra Tech's Radiological Survey Yard No. 2 ("RSY-2"). All soil transfers were to be memorialized in transfer-of-custody documents. A copy of the MOU is attached as Exhibit 3.

8. Subsequent to Tetra Tech's scanning at RSY-2, custody of the soil was transferred back to Shaw. Radiologically-impacted soil was then transferred by Shaw to a licensed transportation company, Environmental Management Services ("EMS") for disposal at a licensed low-level radioactive waste disposal facility. Non-radiologically impacted soil was used for backfilling the trenches from which the soil from the sewer project originated, including any associated with Parcel D-1. Prior to such backfilling, the soil was stored on site awaiting final results of an independent off-site laboratory analysis and approval from RASO for the soils' final disposition. After RASO approval, non-radiologically impacted soil was backfilled by Shaw into the trenches from which it originated. Attached hereto as Exhibit 4 is an aerial photo of a portion of HPNS, depicting the location of RSY-2 and the areas Shaw used to store soil after

scanning by Tetra Tech and before final clearance from RASO. Piles of soil are clearly visible in the designated areas.

9. The Petition in this matter describes fraudulent soil scanning by Tetra Tech personnel at RSY-2, directed by Jane Taylor, a woman hired for the position of Senior Health Physics ("HP") field lead despite having submitted a fraudulent resume indicating significant training and experience as an HP when, in fact, she had none.

10. I was informed and believe that the Shaw-excavated soil that was taken to RSY-2 for scanning by Tetra Tech under the direction of Jane Taylor was subject to the same fraudulent scanning as was done on Tetra Tech-excavated soils for projects independent of Shaw.

11. Billy Vo was a Shaw Senior HP at the Shipyard. I was familiar with him because he had worked for NWE before moving over to Shaw. Vo, and others who learned of the following events but kept it quiet to protect their jobs, admitted to me later the following incident. Vo was with a Shaw junior HP. The junior HP asked Vo to show him how to operate a radiological scanner in the field, which Mr. Vo possessed and had experience with. Vo showed the junior HP some of the basics in the use of a Ludlum radiological detection field instrument and then let the junior HP give it a try. Vo and the junior HP were in an area of HPNS that had been trenched and remediated by Shaw Environmental. The soil that had been used to fill the trench came from the Tetra Tech-managed RSY-2 pad that Jane Taylor directed. The junior HP, while conducting a walk-over scan of the freshly placed trench backfill, observed that radiation readings on his instrument suddenly jumped off scale (or "pegged out") due to the area's radiation levels being so high. When further investigating the source of the high radioactivity, Vo and the junior HP discovered what proved to be an "old generation radium button" of the kind used by the military decades earlier throughout HPNS. Radiation emissions coming from the button were so excessively high, in the milli-Rem-per-hour [mR/hr] range, that the Ludlum sensor being used was inappropriate for accurate measurement. A more appropriate monitoring device was obtained so precise assessment of the highly elevated readings could be made.

Finding a highly radioactive button such as the one discovered in this incident in soil that was supposed to have been previously scanned and remediated by Tetra Tech indicates that the soil was not properly scanned or remediated.

12. No one from any state or federal agencies, including the NRC, Navy and EPA has ever spoken to me about any of the matters involving Parcel D-1 described above.

13. On or about February 2, 2004, I participated in sample collection activities relevant to the assessment of storm water and sanitary sewer systems throughout Hunters Point Shipyard. Sampling began in two interior Parcel A manholes, one brick, and the other concrete lined. Both manhole locations were categorized by the Navy as 1) non-RAD impacted and 2) suitable as a "background reference" area for upcoming RAD impacted storm water and sanitary sewer system assessments.

14. One sample was collected from each Parcel A manhole and forwarded to the onsite analytical laboratory for analysis using gamma spectroscopy. (Copies of the laboratory reports are attached hereto as Exhibit 5.) Analytical results indicated elevated radium^{226} and were reported to Tetra Tech. Since reports for both samples indicated radioactivity substantially above minimum detectable concentrations, the corresponding sewer systems and soils associated with them should have been investigated further. However, such an investigation never occurred.

15. Years later in May 2018, I led a Parcel A walk-through with Navy and regulatory personnel (albeit absent NRC representation). In part, I identified for the group approximate locations where the sampled manholes were previously situated (in relation to the new development and existing landscape). Aside from one EPA person, the walk-through effort with

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remaining oversight entities failed to generate enough concern to suggest an assessment of overarching environmental implications - yet to be explored - would be forthcoming.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 21, 2019 in Salem, South Carolina.

Elbert Bowers