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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**

1 I, **ELBERT BOWERS**, state:

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

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

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

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

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

1           6.       A finding of the radioactive intensity found in Parcel D-1 should have required  
2 the entire area, which had previously been deemed to have been non-radiologically impacted  
3 based on the historical record, to be re-categorized as radiologically impacted. The entire area  
4 should have been investigated to determine the nature and extent of radiological impact. I was of  
5 the belief that work plans for investigating soil contamination in Parcel D-1 were being  
6 developed and in the interim the fencing around the area would preclude further area access.  
7 However, no action to investigate took place by the time I was removed from the project later in  
8 2010.

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

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

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

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

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

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

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

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

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

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

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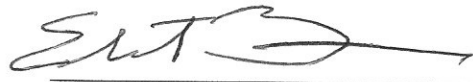
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1 remaining oversight entities failed to generate enough concern to suggest an assessment of  
2 overarching environmental implications - yet to be explored - would be forthcoming.

3 I declare under penalty of perjury that the foregoing is true and correct.  
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5 Executed on June 21, 2019 in Spartanburg, South Carolina.  
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9 Elbert Bowers  
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