

September 3, 2009

Office of the Secretary  
U.S. Nuclear Regulatory Commission

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Attention: Rulemakings and Adjudications Staff

Regarding: Notice of License Amendment Request of Westinghouse Electric Company LLC for Hematite Decommissioning Project, Festus, MO, and Opportunity To Request a Hearing [Docket No. 70-36; NRC-2009-0278]

Subject: Request for Hearing

To the Secretary,

My client, Citizens for a Clean Idaho, Inc. (CCI), hereby requests a public hearing regarding the Notice of License Amendment Request of Westinghouse Electric Company LLC for Hematite Decommissioning Project, Festus, MO, and Opportunity To Request a Hearing [Docket No. 70-36; NRC-2009-0278]. Westinghouse has applied for a 20.2002 exemption to permit the storage of special nuclear materials at an NRC unlicensed, unregulated site in Western Idaho.

**Official Request for a Hearing**

**1. The name, address, and telephone number of the requester:**

Citizens for a Clean Idaho, Inc. (CCI)  
P.O. Box 202  
Chester, ID 83421  
(208) 557-9898

## **2. The nature of the requester's right under the Act to be made a party to the proceeding:**

As per Section 189, subsection a.(1)(A) of the Atomic Energy Act of 1954 (As Amended), "the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding." CCI, as a grassroots, community advocacy, non-profit organization representing the interests of more than one thousand Idaho citizens (each of which member citizens will experience the requisite affect), is a legally recognized fictitious "person" and, as such, meets the Act's definition and has the right to be made a party to the proceeding.

## **3. The nature and extent of the requester's property, financial or other interest in the proceeding:**

CCI and the many citizens it represents are concerned Idaho citizens, extensive Idaho property owners, Idaho business owners, Idaho agricultural operators, and environmental stewards of the irreplaceable lands of the State of Idaho. The value of their combined property, financial, health, and other interests is practically incalculable.

## **4. The possible effect of any decision or order that may be issued in the proceeding on the requester's interest:**

Any approval of the 20.2002 exemption request by Westinghouse, permitting the disposal of 50,000 tons of nuclear waste material at the Grand View, Idaho, facility – a site not now NRC licensed or regulated for such purposes - could forever harm the property, financial, and other interests of CCI and its member Idaho citizens. Further, such approval would establish a new high-level benchmark in both quantity and quality of waste eligible to receive exemptions from NRC guidelines on proper nuclear waste disposal, with such approval likely leading to a significant local and national increase in future exemption requests of this type. If the Westinghouse application is approved, the Grand View site may become a top target for other waste producers seeking a much lower cost alternative to NRC licensed sites.

## **5. The circumstances establishing that the request for a hearing is timely in accordance with 10 CFR 2.309(b):**

CCI's request is timely per 10 CFR 2.309(b)(3)(i). The deadline published in the Federal Register is September 4, 2009; this request predates the deadline. However, CCI does reference and repeat its prior request to vacate and extend this deadline to October 15, 2009, to allow a more full investigation of facts and elaboration of its views.

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### **Requester's Contentions**

CCI raises the following contentions to the application now in front of the NRC. In all instances, requester's contentions are based upon the applicant's application and its included referenced attachments as they are on file with the NRC.

### **First Contention**

**1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

Contrary to the stated conclusion in the application, the applicant conclusively demonstrates that there is a direct hydrologic connection between Castle Creek and all the underlying aquifers at Site B, which is typically the opposite conclusion one hopes to arrive at with regard to hazardous waste storage sites.

**2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

**3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that actual disposal site conditions vary from applicant's conclusions falls within the scope of this proceeding.

**4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material – in fact, absolutely fundamental – to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>1</sup>, or almost two-thirds of the actual application narrative.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, the applicant indicates that the underlying stratigraphy at Site B is complex<sup>2</sup> and therefore difficult to ascertain isolation between the Upper and Lower aquifers, the shallow alluvial aquifer of Castle Creek and

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1 Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC Accession # ML0914800710.

2 Pages 15-16, Application. "These discontinuous and interbedded sand, silt, and clay beds form complex stratigraphic relationships on a regional scale."

the deeper artesian aquifer (See attached report of Gillilan Associates, dated September 1, 2009, and accompanying resume of Scott Gillilan, MS.). However, their own well monitoring data and report statements indicate that there is communication between Castle Creek and the Upper Aquifer, and further, that this communication affects hydraulic head in the Lower Aquifer. In addition to the documented connectivity between Castle Creek and the shallow aquifers<sup>3</sup>, they have also documented a connection between Castle Creek and the artesian aquifer as they state that Castle Creek is in part supported by artesian discharge<sup>4</sup>. They have therefore established a direct hydrologic connection between all of the aquifers underlying Site B and a surface discharging stream one mile from the site that is a tributary to the Snake River<sup>5</sup>. In an ideal waste storage facility, the applicant is required to demonstrate no connectivity to local surface water. The opposite is presented in this application.

## **Second Contention**

### **1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

The applicant's study indicates that the local hydraulic head associated with the underlying artesian aquifer is significant and geologically impressive while simultaneously documenting through site well data that the area groundwater table is rising. In ideal storage siting, the applicant typically wants to demonstrate a very deep below ground, static and or receding groundwater table. The applicant has documented the opposite condition.

### **2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

### **3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that actual disposal site conditions vary from applicant's conclusions falls within the scope of this proceeding.

### **4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material – as noted above,

<sup>3</sup> Page 19, Application. "The alluvium and the creek are reported to be hydraulically connected."

<sup>4</sup> Page 19, Application. "...the deep artesian system also has a vertical flow pattern and contributes water to shallower systems. This is particularly noted to be occurring in the Castle Creek drainage area..."

<sup>5</sup> Page 14, Application. "Castle Creek, a perennial stream that flows northward to the Snake River, lies approximately one mile west of Site B."

absolutely fundamental - to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>6</sup>, or almost two-thirds of the actual application narrative.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, the applicant has demonstrated a groundwater-to-surface water connectivity in the area via Castle Creek<sup>78</sup> and that this connectivity is not in a steady state and in fact indicates a rapidly rising groundwater table beneath Site B<sup>9</sup>. The rise is projected to place the water table at the base of the silo within several decades<sup>10</sup>. Given storage of waste has occurred in the silos, there is no possibility that regulatory agencies would have allowed hazardous material disposal in the silos if trend was known at the time<sup>11</sup>. Given the applicants explicit documentation of a strong upward hydraulic trend of both the deep artesian aquifer<sup>12</sup> and the shallower Upper<sup>13</sup> and Lower<sup>14</sup> Aquifers, this creates a scientifically high level of uncertainty<sup>15</sup> with respect to future groundwater elevations at the site. The applicant proposes no hypothesis on the reason for this rise or projects an end to the groundwater rise trend<sup>16</sup>. One can therefore plausibly ask the question as to whether the groundwater rise will eventually reach the land surface.

**Third Contention**

**1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

The applicant's analysis largely considers the risk of downward contaminant leakage to the underlying Upper and Lower Aquifers which are connected to Castle Creek. However,

6 Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC Accession # ML0914800710.

7 Page 19, Application. "Recharge to this system (Castle Creek) is primarily by surface water runoff derived locally from precipitation..."

8 Page 30, Application. "This suggests that the water coming into the site in the Upper Aquifer was being recharged by Castle Creek..."

9 Page 29, Application. "...water levels have been rising at Site B."

10 Page 30, Application. "...these projections indicate the Upper Aquifer water levels will contact the bottom of the missile silos in 36 to 53 years (year 2039 to 2056)."

11 Page 30, Application. "...concerns over possible impacts to water quality as the rising groundwater encounters vapors or the missile silos, DEQ requires the rising groundwater trends to be re-evaluated every two years."

12 Page 20, Application. "These data confirm that a strong upward hydraulic gradient exists between the deep artesian system and the shallow Glenns Ferry system immediately beneath Site B."

13 Page 30, Application. "Water levels in the monitoring wells and piezometers at Site B have been generally rising over the period of record..."

14 Page 30, Application. "Water levels in the Lower Aquifer wells have also risen over this same period."

15 Page 30, Application. "The rate of rise for each well is variable and not consistent between wells or over the period of record for any individual well."

16 Page 30, Application. "The 2001 re-evaluation report used regression analysis to predict future water level elevations based on the assumption that the rising water level trends continue at current rates."

given the documented groundwater rise, the more likely pathway for contaminants leaving the site is through dispersal in a saturated near-surface water table which also includes and permits significant lateral contaminant movement.

**2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

**3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that actual disposal site conditions and threats vary from applicant's conclusions falls within the scope of this proceeding.

**4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material – again, absolutely fundamental – to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>17</sup>, or almost two-thirds of the actual application narrative.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, unless the applicant can use scientific evidence or theory to suggest otherwise, the principal hydrologic concern with the site is that it could convert to a saturated shallow groundwater area or even surface water discharging area supported by significant upward movement of water under pressure<sup>18</sup>. Based on the documented stratigraphy of the site, if water under pressure accesses the high porosity Bruneau gravels, its subsurface flow paths would likely radiate out horizontally through 360 degrees of the compass along any number of fine sand, silt and

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17 Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC Accession # ML0914800710.

18 Page 30, Application. "Water levels in the monitoring wells and piezometers at Site B have been generally rising over the period of record."

thin clay seams<sup>19</sup>. Finally, given the documented artesian head pressure, (measured at 160 feet above ground surface)<sup>20</sup>, the head pressure in the Lower Aquifer<sup>21</sup> and apparent communication<sup>22</sup> between that and the overlying, unconfined Upper Aquifer, it cannot be discounted that geologic forces such as an earthquake could take place a resultant surface discharge at the site (artesian aquifer expressing on the surface due to a conduit to the surface).

#### **Fourth Contention**

##### **1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

The applicant's data and analysis suggests a highly unusual and dynamic relationship between surface ground pressure at Site B and the underlying aquifers such that simple excavation of trenches and stockpiling overburden on the site dramatically and rapidly alters the elevation of the underlying groundwater.

##### **2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

##### **3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that disposal site conditions vary from applicant's conclusions falls within the scope of this proceeding.

##### **4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material and central to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>23</sup>, or almost two-thirds of the actual application narrative.

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19 Page 18, Application. "The basal gravel unit is composed of rounded pebbles, cobbles, and coarse-grained, crossbedded sand lenses."

20 Page 20, Application. "This value represents a head approximately 160 ft. above the land surface at Site B..."

21 Page 23, Application. "Water in the Lower Aquifer is under moderate artesian pressure."

22 Page 31, Application. "These data indicate the potentiometric head in the Lower Aquifer is influenced by the overlying Upper Aquifer."

23 Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC Accession # ML0914800710.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, data - inclusive of that gained from well L-38 - suggests hugely significant changes in the underlying groundwater elevation, (up to 10 feet of vertical change)<sup>24</sup>, which occurred through simple operational excavation activities<sup>25</sup> that under less complex hydrogeologic conditions would result in no detectable changes in underlying groundwater elevations. This suggests the underlying aquifer dynamics are exceptionally complicated and far from stable or static under the applicant's normal site operating plans, much less in situ. The fact that simple ground pressure from excavated material can drive subsurface water gradients is geologically unusual. The applicant is suggesting that surface ground pressure is communicating with a water table over 100 feet bgs through fluvial and alluvial gravels, sands and silts which demands further investigation and explanation. Given the documentation showing connectivity to the Upper and Lower Aquifers and Castle Creek (and through it to the Snake River), this information has to be reconciled with contaminant dispersal models and fate and transport studies that are assuming far less unique hydrogeologic conditions.

**Fifth Contention**

**1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

The applicant clearly states that well log data analysis from UP-28 and U-29 indicate anomalies in expected potentiometric surfaces based on other well data onsite, and that these anomalies can be explained by upward leakage from the Lower Aquifer to the Upper Aquifer.

**2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

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<sup>24</sup> Page 31, Application. "Well L-38 in the extreme southwest part of the study area experienced a sudden water level increase of approximately ten ft. (10) in 1993."

<sup>25</sup> Page 31, Application. "...that is believed to be caused by surface loading of earth materials stockpiled in the vicinity during the excavation of Cell 14. Since 1993, the water level has been gradually declining back to the trend line that existed prior to the "spike." Similar, but smaller, spikes occurred in wells L-35 and LP-14 during this same time. These wells are also near the soil stockpile area. Well L-36, in contrast, experienced a drop of approximately three ft. (3) in the water level during this same time, apparently in response to the decrease in loading as the nearby Cell 14 trench was excavated.



**3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that disposal site conditions vary from applicant's conclusions falls within the scope of this proceeding.

**4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material and critical to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>26</sup>, or almost two-thirds of the actual application narrative.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, this observation, combined with Contentions #1-4 above, further confirm that the underlying geohydrology is not well understood and the applicants are collecting some data that is not consistent regarding important aquifer conditions. It further points to a strong likelihood that the Upper and Lower Aquifers are hydrologically communicating to a greater extent than is documented. This is especially concerning given the applicant has documented moderate upwards hydraulic pressure<sup>27</sup> in the Lower Aquifer and their confounding findings from well data from UP-28<sup>28</sup> and UP-29<sup>29</sup> that "suggests a natural cause for the elevated heads that cannot be explained by the existing data."<sup>30</sup> Unfortunately, there is no reference to what this "natural cause" might be and how it is actually influencing actual findings versus predicted findings.

**Sixth Contention**

**1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

Based on the applicant's acknowledgment of complex site stratigraphy, communication between the Upper, Lower, Artesian, and Castle Creek shallow alluvial aquifer, and that time trends on this data show rapidly changing conditions, discussions concerning

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26 Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC Accession # ML0914800710.

27 Page 23, Application. "Water in the Lower Aquifer is under moderate artesian pressure."

28 Page 32, Application. "...upward leakage of Lower Aquifer water cannot be ruled out."

29 Page 32, Application. "...yet water levels in this well are also higher than expected."

30 Page 32, Application.

groundwater flux and velocity can be considered no more than speculative exercises.

**2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

**3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that disposal site conditions vary from applicant's conclusions falls within the scope of this proceeding.

**4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>31</sup>, or almost two-thirds of the actual application narrative.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, an appropriately sited hazardous waste disposal facility must demonstrate that future escape of contaminants from the storage site to surrounding groundwater tables and transport off site are not scientifically plausible. However, the applicant completely discounts their own data indicating a high degree of hydrogeologic complexity<sup>32</sup>, and therefore significant uncertainty that has to be attached to outputs from groundwater flux and velocity modeling exercises. The applicant's own data suggests that, in fact, there is a high degree of plausible scientific uncertainty related to groundwater transport modeling. A very clear example of this stated uncertainty is found in the discussion of vertical flux or leakage calculations

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<sup>31</sup> Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC Accession # ML0914800710.

<sup>32</sup> Page 21, Application. "The system is complex as a result of subtle stratigraphic differences within the Glenns Ferry Formation and the effect of dipping strata."

between the Upper and Lower Aquifer utilizing the principle of Darcy's Law<sup>33</sup>. While their calculation of flux was in fact significant, the applicant discounts their own calculation because it was not supported by their assumptions regarding the differences in water chemistry profiles between the Upper and Lower Aquifers<sup>34</sup>. An equally plausible conclusion is that the Darcy flux equations are accurate, that the understanding of communication between the aquifers would suggest mixing of different sources and ages of water in the complex underground water table, and result in anomalous water chemistry conditions.

### **Seventh Contention**

#### **1. Provide a specific statement of the issue of law or fact to be raised or controverted:**

The applicant clearly states a significant trend in groundwater rise beneath the site that is not related to any measurable change in the contributing areas precipitation or surface distribution of water related to agriculture or water storage facilities. Therefore, the observed rise in water table has to be related to a change in conditions in the overall hydrogeographic watershed.

#### **2. Provide a brief explanation of the basis for the contention:**

Subject to 10 CFR § 20.2007, this NRC proceeding must find applicant abides by all "other applicable Federal, State, and local regulations governing any other toxic or hazardous properties of materials that may be disposed of under this subpart." A whole host of applicable Federal, State, and local regulations govern the interaction or potential interaction of hazardous wastes with groundwater. Requester contends that applicant has not adequately demonstrated its compliance with these applicable regulations.

#### **3. Demonstrate that the issue raised in the contention is within the scope of the proceeding:**

As per 10 CFR § 20.2002(a) and (b), the NRC is charged with evaluating "the proposed manner and conditions of waste disposal" and "pertinent information on the nature of the environment." Therefore, requester's contention that disposal site conditions vary from applicant's conclusions falls within the scope of this proceeding.

#### **4. Demonstrate that the issue raised in the contention is material to the findings that the NRC must make to support the action that is involved in the proceeding:**

The hydrologic conditions of the proposed disposal site are material – and, as noted repeatedly, absolutely fundamental – to the evaluation of the site by the NRC prior to the granting of an exemption to applicant. Applicant's own application consumes twenty-four pages in discussing site hydrology<sup>35</sup>, or almost two-thirds of the actual application

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33 Page 34, Application. "If leakage from the Upper Aquifer is a significant source of water for the Lower Aquifer as the Darcy flux indicates, then the Lower Aquifer water chemistry beneath the northern part of the site should also reflect the influx of Upper Aquifer water."

34 Page 34, Application. "...although there are strong downward gradients and therefore by Darcy's law a calculable net flux of water from the Upper Aquifer into the Lower Aquifer, water chemistry data suggest that the actual flow is much less than the calculations indicate."

35 Pages 14-37 of "Request for Alternate Disposal Approval and Exemption for Specific Hematite Project Waste." NRC

narrative.

**5. Provide a concise statement of the alleged facts or expert opinions which support the requester's/petitioner's position on the issue and on which the requester/petitioner intends to rely to support its position on the issue:**

See Answer #6, which is below.

**6. Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact:**

According to requester's expert, Scott Gillilan, MS, the applicant documents a steeply upward hydraulic gradient from the deep underlying artesian aquifer<sup>36</sup> and rising groundwater tables<sup>37</sup>. An explanation for this observation is that the super-regional artesianal aquifer is in a state of change resulting in upwards leakage of water. To dramatically affect the amount of upwards leakage of water from a deep artesianal source, either subterranean pressures have been increased and/or new geologic pathways have formed allowing water under pressure to rise. An obvious natural phenomenon capable of altering both pressure and pathways simultaneously is an earthquake. While the applicant's analysis of site stratigraphy does not indicate local shearing reflective of a local earthquake epicenter or area of geologic influence<sup>38</sup>, the applicant has failed to consider the possibility of local effects induced by an earthquake or other geologic events within the greater Snake River Plain artesian aquifer.

Further, the applicant does not consider the risks to the storage site or assumed hydrogeologic conditions based on an analysis of the geologic likelihood of the existence of a local earthquake epicenter or the possible subsequent ramifications for the stored hazardous waste. The artesian aquifer in the region is geologically unique, vast, interconnected and poorly understood on even local levels. It appears appropriate for the applicant to discuss the relationship of local observed changes in groundwater rise in context to scenarios where artesian aquifer pressures suddenly increase.

**Summary of Contentions**

Requester's expert, Scott Gillilan, MS, concludes, "based on my review of the project document I cannot conclude that the applicant has satisfactorily addressed some important hydrogeologic issues. While I understand the site geology is complicated, the central issue revolves around the fact it sits atop a highly pressurized deep artesian aquifer that - at the very least through Castle Creek - is communicating with the shallower aquifers beneath the site. The connectivity to Castle Creek and therefore the Snake River is reason enough to subject the applicant's findings to closer scrutiny; however, the fact that the site is experiencing an unexplained and significant rise in groundwater suggests larger hydrogeologic forces are at work that are not satisfactorily explained in the document. The long-term disposal of hazardous waste requires site reviews and investigations of appropriateness well above those typically considered in a development project, and, in this case, there are some obvious areas that demand

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Accession # ML0914800710.

36 Page 20, Application. "These data confirm that a strong upward hydraulic gradient exists between the deep artesian system and the shallow Glenns Ferry system immediately beneath Site B."

37 Page 29, Application. "...water levels have been rising at Site B."

38 Page 23, Application. "No indications of faulting (such as displacement, associated fracturing, or alteration) have been witnessed throughout the entire geologic section investigated."

further explanation or investigation.”

Your most careful consideration of these contentions and the attached report is earnestly solicited by CCI. We believe that an objective evaluation of the questions, concerns, and further data needs outlined here will compel a full hearing be conducted in the interests of both the public and applicant, Westinghouse.

We also repeat our request, as previously submitted, to delay the submission date so that we may supplement and amplify these materials and so that interested parties can submit comments.

Most Sincerely,

David Leroy  
Attorney

**CC:**

Physical Address:

Westinghouse Electric Company, LLC  
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Monroeville, Pennsylvania 15146-2886  
Attention: Michele M. Gutman

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