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additional relevant information about PE's spent antifreeze treatment operation. PE's TTU has "EPA ID Number: CAL 000175104", has "Permit Status: Permit by Rule [(PBR)]",<sup>2</sup> and "has been authorized to operate...by DTSC."<sup>3</sup> PE's TTU pumps the spent antifreeze from PE's client's storage container through "several micron filters...(2-30 micron and 3-1 micron)...enclosed in the...[TTU]." The treated antifreeze is "placed in one of 4-320 gallon containers"<sup>4</sup> [inside a "commercial storage bin"<sup>5</sup>] at PE's facility, and is "eventually picked up by Asbury Oil company [sic (called Asbury hereafter)] for recycling."<sup>6</sup> According to PE, the treated "antifreeze is thirty-seven percent ethylene glycol."<sup>7</sup> "Asbury... use[s] a manifest [to transport PE's treated antifreeze to Asbury's facility], because its [sic] Asbury's policy to use manifest [sic], even when the antifreeze is not hazardous."<sup>8</sup> "Asbury has only transported one load of [PE's treated] antifreeze...to date...."<sup>9</sup>

### Regulatory Status

Since PE's TTU has already been authorized by DTSC under PBR to treat spent antifreeze at the generator's site, PE and DTSC have both acknowledged that PE's client's spent antifreeze is a hazardous waste under State law, at a minimum, and that PE's treatment of the spent antifreeze requires no permit under federal law. Thus, for purposes of this letter, DTSC has presumed that the regulatory status of PE's client's spent antifreeze is not at issue.

Accordingly, DTSC has devoted the remainder of this letter to the regulatory status of

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<sup>2</sup> See relevant items under "I. GENERAL INFORMATION" on Page 1 of the April 30, 1999 "Inspection Report" (DTSC report) for the February 25, 1999 inspection of PE's facility; the DTSC report is one of the enclosures in the DTSC letter cited in the preceding footnote.

<sup>3</sup> See Item "h. Tiered Permitting Applications and Authorization Letters:" on Page 3 under "III. DOCUMENTS REVIEWED..." of the DTSC report.

<sup>4</sup> See the third paragraph on Page 4 under "IV. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR" of the DTSC report.

<sup>5</sup> See the first paragraph on Page 6 under "IV. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR" of the DTSC report.

<sup>6</sup> See the first of the two immediately preceding footnotes.

<sup>7</sup> See the first paragraph on Page 5 under "IV. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR" of the DTSC report.

<sup>8</sup> See the seventh paragraph on Page 5 under "IV. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR" of the DTSC report.

<sup>9</sup> See the last paragraph on Page 5 under "IV. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR" of the DTSC report.

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only PE's treated antifreeze under federal and State law, respectively. DTSC considered the following somewhat interrelated issues, which have been addressed under the headings given in parentheses:

- Whether PE's treated antifreeze would be hazardous (Hazardous Waste?).
- Whether PE's treated antifreeze could be regarded as a product instead of as a waste (Product?);
- Whether PE's treated antifreeze could be regarded as an essentially reclaimed waste, requiring only minimal additional processing before reclamation is complete (Nearly Finished Product?); and
- Whether PE's treated antifreeze could itself be regarded as qualifying for either a variance for a nearly finished product (Variance?), or for a regulatory exclusion or exemption for recyclable materials (Exclusion/Exemption?).

#### **Status Under Federal Law<sup>10</sup>**

##### Hazardous Waste?

The U.S. Environmental Protection Agency (U.S. EPA) has stated:

"Spent antifreeze that does not fail the...[toxicity characteristic] for lead would not be regulated by [U.S.] EPA as a hazardous waste. This would be true unless some other constituent of concern is present that is not normally found in spent antifreeze or some other factor causes the spent antifreeze to meet the definition of hazardous waste."<sup>11</sup>

Thus, U.S. EPA does not consider ethylene glycol itself to be capable of causing spent antifreeze to exhibit a federal characteristic of hazardous waste. However, U.S. EPA does consider lead, but not (for example) copper or zinc, to be capable of causing spent antifreeze to exhibit a federal characteristic of hazardous waste. Therefore, PE's treated antifreeze would generally not exhibit a federal characteristic of hazardous waste, unless lead were present at hazardous waste concentration. U.S. EPA has proposed issuing "a statement announcing that data available to [U.S.] EPA indicate that spent antifreeze rarely fails the TC [(i.e., toxicity characteristic)] for lead", but has never actually issued such a statement.<sup>12</sup>

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<sup>10</sup> For simplification of this letter, DTSC has assumed that the spent antifreeze originates from commercial as well as noncommercial vehicles.

<sup>11</sup> See Federal Register (FR) 63(78): 20187 (April 23, 1998).

<sup>12</sup> See FR 63(78): 20187 (April 23, 1998). The quoted phrase is an excerpt from U.S. EPA's "Request for Comment on Proposed Statement of Policy Regarding Spent Antifreeze". Although the proposal has never been finalized according to the U.S. EPA's Hotline [(800) 424-9346] on June 2, 1999, the quoted phrase, as well as the blocked quotation identified in

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Product?

Nevertheless, if PE's treated antifreeze were to exhibit a federal characteristic of hazardous waste, the treated antifreeze could potentially be regulated as a hazardous waste under federal law. However, federal law<sup>13</sup> excludes from regulation as a hazardous waste, a material that is reclaimed from a solid waste, that is used beneficially, and that is neither burned for energy recovery nor used in a manner constituting disposal. Since PE's treated antifreeze is destined for further reclamation (i.e., distillation) by Asbury before sale for use, the treated antifreeze is not yet fully reclaimed from PE's client's spent antifreeze. Also, since PE's treated antifreeze is destined to be used as antifreeze only after further reclamation by Asbury is complete, the treated antifreeze is not yet being used beneficially.<sup>14</sup> Therefore, PE's treated antifreeze cannot qualify for the subject exclusion from the definition of hazardous waste.

Nearly Finished Product?

As indicated above, if PE's treated antifreeze were to exhibit a federal characteristic of hazardous waste, the treated antifreeze could potentially be regulated as a hazardous waste under federal law. However, U.S. EPA has declared:

"...[R]eclaimed metals...that only have to be *refined* [emphasis added] to be usable are products, not wastes. This... [sentence] states a fairly evident principle..."<sup>15</sup>

A dictionary defines "*refining* [emphasis added]" (in part) as:

"Essentially a separation process whereby undesirable components are removed from various types of mixture to give a concentration [sic] and purified product. Such separation may be effected (a) mechanically, by pressing, centrifuging, filtering, etc.; (b) by electrolysis; (c) by *distillation* [emphasis added], solvent extraction, or evaporation; and (d) by chemical reaction. One or more of these operations is applied to (1) food products, (2) petroleum, (3) lubricating oils, and (4) metals."<sup>16</sup>

Another dictionary defines "*refining* [emphasis added]" (in part) as:

"...[T]he action or process of removing impurities from a crude or impure material; as a

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the immediately preceding footnote, reflect current U.S. EPA policy.

<sup>13</sup> See Title 40, Code of Federal Regulations (40 CFR) section 261.3(c)(2)(i).

<sup>14</sup> The prohibitions on burning for energy recovery and use in a manner constituting disposal are irrelevant here.

<sup>15</sup> See FR 50(3): 634 (January 4, 1985).

<sup>16</sup> See Page 999 in Hawley's Condensed Chemical Dictionary; eleventh edition; Van Nostrand Reinhold Company Incorporated; New York, New York; 1987.

*of metals* : subjection to high heat or other purification methods (as electrolysis or treatment with chemicals)... *d of petroleum* : fractional *distillation* [emphasis added] usu. followed by other processing (as cracking)".<sup>17</sup>

Neither dictionary definition necessarily precludes distillation of PE's treated antifreeze by Asbury from being considered "refining", particularly since ethylene glycol can be a petroleum derivative.<sup>18</sup> However, "refining" cannot be interpreted to mean any action that meets the federal definition of "reclaimed",<sup>19</sup> as the immediately following paragraphs will indicate.

### Variance?

Since U.S. EPA's declaration has addressed reclaimed metals, not treated antifreeze, the declaration must be evaluated in the context of other potentially more relevant U.S. EPA declarations, such as the following:

"The principle [(i.e., that commercial products reclaimed from hazardous wastes are products, not wastes)]... does not apply to wastes that have been processed minimally, or to materials that have been partially reclaimed but must be reclaimed further before recovery is completed. .... For this last situation--where materials are partially reclaimed but must be reclaimed further until recovery is completed--we are providing a variance procedure for situations in which the initially reclaimed material is commodity-like in spite of the need for additional processing before it is finally reclaimed."<sup>20</sup>

"The criteria for making this decision [(i.e., whether to grant a variance) include:] ...*The degree of processing that the material has undergone and the degree of further processing required.* The more substantial the initial processing, the more likely the resulting material is to be commodity-like. Conversely, the more substantial the processing that is yet to occur, the less likely the initially-reclaimed material is to be commodity-like. For example, a spent solvent sent to an initial reclaimer who settles out debris and then sends the solvent to be distilled would not be eligible for this variance."<sup>21</sup>

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<sup>17</sup> See Page 1908 in Webster's Third New International Dictionary; unabridged; Merriam-Webster Incorporated; Springfield, Massachusetts; 1981.

<sup>18</sup> See the entry for "ethylene glycol" on Page 487 in the reference cited in the first of the two immediately preceding footnotes. Three of the four methods of derivation given (Page 487) for ethylene glycol involve the processing of ethylene itself. One of the three methods of derivation given (Page 484) for "ethylene" is the "...[t]hermal cracking of hydrocarbon gases; "hydrocarbon[s]" are identified (Page 613) as being "...[d]erived principally from petroleum, coal tar, and plant sources."

<sup>19</sup> See 40 CFR section 261.1(c)(4).

<sup>20</sup> See FR 50(3): 634 (January 4, 1985).

<sup>21</sup> See FR 50(3): 655 (January 4, 1985). U.S. EPA has stated that "...the variance applies *only* to wastes after they have been initially reclaimed. Applicable regulatory requirements for the waste before initial reclamation are unaffected." Also, see 40 CFR sections 260.30(c) and 260.31(c).

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The example given in the last sentence of the immediately preceding quoted paragraph seems to be more relevant to PE's treated antifreeze than the example given in the third paragraph of this "Status Under Federal Law" section of this letter, i.e., than the example of the reclaimed metals that only need to be refined to be usable.<sup>22</sup> Therefore, PE's treated antifreeze, if it were to exhibit a federal characteristic of hazardous waste, would not be excluded from federal regulation as either a nearly finished product or as a potentially successful candidate for a variance for a nearly finished product.

#### Exclusion/Exemption?

Since PE's treated antifreeze would not be excluded from federal regulation as a product, as a nearly finished product, or as a potentially successful candidate for a variance for a nearly finished product, and since Asbury would distill PE's treated antifreeze for eventual sale, the treated antifreeze would be a spent material, a hazardous waste, and a recyclable material that would be recycled by being reclaimed. As such, PE's treated antifreeze, if it were to exhibit a federal characteristic of hazardous waste, could generally not qualify for any otherwise relevant exclusion from federal regulation and would therefore be a Resource Conservation and Recovery Act (RCRA) hazardous waste for purposes of State law (see the "Status Under State Law" section of this letter, below). However, Asbury's distillation of PE's treated antifreeze would presumably qualify for the federal permit exemption<sup>23</sup> for the recycling process itself, an exemption which needs no further discussion here.

If PE's treated antifreeze were not to exhibit a federal characteristic of hazardous waste, the treated antifreeze would generally not be regulated as a hazardous waste under federal law. Such treated antifreeze would typically be a non-RCRA hazardous waste for purposes of State law (see the "Status Under State Law" section of this letter, below).

#### **Status Under State Law**

##### Hazardous Waste?

DTSC has stated that "...[u]sed antifreeze coolant is regulated as a hazardous waste for the following reasons:

**"1. Ethylene Glycol.** Because of its toxicity to animals, ethylene glycol exhibits the characteristic of toxicity, pursuant to section 66261.24(a)(8), Title 22, California Code of Regulations (22 CCR). This determination applies to any waste antifreeze coolant which

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<sup>22</sup> On June 2, 1999, U.S. EPA's Hotline confirmed that the reclaimed solvent example, not the reclaimed metal example, would be relevant to PE's treated antifreeze.

<sup>23</sup> See 40 CFR section 261.6(c)(1).

contains ethylene glycol at a concentration of greater than 33 percent by weight...."

"**2. Metals.** As antifreeze circulates through a cooling system, it can dissolve metals commonly found in engine components, such as lead, copper, and zinc. .... These dissolved metals can cause the used antifreeze to be hazardous if they are present at concentrations greater than or equal to the regulatory limits contained in section 66261.24(a)(1-2), 22 CCR."<sup>24</sup>

Thus, DTSC considers ethylene glycol itself, at a concentration of greater than 33 percent by weight, to be capable of causing spent antifreeze to exhibit a State characteristic of hazardous waste. Also, DTSC considers not only lead, but copper and zinc, at sufficient concentrations to be capable of causing spent antifreeze to exhibit a State characteristic of hazardous waste. However, since PE's treated antifreeze apparently contains ethylene glycol at a concentration of 37 percent by weight, the treated antifreeze would generally exhibit a State characteristic of hazardous waste, regardless of whether lead, copper, and/or zinc were present at hazardous waste concentrations.

#### Product?

If PE's treated antifreeze were to exhibit a State characteristic of hazardous waste, the treated waste could potentially be regulated as a hazardous waste under State law. However, similar to federal law, State law<sup>25</sup> excludes from regulation as a hazardous waste, a material that is reclaimed from a waste, that is used beneficially, and that is neither burned for energy recovery nor used in a manner constituting disposal. Since PE's treated antifreeze is destined for further reclamation (i.e., distillation) by Asbury before sale for use, the treated antifreeze is not yet fully reclaimed from PE's client's spent antifreeze. Also, since PE's treated antifreeze is destined to be used as antifreeze only after further reclamation by Asbury is complete, the treated antifreeze is not yet being used beneficially.<sup>26</sup> Therefore, PE's treated antifreeze cannot qualify for the subject exclusion from the definition of hazardous waste.

#### Nearly Finished Product?

As indicated above, if PE's treated antifreeze were to exhibit a State characteristic of hazardous waste, the treated waste could potentially be regulated as a hazardous waste under State law. Unlike federal law, State law does not address the concept that reclaimed metals needing only to be refined are products, not wastes. Thus, State law would not regard PE's treated antifreeze as a nearly finished product, but as a partially reclaimed hazardous waste.

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<sup>24</sup> See Page 3 in Waste Classification Regulation Guidance Manual; DTSC; August 12, 1994.

<sup>25</sup> See 22 CCR section 66261.3(c)(1).

<sup>26</sup> The prohibitions on burning for energy recovery and use in a manner constituting disposal are irrelevant here.

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#### Variance?

Similar to federal law, State law provides<sup>27</sup> a specific variance for materials that are partially reclaimed (i.e., to the point of being commodity-like) but must be reclaimed further before recovery is completed, as specified. However, the subject variance provision will affect only RCRA hazardous wastes and will not become effective until DTSC receives authorization from U.S. EPA to implement it; thus, the provision is irrelevant here.

Nevertheless, State law also provides<sup>28</sup> a general variance for hazardous wastes or their management that pose insignificant or unimportant potential hazards to human health and safety or to the environment, as specified. However, the subject variance provision affects only non-RCRA hazardous wastes, or hazardous wastes or their management that are not federally regulated, and is currently effective; thus the provision is relevant here. As DTSC has stated in the past,<sup>29</sup> issuing a variance would not be an equitable option in this case, because there are antifreeze transporters and recycling facilities presently operating under applicable hazardous waste control requirements other than variances. In order to maintain an equitable authorization program, DTSC requires that all facilities falling within discernable categories obtain the same type of authorization. Accordingly, DTSC would regard PE's treated antifreeze, if it were to exhibit a State characteristic of hazardous waste, not as a potentially successful candidate for a variance for a nearly finished product, but as a partially reclaimed hazardous waste.

#### Exclusion/Exemption?

Since PE's treated antifreeze would not be excluded from State regulation as a product, as a nearly finished product, or as a potentially successful candidate for a variance for a nearly finished product, and since Asbury would distill PE's treated antifreeze at Asbury's facility for eventual sale, the treated antifreeze would be a spent material, a hazardous waste, and a recyclable material that would be recycled by being reclaimed offsite. Accordingly, the following can be stated regarding the regulatory status of PE's treated antifreeze under State hazardous waste recycling law.

- If PE's treated antifreeze were a RCRA hazardous waste,<sup>30</sup> it would generally be regulated as any other hazardous waste under State law.<sup>31</sup> PE's treated antifreeze would be

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<sup>27</sup> See Health and Safety Code (HSC) section 25143(c).

<sup>28</sup> See HSC section 25143(a) and (b).

<sup>29</sup> See the fourth complete paragraph on Page 4 of the May 17, 1993 letter from Mr. William F. Soo Hoo, Director of DTSC, to Mr. T.I. Jarrard of Environmental Automotive Products, San Diego, California.

<sup>30</sup> See the definition of "RCRA hazardous waste" in HSC section 25120.2.

<sup>31</sup> See HSC section 25143.2(a).

reclaimed, so none of the otherwise relevant exclusions<sup>32</sup> from DTSC regulation based on State hazardous waste recycling law would apply, because they all prohibit reclamation.

- If PE's treated antifreeze were either a RCRA hazardous waste or a non-RCRA hazardous waste,<sup>33</sup> the recycling of PE's treated antifreeze would generally be regulated as the recycling of any other hazardous waste under State law.<sup>34</sup> Since Asbury would distill PE's treated antifreeze at Asbury's facility (i.e., offsite), not at PE's client's facility, the treated antifreeze would not be recycled and used onsite. As such, the recycling of PE's treated antifreeze could generally not qualify for a DTSC-permit exemption<sup>35</sup> based on State hazardous waste recycling law.
- If PE's treated antifreeze were a non-RCRA hazardous waste, it would generally be regulated as any other hazardous waste under State law.<sup>36</sup> PE's treated antifreeze would be reclaimed via distillation offsite, so none of the otherwise relevant exclusions<sup>37</sup> from DTSC regulation based on State hazardous waste recycling law would apply, because they either pertain only to onsite recycling, or prohibit reclamation involving the application of external heat.

If PE's treated antifreeze were a nonhazardous waste, it would generally not be regulated under State law.

## Conclusion

Since PE's treated antifreeze could not be regarded as a product instead of a waste, or as an essentially reclaimed waste, requiring only minimal additional processing before reclamation is complete,<sup>38</sup> or as a material which qualifies for either a variance or a regulatory exclusion for recyclable materials, the treated antifreeze would generally be regulated as a hazardous waste and a recyclable material under federal law, if it were to exhibit a federal hazardous waste

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<sup>32</sup> See HSC section 25143.2(b)(1) through (3).

<sup>33</sup> See the definition of "Non-RCRA hazardous waste" in HSC section 25117.9.

<sup>34</sup> See HSC section 25143.2(a).

<sup>35</sup> See HSC section 25143.2(c)(2).

<sup>36</sup> See HSC section 25143.2(a).

<sup>37</sup> See the exclusions in HSC sections 25143.2(d)(1) (requires onsite recycling and use of the recyclable material), 25143.2(d)(5) (prohibits physical separation of the recyclable material with the addition of external heat, e.g., distillation), and 25143.2(d)(6) (also prohibits physical separation of the recyclable material with the addition of external heat); thus, none of those exclusions would apply to PE's treated antifreeze. All of the remaining HSC section 25143.2(d) exclusions are irrelevant.

<sup>38</sup> As already indicated above, the State has no counterpart of the federal concept that reclaimed metals are products not wastes, if they only need to be refined in order for reclamation to be complete.

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characteristic. Since PE's treated antifreeze would essentially have to be contaminated with lead at hazardous waste concentration in order to exhibit a federal hazardous waste characteristic, and since U.S. EPA believes that such contamination would be unlikely, PE's treated antifreeze presumably would not be regulated as a hazardous waste under federal law.

Since PE's treated antifreeze could not be regarded as a product instead of a waste, or as a material which (or whose management) qualifies for either a variance or a regulatory exclusion (or exemption) for recyclable materials, the treated antifreeze would generally be regulated as a hazardous waste and a recyclable material under State law, if it were to exhibit a State hazardous waste characteristic. Since PE's treated antifreeze would presumably be a nonhazardous waste under federal law, since the treated antifreeze would only have to contain ethylene glycol at a concentration of greater than 33 percent by weight in order to exhibit a State hazardous waste characteristic, and since PE has indicated that a 37 percent concentration would be more likely, the treated antifreeze would be a non-RCRA hazardous waste and would be regulated as any other hazardous waste under State law. Accordingly, if you have not already done so, please contact Ms. Ruth Williams-Morehead of DTSC's Glendale Office at (818) 551-2916 regarding how to proceed.

Enclosed are copies of some of the State laws cited in this letter. If you have questions regarding this letter or the enclosure, please call me at (916) 323-2908 or write to me at the letterhead address.

Sincerely,



Eric Workman  
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Hazardous Waste Management Program

Enclosure

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