



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL**

OFFICE OF THE
SECRETARY

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Secretary's Order No.: 2017-WH-0013

**RE: Approving Final Regulations to Amend 7 DE Admin. Code 1352:
*Regulations Governing Aboveground Storage Tank Systems***

Date of Issuance: March 13, 2017

Effective Date of the Amendment: April 11, 2017

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") pursuant to 7 *Del.C.* §§6006, 6010, and 7 *Del.C.*, Ch. 74A, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced regulatory proceeding.

Background, Procedural History and Findings of Fact

This Order relates to proposed regulation Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems*. The Department's Division of Waste and Hazardous Substances, Tank Management Section, commenced the regulatory development process with Start Action Notice ("SAN") #2016-14 dated September 14, 2016 (which updated previously issued SAN #2013-28 approved by then-DNREC Secretary O'Mara on November 8, 2013). The Department published its initial proposed regulation Amendments in the November 1, 2016 *Delaware Register of Regulations*. The Department then held a public hearing on December 6, 2016.

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Consistent with 29 *Del.C.* §10118(a), the public hearing record remained open for public comment through December 21, 2016.

Subsequent to the November 1, 2016 publication of the aforementioned initial proposed Amendments, the Department identified several formatting and typographical errors associated with the same. As a result, a complete list of revisions required to correct said errors was provided at the December 6, 2016 hearing, so as to fully vet the same to the public at that time. Additionally, during the initial time period that the hearing record was open for public comment (November 1, 2016 – December 21, 2016), the Department received three sets of comment: (1) Mark Baker of Baker Petroleum; (2) Diana Turner of DuPont; and (3) Michael Hayes of the Delaware City Refining Company. The Department's DWHS-TMS responded fully to each of these comments, and made further revisions to the initial proposed Amendments as a result of same.

To ensure that all of the aforementioned Department's revisions were fully vetted to the public, a re-publication of the *revised* initial proposed AST Regulations was issued by the *Delaware Register of Regulations* on February 1, 2017. Accordingly, the hearing record was re-open for an additional thirty days, so that public comment could once again be received by the Department subsequent to the above-referenced revisions made by the DWHS-TMS. A press release was issued on February 3, 2017 (as well as additional legal notice published in the News Journal on February 5, 2017) to offer formal public notice of the matters of re-publication of the *revised* proposed Amendments, and the re-opening of the hearing record for comment on the same. This additional comment period remained open through Friday, March 3, 2017.

Members of the public attended the December 1, 2016 public hearing, and comment was received by the Department throughout the course of this proposed promulgation. It should also be noted that all proper notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

The purpose of this proposed regulatory promulgation is to adopt as final the aforementioned *revised* proposed Amendments to the *Regulations Governing Aboveground Storage Tank Systems* (“Amendments”), in order to be consistent with changes made in July 2016 to the Jeffrey Davis Aboveground Storage Tank Act, as well as to implement additional changes that provide clarification to the existing AST Regulations, reflect the use of current technologies and best management practices which prevent releases from AST systems and ensure an effective cleanup when a release occurs.

Subsequent to the close of the hearing record for the second time on March 3, 2017, the Department’s DWHS-TMS thoroughly reviewed all comment received from the public in this matter, and provided the Department’s presiding Hearing Officer, Lisa A. Vest, with a formal Technical Response Memorandum (“TRM”), dated March 9, 2017. This TRM provided a balanced discussion of the comment received, and provided the Department’s reasoning for all action taken by the Department concerning these *revised* proposed Amendments. Some comments prompted the Department to insert additional language to the proposed Amendments in order to provide greater clarity and understanding for both the regulated community and the public at large with regard to such AST regulatory matters. It should be noted that all revisions to the proposed Amendments were made *prior to* the re-publication and re-opening of the hearing record

for comment from February 1, 2017 – March 3, 2017. Although comment was received by the Department during the second aforementioned comment period, no additional revisions were made to these *revised* proposed AST Regulation Amendments as a result of the same. Therefore, no further re-publication or re-noticing of the same is necessary.

Hearing Officer Vest prepared a Hearing Officer’s Report dated March 10, 2017 (“Report”). The Report documents the proper completion of the required regulatory amendment process, establishes the record, and recommends the adoption of the *revised* proposed Amendments as attached to the Report as Appendix “B”.

Reasons and Conclusions

Based on the record developed by the Department’s experts and established by the Hearing Officer’s Report, I find that the *revised* proposed regulatory Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems* are well-supported. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that the *revised* proposed regulatory Amendments be promulgated as final.

I find that the Department’s experts in the Division of Waste and Hazardous Substances, Tank Management Section, fully developed the record to support adoption of these *revised* regulatory Amendments. The adoption of these *revised* regulatory Amendments will allow Delaware to be consistent with changes made in July 2016 to the Jeffrey Davis Aboveground Storage Tank Act, as well as to implement additional changes that provide clarification to the existing AST Regulations, reflect the use of current technologies and best management practices which prevent releases from AST systems, and ensure an effective cleanup when a release occurs.

In conclusion, the following reasons and conclusions are entered:

1. The Department has the statutory basis and legal authority to act with regard to the *revised* proposed Amendments to 7 DE Admin. Code 1352: *Regulations Governing Underground Storage Tank Systems*, pursuant to 7 *Del.C.*, Ch. 74A;

2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* §7407A, to issue an Order adopting these *revised* proposed Amendments as final;

3. The Department provided adequate public notice of the proposed regulatory amendments and all proceedings in a manner required by the law and regulations, provided the public with an adequate opportunity to comment on the proposed regulatory amendments, including at the time of the public hearing held on December 6, 2016, and held the record open through close of business on December 21, 2016, consistent with 29 *Del.C.* §10118(a), in order to consider public comment on these proposed regulatory amendments before making any final decision;

4. Due to the aforementioned formatting and typographical errors contained in the initial proposed Amendments as set forth above (realized by the Department subsequent to the publication of the same on November 1, 2016, but prior to the public hearing held on December 6, 2016), a complete list of revisions required to correct said errors was provided at the time of said hearing, so as to fully vet the same to the public at that time. Additionally, to ensure that *all* of the aforementioned Department's revisions were fully vetted to the public, a re-publication of the *revised* proposed Amendments were issued by the *Delaware Register of Regulations* February 1, 2017. Accordingly, the Department re-opened the hearing record from February 1, 2017, through close of business March 3, 2017, in order to properly vet the *revised* proposed Amendments to the

public, and to consider any public comment which might be offered on same before making any final decision in this proposed promulgation;

5. While the Department has made revisions to the initial proposed regulatory Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems* as set forth above, such changes were all fully vetted to the public as referenced above. Moreover, although additional comment was received by the Department during the second public comment period of February 1, 2017 – March 3, 2017, no additional changes were made to these *revised* proposed Amendments as a result of the same. Therefore, no additional re-publication or re-noticing is necessitated at this time;

6. The Department's Hearing Officer's Report, including its established record and the recommended *revised* proposed regulatory Amendments as set forth in Appendix "B", are hereby adopted to provide additional reasons and findings for this Order;

7. The adoption of the *revised* proposed regulatory Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems*, pursuant to 7 *Del.C.*, Ch. 74A, will enable the Department to provide clarification in areas where (1) existing regulations were not specific in nature; (2) technical areas were not addressed; (3) advanced technology was not included; and (4) newly developed industry standards were not included. Additionally, the *revised* proposed Amendments will ensure that DNREC's AST Regulations are consistent with the recent changes made to the Jeffrey Davis Aboveground Storage Tank Act in July 2016, as set forth in Senate Bill 233, to wit: the inclusion of descriptions as to when an aboveground storage tank is

considered “in-service” and “out-of-service”, and defining the Department’s authority to respond to imminent threat and indicated release situations, thus ensuring an effective cleanup when such release occurs;

8. The Department has reviewed these proposed regulatory Amendments in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* Ch.104, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally;

9. The Department’s *revised* proposed regulatory Amendments, as re-published in the February 1, 2017 *Delaware Register of Regulations*, and as set forth in Appendix “B” as noted above, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they are approved as final regulatory amendments, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

10. The Department shall submit this Order approving as final the proposed Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems* to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.


David S. Small
Secretary

HEARING OFFICER'S REPORT

TO: The Honorable David S. Small
Cabinet Secretary, Department of Natural Resources and Environmental Control

FROM: Lisa A. Vest 
Public Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: **Proposed Regulation Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems***

DATE: March 10, 2017

I. BACKGROUND AND PROCEDURAL HISTORY:

A public hearing was held on Tuesday, December 6, 2016, at 6:00 p.m. at the Department of Natural Resources and Environmental Control (“DNREC”, “Department”) office located at 391 Lukens Drive, New Castle, Delaware to receive comment on proposed amendments (“Amendments”) to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems* (“AST Regulations”). Pursuant to Title 7, Chapter 74A of the Delaware Code (also known as the *Jeffrey Davis Aboveground Storage Tank Act*), the Department has the authority to create and enforce regulations to protect human health and the environment, and to provide for best management practices for aboveground storage tanks in Delaware.

The AST Regulations were originally promulgated by DNREC in 2004. When originally promulgated, Delaware was one of very few states with an AST regulatory program. The federal government does not have a comparable AST regulatory program; therefore, very little information was available for Delaware to utilize in its construction of such regulations. Since that original promulgation, the Department’s Division of Waste and Hazardous Substance, Tank Management Section (“DWHS-TMS”) has, through education and field experience, identified

several areas of the existing AST Regulations which require revision. The Department's proposed AST Regulation Amendments include clarification of areas where (1) existing AST Regulations were not specific in nature; (2) technical areas were not addressed; (3) advanced technology was not included; and (4) newly developed industry standards were not included. Furthermore, these proposed Amendments include additional revisions necessary to ensure that DNREC's AST Regulations are consistent with the recent changes made to the Jeffrey Davis Aboveground Storage Tank Act in July 2016, as set forth in Senate Bill 233, to wit: the inclusion of descriptions as to when an aboveground storage tank is considered "in-service" and "out-of-service", and defining the Department's authority to respond to imminent threat and indicated release situations, thus ensuring an effective cleanup when such release occurs.

Aboveground storage tanks are not subject to operation and maintenance requirements unless they store at least 12,500 gallons of a regulated substance that is not diesel, heating fuel, or at least 40,000 gallons of diesel, heating fuel, or kerosene. Due to the large size of the tanks that are subject to these operation and maintenance requirements, the regulated community with regard to this particular promulgation is largely commercial or industrial in nature. Thus, the updating of the existing AST Regulations to remain current with technology (and to provide better clarity with the proposed promulgation) will greatly benefit this regulated community.

The Department has the statutory basis and legal authority to act with regard to the proposed amendments to 7 DE Admin. Code 1352, pursuant to 7 *Del.C.* §7407A. This proposed regulatory promulgation commenced with the approval of Start Action Notice ("SAN") #2016-14 by DNREC Secretary Small on September 14, 2016. It should be noted that SAN #2016-14 updated previously issued SAN #2013-28 approved by then-DNREC Secretary O'Mara on November 8, 2013. Accordingly, the initial proposed AST Regulation Amendments were

published in the *Delaware Register of Regulations* on November 1, 2016, and a public hearing was scheduled to be held on December 6, 2016, as noted above.

Subsequent to the November 1, 2016 publication of the aforementioned initial proposed Amendments, the Department identified several formatting and typographical errors associated with the same. As a result, a complete list of revisions required to correct said errors was provided at the December 6, 2016 hearing, so as to fully vet the same to the public at that time. Additionally, during the initial time period that the hearing record was open for public comment (November 1, 2016 – December 21, 2016), the Department received three sets of comment: (1) Mark Baker of Baker Petroleum; (2) Diana Turner of DuPont; and (3) Michael Hayes of the Delaware City Refining Company. The Department's DWHS-TMS responded fully to each of these comments, and made further revisions to its initial proposed Amendments as a result of same.

To ensure that all of the aforementioned Department's revisions were fully vetted to the public, a re-publication of the *revised* initial proposed Amendments was issued by the *Delaware Register of Regulations* on February 1, 2017. Accordingly, the hearing record was re-open for an additional thirty days, so that public comment could once again be received by the Department subsequent to the above-referenced revisions made by the DWHS-TMS. A press release was issued on February 3, 2017 (as well as additional legal notice published in the News Journal on February 5, 2017) to offer formal public notice of the matters of re-publication of the *revised* proposed Amendments, and the re-opening of the hearing record for comment on the same. This additional comment period remained open through Friday, March 3, 2017.

Members of the public attended the December 1, 2016 public hearing, and comment was received by the Department throughout the course of this proposed promulgation, all of which will be discussed further below. It should also be noted that all proper notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

II. SUMMARY OF THE PUBLIC HEARING RECORD:

The public hearing record consists of the following documents: (1) a verbatim transcript; (2) twenty-seven documents introduced by responsible Department staff at the public hearing held on December 6, 2016, and marked by this Hearing Officer accordingly as Department Exhibits 1-27 accordingly; and (3) Technical Response Memorandum (“TRM”), provided to this Hearing Officer by Alex Rittberg, Program Administrator for the Department’s DWHS-TMS, dated March 9, 2017. The Department’s person primarily responsible for the drafting and overall promulgation of these proposed Amendments, Alex Rittberg, developed the record with the relevant documents in the Department’s files.

As noted previously, the purpose of this proposed regulatory promulgation is to adopt revisions to DNREC’s existing AST Regulations, in order to be consistent with changes made in July 2016 to the Jeffrey Davis Aboveground Storage Tank Act, as well as to implement additional changes that provide clarification to the existing AST Regulations, reflect the use of current technologies and best management practices which prevent releases from AST systems and ensure an effective cleanup when a release occurs.

Important proposed changes include the following:

- ***Revising Definitions of an In-Service and Out-of-Service AST:*** These proposed Amendments give the regulated community additional time to perform tank inspection and maintenance activities without the AST being considered out-of-service. The current time period is being extended from 45 days to 180 days.
- ***Creating a New Definition of Indicated Release and Imminent Threat of Release:*** These new definitions support changes made in July 2016 to the Jeffrey Davis Aboveground Storage Tank Act, authorizing the Department to take over situations that pose a danger to public health, or where there are signs that an AST has had a release and the owner has been given notice and failed to take appropriate action.
- ***Ensuring new, large ASTs are built a safe distance from a public or private well:*** The proposed Amendments prohibit new, large ASTs from being built within 150 feet of a public well, and 100 feet of a private well. This proposed revision makes the AST Regulations consistent with the Department's well permitting regulations.
- ***Clarifying that larger ASTs cannot store regulated substances unless financial responsibility requirements are met:*** The proposed Amendments require that owners and operators of larger ASTs maintain financial responsibility, such as insurance to pay for the cleanup and third party damages associated with a release from the AST.
- ***Revising Release Notification and Corrective Action Requirements:*** The proposed Amendments require responsible parties to develop a conceptual model for any free product that is associated with the release as part of the required investigation, and to submit remedial action progress reports on an annual basis when active remediation techniques are part of the required environmental cleanup actions. The proposed Amendments make the

AST release reporting and cleanup requirements more consistent with those found in Delaware's Underground Storage Tank ("UST") Regulations, adding new definitions, such as for light non-aqueous phase liquids, remedial action, and site assessment.

- ***Adding a Definition of "Empty" and including "Emptying an AST" as a Change of Service:*** The proposed Amendments clarify that an AST is considered empty when all of the regulated substances have been removed and the interior has been cleaned. The Department is requiring owners and operators to notify DNREC when an AST is considered empty so that the Department can identify when an AST is considered out-of-service.
- ***Revising the Definition of Tank Owner to include Lender Liability Protections:*** The proposed Amendments make the regulatory definition of owner more consistent with the statutory definition found in the Jeffrey Davis Aboveground Storage Tank Act. The proposed Amendments also specifically exempt financial institutions that foreclose on a property containing an AST from being considered the AST owner, provided that they do not operate the AST, and that they notify the Department of the foreclosure.
- ***Clarifying Secondary Containment requirements for product loading areas:*** The proposed Amendments specify that owners and operators of new, large ASTs must have secondary containment that can hold up to 110% of the volume of the largest compartment of the vehicle used to load and off-load the material. Secondary containment has always been required, however, the proposed change involves specification of the volume that is needed.

- ***Clarifying specific requirements of an internal inspection report required for larger tanks:*** The proposed Amendments provide a detailed list of items that must be included in an internal inspection report, and also clarify that, when multiple standards could apply, only one referenced industry standard will be required.

As part of its regulatory development process, the Department's DWHS-TMS held numerous public workshops throughout the State of Delaware regarding the draft Amendments in both 2015 and 2016. The proposed Amendments to Delaware's existing AST Regulations were then presented and thoroughly vetted by the Department at the public hearing on December 6, 2016. Members of the public attended said public hearing, and comment was offered to the Department throughout the course of this proposed regulatory promulgation. Pursuant to Delaware law, the record initially remained open for fifteen (15) additional days subsequent to the date of the public hearing, for the purpose of receiving additional public comment regarding these proposed Amendments.

Upon the hearing record closing for the first time on December 21, 2016, the Department's DWHS-TMS reviewed all comment received and, as a result, made some additional revisions to the proposed Amendments. As noted previously, in order to ensure that all revisions were fully vetted to the public, a re-publication of the *revised* initial proposed AST Regulations were issued by the *Delaware Register of Regulations* February 1, 2017. Accordingly, the hearing record was re-opened for an additional thirty days, so that public comment could once again be received by the Department subsequent to the above-referenced revisions made by the DWHS-TMS. A press release was issued on February 3, 2017 (as well as additional legal notice published in *The News Journal* on February 5, 2017) to offer formal

public notice of the matters of re-publication of the *revised* proposed Amendments and the re-opening of the hearing record for comment. This additional comment period remained open through Friday, March 3, 2017.

Subsequent to the close of the hearing record for the second time, the Department's DWHS-TMS thoroughly reviewed all comment received from the public in this matter, and provided this Hearing Officer with a formal Technical Response Memorandum ("TRM"), dated March 9, 2017. This TRM provided a balanced discussion of the comment received, and provided the Department's reasoning for all action taken by the Department concerning these *revised* proposed Amendments. Some comments prompted the Department to insert additional language to the proposed Amendments in order to provide greater clarity and understanding for both the regulated community and the public at large with regard to such AST regulatory matters. It should be noted that all revisions to the proposed Amendments were made *prior to* the re-publication and re-opening of the hearing record for comment from February 1, 2017 – March 3, 2017. Although comment was received by the Department during the second aforementioned comment period, no additional revisions were made to these proposed AST Regulation Amendments as a result of the same. Therefore, no further re-publication or re-noticing of the *revised* proposed Amendments is necessary. For the Secretary's review, a copy of the aforementioned TRM provided by the Department's DWHS-TMS is attached hereto as Appendix "A", and a copy of the Department's *revised* proposed Amendments is attached hereto as Appendix "B".

Again, all proper notification and noticing requirements concerning this proposed promulgation were met by the Department in this matter.

III. RECOMMENDED FINDINGS AND CONCLUSIONS:

Based on the record developed, I find and conclude that the Department has provided appropriate reasoning regarding the need for the *revised* proposed Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems*, as noted above. Accordingly, I recommend promulgation of these *revised* proposed Amendments in the customary manner provided by law.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has the statutory basis and legal authority to act with regard to the *revised* proposed Amendments to 7 DE Admin. Code 1352: *Regulations Governing Underground Storage Tank Systems*, pursuant to 7 *Del.C.*, Ch. 74A;

2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* §7407A, to issue an Order adopting these *revised* proposed Amendments as final;

3. The Department provided adequate public notice of the proposed regulatory amendments and all proceedings in a manner required by the law and regulations, provided the public with an adequate opportunity to comment on the proposed regulatory amendments, including at the time of the public hearing held on December 6, 2016, and held the record open through close of business on December 21, 2016, consistent with 29 *Del.C.* §10118(a), in order to consider public comment on these proposed regulatory amendments before making any final decision;

4. Due to the aforementioned formatting and typographical errors contained in the initial proposed Amendments as set forth above (realized by the Department subsequent to the publication of the same on November 1, 2016, but prior to the public hearing held on December 6, 2016), a complete list of revisions required to correct said errors was provided at the time of

said hearing, so as to fully vet the same to the public at that time. Additionally, to ensure that *all* of the aforementioned Department's revisions were fully vetted to the public, a re-publication of the *revised* proposed Amendments were issued by the *Delaware Register of Regulations* February 1, 2017. Accordingly, the Department re-opened the hearing record from February 1, 2017, through close of business March 3, 2017, in order to properly vet the *revised* proposed Amendments to the public, and to consider any public comment which might be offered on same before making any final decision in this proposed promulgation;

5. While the Department has made revisions to the initial proposed regulatory Amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems* as set forth above, such changes were all fully vetted to the public as referenced above. Moreover, although additional comment was received by the Department during the second public comment period of February 1, 2017 – March 3, 2017, no additional changes were made to these *revised* proposed Amendments as a result of the same. Therefore, no additional re-publication or re-noticing is necessitated at this time;

6. Promulgation of the *revised* proposed regulatory amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems*, pursuant to 7 *Del.C.*, Ch. 74A, will enable the Department to provide clarification in areas where (1) existing regulations were not specific in nature; (2) technical areas were not addressed; (3) advanced technology was not included; and (4) newly developed industry standards were not included. Additionally, the *revised* proposed Amendments will ensure that DNREC's AST Regulations are consistent with the recent changes made to the Jeffrey Davis Aboveground Storage Tank Act in July 2016, as set forth in Senate Bill 233, to wit: the inclusion of descriptions as to when an aboveground storage tank is considered "in-service" and "out-of-service", and defining the

Department's authority to respond to imminent threat and indicated release situations, thus ensuring an effective cleanup when such release occurs;

7. The Department has reviewed these *revised* proposed regulatory amendments in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* Ch. 104, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally;

6. The Department's proposed *revised* regulatory amendments, as re-published in the February 1, 2017 *Delaware Register of Regulations*, and as set forth in Appendix "B" hereto, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they should be approved as final *revised* regulatory amendments, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

7. The Department shall submit the *revised* proposed regulatory amendments as final regulatory amendments to 7 DE Admin. Code 1352: *Regulations Governing Aboveground Storage Tank Systems* to the *Delaware Register of Regulations* for publication in its next available issue, and shall provide such other notice as the law and regulation require and the Department determines is appropriate.



LISA A. VEST
Public Hearing Officer

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Attachments/Appendix:

Appendix A: DWHS-TMS TRM (03/09/17)

Appendix A: Proposed *revised* Reg. Amendments

APPENDIX "A"



State of Delaware
 Department of Natural Resources and Environmental Control
Delaware Division of Waste and Hazardous Substances
 Tank Management Section
 Environmental Program Administrator
 Alex Rittberg
 391 Lukens Drive
 New Castle, DE 19720

EXHIBIT
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 Ex. #3 (CAN)

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RECEIVED
 MAR - 9 2017
 DNREC Hearing Officer

To: Lisa Vest, DNREC Hearing Officer

Through: Marjorie Crofts, Director, Division of Waste and Hazardous Substances *MC 3/9/17*

From: *AW 3/9/17* Alex Rittberg, Environmental Program Administrator, Tank Management Section

Subject: Revised Proposed Changes to Aboveground Storage Tank Regulations

Date: March 9, 2017

Background

Title 7, Chapter 74A of the Delaware Code, known as the Jeffrey Davis Aboveground Storage Tank Act, gives the Department of Natural Resources and Environmental Control (Department) the ability to make and enforce regulations to protect human health and the environment and to provide for best management practices for aboveground storage tanks. (7 Del. C. §7407A).

The Aboveground Storage Tank Regulations (Regulations) were originally promulgated in 2004. Since the original promulgation, the Department identified, through education and field experience, several technical aspects of the Regulations that needed revision. These revisions were presented as proposed regulations and included clarifications to correct areas where the Regulations were not specific in nature, as well as areas where technology had advanced or new industry standards had been developed. The proposed regulations also included changes necessary to ensure that the regulations are consistent with the recent changes made to the Jeffrey Davis Aboveground Storage Tank Act in July 2016 as discussed in Senate Bill 233. These changes describe when an aboveground storage tank is considered in-service and out of service, as well as the Department's authority to respond to imminent threat and indicated release situations.

On September 14, 2016, a Start Action Notice was approved by Cabinet Secretary David S. Small. This Start Action Notice updated a previously issued Start Action Notice approved by Collin O'Mara on November 8, 2013.

On November 1, 2016, the proposed changes to the Aboveground Storage Tank Regulations were published in the Delaware Register of Regulations (Volume 20, Issue 5). These changes included many of the clarifications necessary to support implementing the program, as well as the language needed to maintain consistency with the statute.

A public hearing was publically noticed on November 6, 2016 and held on December 6, 2016. During the initial public comment period prior to the public hearing, the Department identified several formatting and typographical errors associated with the proposed regulations. A list of additional changes needed to correct these errors was presented at the public hearing conducted on December 6, 2016. Additionally, during the initial public comment period, which ended December 21, 2016, the Department received comments from three (3) people; Mr. Mark Baker of Baker Petroleum, Ms. Diana Turner of DuPont and Mr. Michael Hayes of the Delaware City Refining Company. The Department responded to each person's comments and made further changes to the proposed regulations based on the comments received (see below).

To ensure that all of the changes were properly vetted by the public, the Department requested an additional public comment period on the revised proposed regulations with a second thirty-day public notice period, ending on March 3, 2017. The revised proposed regulations were published on February 1, 2017 in the Delaware Register of Regulations (Volume 20, Issue 8). A press release regarding the revised proposed regulations was issued on February 3, 2017. The second comment period was publically noticed on February 5, 2017. During the second public comment period, additional comments were received via email by Mr. Bernard Bingham and Mr. Wesley Yeager (see below). It should be noted that, the Department reviewed the comments received during the second public comment period, and is not proposing additional revisions based on the comments that were submitted.

Discussion

Since there were two public comment periods associated with these regulations, November 1, 2016 through December 21, 2016 and February 1, 2017 through March 3, 2017, this document serves as a comprehensive summary of the public comments received during both comment periods and provides DNREC's responses and recommendations.

Comment #1 submitted by Mr. Mark Baker on Part B, Section 1.1.12

This section is a significant improvement from the draft regulations. The only changes that I would like to suggest are a slight modification of the notification times. As a site owner, I would hope that under typical circumstances the contractor and DNREC would be working together throughout the project to coordinate the completion and inspection process. However, as written, there is a potential 25 day time period between Department notification and written approval to operate the site. I propose the following:

- Owner notification within 7 days of final completion. (Owner has incentive to do this ASAP, so a longer time doesn't really change anything.)
- On-site inspection completed within 7 days (it should not come as a total surprise to the Department that a project is nearing completion).
- Written approval or detailed deficiencies in 7 days (this was the original time in the draft regulations).

This still leaves a 14 day period from notification of completion to final letter from the Department. This should be a sufficient time for the Department to complete the above process.

Department of Natural Resources and Environmental Control Waste and Hazardous Substances Division Tank Management Section (DNREC- TMS) Response to Comment #1 by Mr. Mark Baker:

DNREC-TMS agrees that it is reasonable to expect the contractor and DNREC-TMS to be working together throughout the project to coordinate the completion and inspection process and amended the timeframes discussed in Part A Section 1.1.12 of the amended proposed regulations, for an owner to notify DNREC of the date of the final completion of the installation from ten (10) days to seven (7) days, and for the Department to conduct a final inspection from fifteen (15) days to (10) days.

Comment #2 submitted by Mr. Mark Baker on Part B, Section 1.1.3.3

This section should be updated to contain the language found in Part A, Section 4.6.4. That section essentially states that if the Owner does not receive written notification from the Department within the allocated time period, they may notify the Department and begin a retrofit or upgrade at their own risk. The same standard should apply to new installations found in Part B, Section 1.1.3.3. The 60 day time period found in 1.1.3.3 is still appropriate for new installations since they take considerable planning on the part of the owner and contractor.

DNREC TMS Response to Comment #2 by Mr. Mark Baker:

DNREC-TMS did not modify Part B, Section 1.1.3.3 as requested because DNREC-TMS does not want to put the owner in a position where the owner has to re-do work that is not consistent with the approved design. For the more complex tanks that are field constructed, this work may involve the installation of aboveground or underground cathodic protection and leak detection systems, which would prove costly to owners to modify if found inconsistent with the approved design of the tank system. The DNREC-TMS can be more flexible with retrofits and upgrades because the tank has already been constructed in compliance with the regulations, and any retrofit or upgrade would likely be considered an enhancement of the current systems.

Comment #3 submitted by Mr. Mark Baker on Part A, Section 4.6.4

I believe there is a typo in the last sentence. It currently states “the Owner may commence tank operations provided that:” I believe this should be “the Owner may commence the retrofit or upgrade work provided that:” Tank operations are obviously still subject to the notification and inspection procedures. This should be corrected to prevent any confusion.

DNREC TMS Response to Comment #3 by Mr. Mark Baker:

The DNREC-TMS agreed with the comment and modified the language in Part A 4.6.4 in the amended proposed regulations.

Comment #4 submitted by Mr. Mark Baker on Part E, Section 4.1.1

This section essentially gives the Department the ability to take control of any release or indicated release situation. There needs to be some sort of limits or definitions to limit this power. I understand that there could be situations where the Department legitimately needs to take control, but this change to the regulation gives broad power that could be abused in the future. I have been told via email from the Department the following information: *"the Departments position is that the Owner and Operator would be given notice by the Department of the actions that need to be taken and the time frame in which all requirements must be completed. The Department would only take control in the event the Owner or Operator does not complete requirements set forth by the Department in the time frame required or the situation is one that requires an immediate emergency response."*

That sounds appropriate and more specific than the language in the regulation. Can the language in 4.1.1 be modified to reflect that? Section 4 outlines several specific actions that the owner/operator needs to take in response to a release. The above response also indicates that the owner/operator will be given notice of actions and the Department will only take control if the owner/operator is not following that guidance (where the authority to issue that guidance obviously comes from this or other sections of the regulations). I am just looking for some language in the regulation that helps establish how "it is determined that the Owner and Operator are not responding promptly". Stronger language may be something like "when the owner/operator fails to follow section? Or other guidance provided by the Department". It may just be a discussion over semantics, but I generally look to get as much clarity as possible in the regulations and I feel the existing language in the draft is too vague. I also understand that the language is at least partially driven by the potential need to respond to a real emergency situation where an owner/operator might not even be taking any action to correct a release.

DNREC-TMS Response to Comment #4 by Mr. Mark Baker:

DNREC-TMS agreed with the comment and modified Part E Section 4.1.1 in the amended proposed regulations providing more detail of the administrative process involved when the Department will assume control of a release or indicated situation.

Comment #5 submitted by Ms. Diana Turner of DuPont on Part A Section 2 Definition of Aboveground Storage Tank

1) Part A Section 2 Definition of Aboveground Storage Tank (AST)

"Aboveground Storage Tank" or "AST" means a single aboveground containment vessel having a capacity of greater than 250 gallons and currently or previously having contained Regulated Substances on or after January 1, 1992. The term includes all ancillary aboveground pipes and Dispensing Systems up to the first permanently installed point of isolation and all ancillary underground pipes and Dispensing Systems. Within this definition, the word "vessel" includes any container that can be partially visually inspected, from the exterior, in an underground area.

The definition of AST with regard to the boundaries of the AST on ancillary piping was discussed during a public workshop conducted in 2015. For clarity, please verify where the boundary of the AST is for the following situations. It is my understanding that:

- 1) If a tank connects to aboveground piping with an isolation valve between the tank and a pump, that the boundary of the AST is at the isolation valve;
- 2) If a tank connects to a pipe that has an isolation valve between the tank and a section of underground pipe that the AST would include the valve and the underground section of pipe, up to an isolation valve beyond the underground section of pipe;
- 3) A return line to the top of an AST is not considered part of the AST.
- 4) Also for case 2 above, please clarify whether the underground section of pipe would still be considered part of the AST if it is double walled and the double walled pipe is equipped with tell tales that are checked routinely.

DNREC-TMS Response to Comment #5 by Ms. Diana Turner of DuPont:

DNREC-TMS agrees that if a tank connects to aboveground piping with an isolation valve between the tank and a pump that the boundary of the AST is at the isolation valve. In response to Ms. Turner's second point, all aboveground piping up to the first point of isolation and all underground piping regardless of location would be considered part of the AST. With regard to Ms. Turner's third point, a return line would be considered ancillary piping and is considered part of the AST. Regarding Ms. Turner's last point, all underground piping would be considered part of the AST.

Comment #6 submitted by Ms. Diana Turner of DuPont on Part A Section 2 Definition of Compartmentalized AST

Part A Section 2 Definition of Compartmentalized AST

“Compartmentalized AST” means a single walled compartmentalized AST bearing one Underwriter’s Laboratory (UL) label or a double walled compartmentalized AST sharing the same interstice. A compartmentalized AST is a single tank for the purposes of compliance with all applicable requirements of these Regulations. The total capacity of a compartmentalized AST is the sum of all the compartment volumes.

The words double walled and interstice normally refer to a tank within a slightly larger tank with a small separation called the interstice between the two walls. Please confirm that the definition above does not consider multiple tanks situated within a common secondary containment (for example, two tanks each with their own UL label which share a common concrete secondary containment) to be a compartmentalized AST.

DNREC-TMS Response to Comment #6 by Ms. Diana Turner of DuPont:

The DNREC-TMS definition of a compartmentalized AST does NOT consider multiple tanks situated within a common secondary containment as compartmentalized tanks.

Comment #7 submitted by Ms. Diana Turner of DuPont on Part E Leak Reporting and Corrective Action Requirements

Part E Leak Reporting and Corrective Action Requirements for Aboveground Storage Tanks
Section 1. General Requirements for Leaks inside Secondary Containment

1.1 Leaks inside Secondary Containment

1.1.1 No Person shall knowingly allow any Leak of a Regulated Substance from an AST into Secondary Containment to continue.

1.1.2 A Leak of a Regulated Substance inside Secondary Containment in any quantity that cannot be cleaned up within (7) days shall be reported to the Tank Management Section as soon as possible, but in no instance shall reporting exceed (7) seven days from the time of discovery. Reporting may be made in person or by telephone or by electronic mail.

1.1.3 Documentation of the Leak and the calculations of how the Leak amount was determined shall be maintained by the Owner and Operator at the Facility for the operational life of the AST.

1.1.4 Actions to prevent a reoccurrence of the Leak and actions to mitigate evidence of the Leak shall be completed within (30) thirty days. These actions shall include but are not limited to:

1.1.4.1 Repairing or replacing defective equipment, or;

1.1.4.2 Modifying operating procedures, or;

1.1.4.3 Retraining employees.

1.1.5 Evidence of a Leak on Secondary Containment surfaces other than soil, shall be mitigated by mechanical and/or chemical means that do not compromise the impermeability of the Secondary Containment and which permit potential future Leaks to be readily discernible from evidence of previous Leaks, in accordance with PART E, Section 1.1.4.

1.1.6 Evidence of a Leak on Secondary Containment surfaces comprised of soil, that cannot be eliminated by surficial scraping, shall be eliminated by excavating all impacted soils or a means by which a new stain is easily detectable and which does not compromise the impermeability of the Secondary Containment, in accordance with PART E, Section 1.1.4. Any area that is excavated shall be backfilled with a material of equal or superior impermeability.

1.1.7 The Department must be notified in person or by telephone, five (5) days in advance of any excavation activities within Secondary Containment.

1.1.8 Staining that extends through the impermeable Secondary Containment surface is considered a Release and Hydrogeologic Investigation must be completed in accordance with PART E, Section 4.2.

The title of Part E in combination with the title of Section 1 seems to limit the leaks covered by Section 1 to leaks of a Regulated Substance **from an AST** inside secondary containment. Please clarify whether the Section 1 is specific to leaks of a Regulated Substance **from an AST** into secondary containment.

DNREC-TMS Response to Comment #7 by Ms. Diana Turner of DuPont:

DNREC-TMS Response: DNREC-TMS changed the title of Part E Section 1 to General Requirements for Leaks inside Secondary Containment in the amended proposed regulations. This section is intended to address leaks of a regulated substance from an AST into secondary containment. Leaks into secondary containment caused by other means (vehicles, drums, etc.) are addressed in 7 Del. C. § 6028, Report of discharge of pollutant or air contaminant.

Comment #8 submitted by Ms. Diana Turner of DuPont on Part E Section 2.1 Indicated Releases

Part E Section 2.1 Indicated Releases from ASTs and Section 2.2 Reporting Indicated Releases

2.1 Indicated Releases from ASTs

2.1.1 Indicated Releases are signs that an AST, or the Secondary Containment are failing or could potentially fail to contain a Regulated Substance. Indicated Releases are Releases that are not observable and are not directly attributable to another source. Observable Releases must refer to PART E, Section 4.2. Indicated Releases include, but are not limited to, the following:

2.1.1.1 Stained soils or soils that emit characteristic odors of Regulated Substance compounds which are exposed during activities including but not limited to digging, boring or excavation activities, retrofit of ASTs, Removal of an AST or collection of soil samples around an AST that is Permanently Closed In Place, or results from an Phase I or Phase II environmental Site Assessment; or

2.1.1.2 Water from supply wells, public or private, that exhibit a decrease in water quality, which is shown by subsequent analysis to result from the presence of a Regulated Substance; or

2.1.1.3 The appearance of characteristic odors of a Regulated Substance in basements or other enclosed spaces; or

2.1.1.4 The appearance of a sheen on a surface water body; or

2.1.1.5 The appearance of a sheen or measurable NAPL in a supply well, monitoring well, or observation tube; or

2.1.1.6 Failure of a Tank, Piping or vapor recovery test; or

2.1.1.7 A laboratory report that indicates a sample collected from or near an AST excavation, soil boring, monitor well or observation tube contains a Regulated Substance; or

2.1.1.8 Notification from the State Emergency Prevention and Response Section or another State or Federal agency of the discovery of a Release of uncontained Regulated Substances or compounds; or

2.1.1.9 Documentation on a tank inspection report that the AST integrity may have been compromised includes but is not limited to:

2.1.1.9.1 Holes in the AST; or

2.1.1.9.2 Thinning of AST structural material below the minimum Design standard; or

2.1.1.9.3 Cracks in welds or steel plates.

2.1.1.10 Abnormal operating conditions include but are not limited to the following:

2.1.1.10.1 The sudden loss of product from any portion of the AST;

2.1.1.10.2 Inventory control discrepancies over a consecutive two month period;

2.1.1.10.3 A signal from any release detection device or method that indicates a Release may have occurred;

2.1.1.10.4 The unexplained presence of water in the AST;

2.1.1.10.5 Evidence of a Release of a Regulated Substance noted during a routine inspection.

2.2 Reporting Requirements for Indicated Releases

2.2.1 Any indication of a Release of a Regulated Substance from an AST that was not witnessed, is not immediately quantifiable, and has impacted soil, surface water, or groundwater, and is discovered by any Person, including but not limited to environmental consultants, environmental contractors, utility companies, financial institutions, real estate transfer companies, or AST Owners or Operators shall be reported within 48 hours to: The DNREC Tank Management Section by calling 302-395-2500 during normal business hours, which are 8am to 4pm, Monday through Friday, excluding state holidays or emergency state office closures. Reporting to the Tank Management Section does not release any Person from complying with the requirements of 7 Del.C. Chapter 60 and the Regulations promulgated there under as amended and if an imminent threat to human health, safety or the environment exists.

The language in Part E regarding reporting of indicated releases extends far beyond what is required by the underlying statute which reads. "All persons, including an owner and an operator, shall report to the Department a release from an aboveground storage tank in excess of the reportable quantities specified in the regulation". The proposed regulation, in contrast, obligates all persons to report a broad list of observations regardless of whether they are attributable to a reportable quantity release from an AST. The recent bill passage amending the statute added a definition of indicated release, yet did not change the reporting requirements section to include indicated releases.

The obligation for all persons to report all observations that are categorized in the Part E Section 2.1.1 list as indicated releases by the regulation does not clarify the leak and release reporting requirements but rather extends the requirements far beyond the statute.

DNREC-TMS Response to Comment #8 by Ms. Diana Turner of DuPont:

The DNREC-TMS disagrees with the comment because Part E language regarding reporting of indicated releases is consistent with the General Assembly's purpose of adding a definition of an indicated release and their intent to clarify through regulation that indicated releases from an aboveground storage tank should be reported in a manner consistent with the requirements found in the UST regulations.

Comment #9 submitted by Ms. Diana Turner of DuPont on Part E Section 2.3 Reporting Requirements for Releases

Part E Section 2.3 Reporting Requirements for Releases

2.3 Reporting Requirements for Releases

2.3.1 Owners and Operators shall not knowingly allow any Release of a Regulated Substance from an AST to continue. Owners and Operators shall take immediate action to contain any Release so as to minimize the environmental impact of the Release and to immediately identify and mitigate fire, explosion and vapor hazards.

2.3.2 Any Release of a Regulated Substance from an AST in excess of the reportable quantities specified in the regulations promulgated pursuant to 7 Del.C., Chapter 60, §6028, the Delaware Regulations Governing the Reporting of a Discharge of a Pollutant or an Air Contaminant, as amended, that is discovered by any Person, including but not limited to environmental consultants or contractors, utility companies, financial institutions or real estate transfer companies, shall be reported within 24 hours to:

2.3.2.1 The Department's 24-hour Release Hot Line by calling 800-662-8802, and

2.3.2.2 The DNREC Tank Management Section by calling 302-395-2500, during normal business hours, which are 8am to 4pm, Monday through Friday, excluding state holidays or emergency state office closures.

2.3.2.3 If the phone numbers listed in these Regulations are not valid it is the responsibility of the Owner and Operator to take all reasonable steps to ascertain a valid phone number.

2.3.3 Owners and Operators shall immediately contain the Release and shall complete the Release response, investigation and Remedial Action requirements of PART E, as required.

2.3.4 Owners and Operators shall comply with the release notification requirements of any and all state, federal or municipal agencies.

2.3.5 Any Release of a Regulated Substance in a quantity less than the reportable quantity specified in the regulations promulgated pursuant to Title 7 Del.C., Chapter 60, §6028, the Delaware Regulations Governing the Reporting of a Discharge of a Pollutant or an Air Contaminant, as amended, shall be documented at the time of discovery on the routine in-service inspection report. If the commencement of cleanup activities cannot begin within 24 hours or cannot be completed within seven (7) days the Tank Management Section shall be notified in

person or via fax, electronic mail, or by telephone on the eighth day, and the requirements of PART E, Section 4.2 shall apply.

The language in Part E Section 2.3.5 seems to exempt certain small releases from the requirements of Part E Section 4.2 if the cleanup activities described in 2.3.5 are completed in the time specified. However, there is no explicit exemption stated in section 4.2 or 4.3 or Section 5, 6 and 7. Please confirm that releases of regulated substances which are less than reportable quantity that are cleaned up in accordance with the time frame describe in 2.3.5 are exempt from further release response requirements found in Part E.

DNREC-TMS Response to Comment #9 by Ms. Diana Turner of DuPont:

DNREC-TMS Response: DNREC-TMS confirms that releases of regulated substances that are less than the reportable quantity that are cleaned up in accordance with the time frame describe in 2.3.5 are exempt from further release response requirements found in Part E.

Comment #10 submitted by Delaware City Refining Company on Part A Section 4.4.1

Part A, Section 4.4.1 requires that “When a transfer of ownership of an AST occurs, the new Owner shall submit a completed registration form all required Safety Data Sheets, and proof of compliance with the financial responsibility requirements in PART D of these Regulations to the Department so that the Department shall receive these forms no later than 72 hours after the transfer.”

The DCRC would like the Department to consider changing this requirement back to 30 days due to the quantity of tanks that are located on our site. We believe that we are very unique in that we have numerous (over 100) tanks onsite that are classified as large tanks. Therefore, additional time would be required in the event of a sale of the facility to gather all of the info required per Part A, Section 4.4.1

DNREC-TMS Response to Delaware City Refining Company on Comment #10:

The DNREC-TMS proposed to shorten the timeframe for a new owner of an AST to submit a completed registration form, Safety Data Sheet, and required financial responsibility documentation from 30 days to 72 hours to ensure the State was aware of the ownership change and to ensure the new owner had a financial responsibility mechanism in place to address liability associated with the cleanup of a release or third party impact caused by the release. The DNREC-TMS understands that there may be certain times when additional time is required, and has added language to Part A Section 4.4 to the amended proposed regulations that would allow the DNREC-TMS to approve an alternate schedule for submitting these documents.

Comment #11 submitted by the Delaware City Refining Company on Part A Section 4.4.3

Part A, Section 4.4.3 requires that any person who assumes ownership of an AST from a previous registrant must complete and return to the Department a new registration form. The new Owner and Operator may operate the AST for no more than seventy-two (72) hours after assuming ownership without the Department having received the new registration form and a transfer of ownership form.

The DCRC would like the Department to consider changing this requirement to 30 days due to the quantity of tanks that are located on our site. We believe that we are very unique in that we have numerous (over 100) tanks onsite that are classified as large tanks. Therefore, additional time would be required in the event of a sale of the facility to gather all of the info required per Part A, Section 4.4.3

DNREC-TMS Response to Delaware City Refining Company on Comment #11:

The DNREC-TMS amended the proposed regulations Section 4.4.1 to address this concern because the original language proposed in Section 4.4.3 was duplicative with respect to the requirements of Section 4.4.1 and was stricken.

**Comment #12 submitted by the Delaware City Refining Company on Part B Section 1.1.10
Minimum Distance from Public Wells**

Part B, Section 1.1.10 requires that “After the most recent Effective Date of these Regulations new ASTs shall not be installed within a minimum distance of a one hundred and fifty (150) foot radius from a Public or Industrial well, unless otherwise approved by the Department. A Retrofit or Upgrade of an AST shall not be considered a new installation for the purposes of this section.”

The DCRC believes that existing ASTs that were previously out of service should be excluded from this requirement if these ASTs are recommissioned and returned to service. Additionally, the DCRC would like to get clarification that this requirement does not pertain to monitoring wells.

DNREC-TMS Response to Delaware City Refining Company on Comment #12:

The intent of the regulation is to protect sources of public drinking water from likely sources of future contamination. DNREC addressed the Delaware City Refining Company's concern by adding the definitions of a Domestic Well, Industrial Well, and Public Well to Part A Section 2 of the amended proposed regulations. These definitions are consistent with 7 Del. C. Section 7301.

**Comment #13 submitted by the Delaware City Refining Company on Part B Section 1.1.11
Minimum Distance from Domestic Wells**

Part B, Section 1.1.11 requires that “After the most recent Effective Date of these Regulations new ASTs shall not be installed within a minimum distance of a one hundred (100) foot radius from a Domestic well, unless otherwise approved by the Department. A Retrofit or Upgrade of an AST shall not be considered a new installation for the purposes of this section.”

The DCRC believes that existing ASTs that were previously out of service should be excluded from this requirement if these ASTs are recommissioned and returned to service. Additionally, the DCRC would like to get clarification that this requirement does not pertain to monitoring wells.

DNREC-TMS Response to Delaware City Refining Company on Comment #13:

DNREC-TMS believes that the addition of the definitions as described in Response to Comment #12 from the Delaware City Refining Company addresses the issue that the requirement does not pertain to monitoring wells. The intent of the regulation is to protect domestic wells from likely sources of future contamination.

Comment #14 submitted by the Delaware City Refining Company on Part B Section 7.1.7

Part B, Section 7.1.7 requires “All Regulated Substance transfer areas where filling connections are made with vehicles shall be capable of containing and collecting 110% of the volume of the largest compartment of the largest vehicle that may be utilized and preventing a Release for all new ASTs installed and for all ASTs brought into service after the most recent effective date of these Regulations.”

The DCRC believes that requiring all ASTs brought into service after the most effective date of the Regulations is burdensome. Instead, this requirement should pertain to newly-constructed ASTs only (not ASTs that may be recommissioned after previously being out of service).

DNREC-TMS Response to Delaware City Refining Company Comment #14:

The DNREC-TMS does not agree that the requirement should be changed, and believes that any product transfer area associated with tanks large enough to be regulated under Part B that are either newly constructed or brought back into service after the date of these regulations should have adequate spill containment surrounding the loading and unloading areas.

Comment #15 submitted by the Delaware City Refining Company on Part B Section 14.2.1.4

Part B, Section 14.2.1.4 requires that Site Assessments be performed when “Soil is excavated during Retrofit, Upgrade, repair, or maintenance.”

The DCRC believes that the amended language would require unnecessary Site Assessments during routine upgrades and repairs. Particularly if there are no signs of an “indicated release” (i.e., no signs of leaks or soil staining). Instead the DCRC suggests striking Part B, Section 14.2.1.4 since responding to releases are addressed in Part E.

DNREC-TMS Response to Delaware City Refining Company on Comment #15:

To address this comment, DNREC-TMS changed the language in Part B Section 14.0 in the amended proposed regulations to clarify that a site assessment will only be required during routine upgrades and repairs when there is a sign of an indicated release or when soils are excavated.

Comment #16 submitted by the Delaware City Refining Company on Part E, Section 1.1.7 Notification of Excavation Activities

Part E, Section 1.1.7 requires that the Department must be notified in person or by telephone, five (5) days in advance of any excavation activities within secondary containment.

The DCRC requests clarification that this requirement applies to “excavations associated with investigating and/or cleaning leaks or spills”. Additionally, the DCRC believes this requirement should be stricken as it requires a potential 5-day delay with investigating and/or cleaning leaks or spills.

DNREC-TMS Response to Delaware City Refining Company on Comment #16

The DNREC-TMS changed language in Part E Section 1.1.7 of the amended proposed regulations to clarify that the notification shall take place within 5 days after the excavation activities taking place.

Comment #17 submitted by Mr. Bernard Bigham on NFPA 30 Requirements

I do not know the status of your proposed AST rules, even whether you can still accept comments. But it is important that I convey to you what I believe to be a major problem I found when digging into the proposal. The proposed rules place clear restrictions on which tanks fall under the inspection requirements of Part C, as described in 7.0 – Inspection requirements for Metallic Shop-fabricated ASTs. However, this proposal eliminates many tanks that are regulated elsewhere in Delaware regulations as well as EPA regulations and sets up an inspection and enforcement problem.

NFPA 30 requires steel tanks with a capacity greater than 60 gallons be inspected either according to API 653 or STI SP-001 (NFPA 30, Sections 21.8.1 and 22.17.2). This is obviously more restrictive than Delaware’s proposal, which limits the requirement for certified inspections to a subset of that universe of tanks. However, your sister agency in Delaware, the Delaware State Fire Prevention Commission, has in place, 701 – Administration and Enforcement, Chapter 7, 1.0 – NFPA Codes and Standards, wherein they adopted in its entirety the 2015 version of NFPA 30. This action requires all steel tanks in Delaware to be inspected using API 653 or STI SP-001.

The situation now is that:

- 1) EPA requires that inspections for all tanks be done according to an “industry standard.” (40CFR 112)
- 2) NFPA established in NFPA 30 that the industry standard for steel tank inspections is either STI SP-001 or API 653.
- 3) The Delaware State Fire Prevention Commission adopted NFPA 30 in its entirety.
- 4) DNREC is proposing that only a subset of those tanks need to be inspected.

Since DNREC is the primary inspection presence in Delaware for tanks, the scenario is set up that a facility could meet with DNREC’s approval and be given a false sense of confidence that they are in compliance, when in truth they will likely be in continuing violation of both federal and state requirements. Will you be referring facilities that didn’t inspect tanks below your threshold to the State Fire Prevention Commission? I see a lot of confusion in the future.

DNREC TMS Response to Mr. Bernard Bingham Comment #17:

DNREC TMS discussed Mr. Bingham’s comment with the State Fire Marshal’s Technical Services Department and they acknowledged that NFPA 30 places STI SP-001 and API 653 inspection requirements on smaller tanks than the amended proposed regulations. Mr. R. T. Leicht of the Fire Marshal’s Office explained that though the Fire Marshal’s Office adopted NFPA 30 in its entirety it does not have the resources to enforce these requirements on smaller tank systems. DNREC-TMS will continue to enforce these requirements on larger tank systems as described in the amended proposed regulations. Mr. Alex Rittberg spoke to Mr. Bingham and explained these matters and Mr. Bingham stated that he was satisfied with Mr. Rittberg’s response.

Comment #18 submitted by Mr. Wesley Yeager on UL 2085 Fire Rated and Double Wall Piping

For years ASTs storing gas and diesel and heating oil have been required to be UL 2085. They have to be double wall and fire rated in some jurisdictions, such as NYC, there is already the requirement for above ground pipe to be double wall and fire rated.

Will the pipe carrying and storing flammable liquids be required to meet the same or similar standards as the pipe in your jurisdiction?

DNREC TMS Response to Mr. Wesley Yeager Comment #18:

Delaware’s Regulations Governing Aboveground Storage Tanks require applicable, regulated ASTs to meet or exceed UL 2085, Protected Aboveground Tanks for Flammable and Combustible Liquids. Aboveground pipe that is subject to the AST Regulations is not required to

be double wall and fire rated. There are no changes to these requirements in the proposed AST Regulations.

Conclusion

After reviewing the comments submitted during the two public comment periods, the Division of Waste and Hazardous Substances endorses the above responses and recommendations for inclusion in the Hearing Officer's Report.

ear2017-007

APPENDIX “B”

**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL
CONTROL**

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES

Statutory Authority: 7 Delaware Code, Chapter 74A; (7 Del.C. Ch. 74A)
7 DE Admin. Code 1352

PROPOSED

REGISTER NOTICE

SAN#: 2016-14

1352 Aboveground Storage Tanks

1. TITLE OF THE REGULATIONS:

Administrative Code Section 1352, Regulations Governing Aboveground Storage Tanks

2. BRIEF SYNOPSIS OF THE SUBJECT, SUBSTANCE AND ISSUES:

The DNREC-Tank Management Section has revised the proposed amendments to Delaware Administrative Code 1352: Regulations Governing Aboveground Storage Tanks (AST Regulations) following a thorough review. The proposed amendments to the AST Regulations were published in the November 1, 2016 Delaware *Register of Regulations*. These revisions to the proposed amendments to the AST Regulations address sections and language inadvertently excluded by both DNREC and the Registrar. The revisions also include amendments by DNREC resulting from comments received at the public hearing held December 6, 2016 and throughout the initial public comment period which ended December 21, 2016.

3. POSSIBLE TERMS OF THE AGENCY ACTION:

There is not a sunset date related to the proposed regulations.

4. STATUTORY BASIS OR LEGAL AUTHORITY TO ACT:

The statutory basis for these regulations is Title 7 Delaware Code Chapter 74A, Section 7407A.

5. OTHER REGULATIONS THAT MAY BE AFFECTED BY THE PROPOSAL:

None.

6. NOTICE OF PUBLIC COMMENT:

The hearing record on the proposed amendments to 7 DE Admin Code Section 1352: Regulations Governing Aboveground Storage Tanks will be re-opened February 1, 2017 for a 30-day public comment period ending March 3, 2017. Individuals may submit written comments regarding the proposed changes via e-mail to Lisa.Vest@state.de.us or via the USPS to Lisa Vest, Hearing Officer, DNREC, 89 Kings Highway, Dover, DE 19901 (302) 739-9042.

7. PREPARED BY:

Name/Phone: Alex Rittberg, 302-395-2500

Email: Alex.Rittberg@state.de.us

1352 Aboveground Storage Tanks

PART A GENERAL REQUIREMENTS FOR ABOVEGROUND STORAGE TANKS ASTS

1.0 General Provisions

1.1 Statement of Authority and Purpose

1.1.1 These Regulations are enacted in accordance with Title 7 **Del.C.** Ch. 60, *Environmental Control*, and Title 7 **Del.C.** Ch. 74A, *The Jeffrey Davis Aboveground Storage Tank Act*.

1.1.2 The Delaware Department of Natural Resource Resources and Environmental Control is responsible for protecting, preserving and enhancing the environmental quality of water, air and land of the State. In addition, the General Assembly of the State of Delaware has found "that it is therefore necessary to provide for more stringent control of the installation, operation, retrofitting, maintenance, repair, abandonment, and/or removal of aboveground storage tanks to prevent releases and where releases occur, to detect and remediate them at the earliest possible stage, thus minimizing further degradation of soil, air, surface water, and groundwater and promoting public safety."

The Regulations Governing Aboveground Storage Tanks are intended to address existing and potential sources of pollution that may result from ASTs. To ensure the prevention and early detection of a ~~Release-release~~ of a ~~Regulated Substance regulated substance~~ should one occur, new tanks ASTs are required to meet acceptable design and installation criteria and existing tanks ASTs are required to upgrade retrofit by a schedule set forth to comparable standards. AST design criteria promulgated under these Regulations will minimize the risk of ~~Regulated Substance regulated substances~~ impacting the environment. Release confirmation and remediation standards are set forth to require the clean-up of any ~~Release release~~ that does occur.

1.2 Applicability

1.2.1 The requirements of these Regulations shall apply to all Owners and Operators of an AST as defined in these Regulations unless specifically exempted in these Regulations.

1.2.2 The following ASTs shall only be subject to the requirements of Part A, § Section 1.0; Part A, § Section 2.0; Part A § Section 6.0; and Part A § Section 8.0; and Part E of these Regulations:

1.2.2.1 ASTs of 1,100 gallons or less in capacity, located on a farm, and used solely to facilitate the production of crops, livestock, or livestock products on the farm;

1.2.2.2 ASTs used solely to store propane gas;

1.2.2.3 ASTs of 1,100 gallons or less in capacity used solely to store ~~Heating heating Fuel fuel~~ for consumptive use on the premises where stored;

1.2.2.4 ASTs of 1,100 gallons or less in capacity used solely to store ~~Motor motor Fuel fuel~~ or motor oil for Noncommercial purposes;

1.2.2.5 ASTs installed on a temporary basis, not to exceed six months;

1.2.2.6 ASTs regulated pursuant to Title ~~29~~ 7 **Del.C.** Ch. ~~§8028~~ 74B, *Division of Boiler Safety Program*.

1.2.2.7 ASTs and associated equipment regulated as a part of a process regulated pursuant to Title 7 **Del.C.** Ch. 77, *Extremely Hazardous Substances Risk Management Act*.

1.2.3 The following ASTs shall only be subject to the requirements of Part A, § subsection 1.3; PART A, subsection 1.4; PART A, subsection 1.5; PART A, subsection 1.6; Part A, § subsection 2.0; Part A, subsection 4.1.1; PART A subsection 4.1.3; PART A, subsection 4.1.4; PART A, subsection 4.1.5; PART A, subsection 4.1.6; PART A, subsection 4.1.7; PART A, subsection 4.1.8; PART A subsection 4.1.9; A, §4.1; Part A, § subsection 4.2; Part A, § subsection 4.3; Part A, § subsection 4.4; Part A, § Section 6.0; Part A, § Section 8.0; Part A, § Section 9.0; and Part E of these Regulations:

- 1.2.3.1 ASTs used to store regulated substance other than diesel, kerosene or heating fuel with a capacity greater than 250 gallons and less than 12,499 gallons.
- 1.2.3.2 ASTs used solely to store diesel, kerosene or heating fuel with a capacity greater than 250 gallons of and less than 40,000 ~~[39,999]~~[40,000] gallons, and.
- ~~1.2.3.3~~ ~~ASTs having a capacity greater than 250 gallons and containing a Regulated Substance other than diesel, Heating Fuel or kerosene and ASTs having a capacity greater than 19,999 gallons and containing diesel, Heating Fuel or kerosene shall also be subject to the requirements of Part A, §10.~~
- 1.2.4 ASTs regulated pursuant to 7 **Del.C.** Ch. 63 and the Delaware Regulations Governing Hazardous Waste ~~Regulations Governing Hazardous Waste~~ shall be exempted from Part E of these Regulations.
- 1.2.5 The following types of aboveground storage tanks shall not be subject to these Regulations:
- 1.2.5.1 septic tank;
- 1.2.5.2 pipeline facility (including gathering lines) regulated under:
- 1.2.5.2.1 *The Natural Gas Pipeline Safety Act of 1968* as amended [49 U.S.C. §1671 et seq.]; or
- 1.2.5.2.2 *The Hazardous Liquid Pipeline Safety Act of 1979* as amended [49 U.S.C. §2001 et seq.]; or
- 1.2.5.2.3 Pipelines regulated pursuant to 33 U.S.C. and 49 CFR 195 *Transportation of Hazardous Liquids by Pipeline*; or
- 1.2.5.2.4 Pipelines regulated pursuant to 46 U.S.C. and 33 CFR 154 *Facilities transferring oil or hazardous material in bulk* and 33 CFR 156 *Oil and hazardous material transfer operations*.
- 1.2.5.3 surface impoundment, pit, pond, or lagoon;
- 1.2.5.4 liquid trap or associated gathering lines directly related to oil or gas production or gathering operations;
- 1.2.5.5 Flow Through Process Tank that contains a Regulated Substance regulated substance or substances and that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of material during the operation of the process. Flow Through Process Tanks include, but are not limited to seal tanks, surge tanks, bleed tanks, check and delay tanks, phase separator tanks, or tanks in which physical or chemical change of a material is accomplished. A Flow Through Process Tanks does not include:
- 1.2.5.5.1 a tank that is used for the storage of material before its introduction into a production process; or
- 1.2.5.5.2 a tank that is used for storage of products or by-products from the production process; or
- 1.2.5.5.3 a tank that is used only to recirculate materials; or
- ~~1.2.5.5.4 a tank that stores fuel for combustion subsequently used to provide heat for a process.~~
- 1.2.5.6 transformers, regulators and breakers used for the sole purpose of electrical power distribution and transmission;
- 1.2.5.7 containment vessels operated as part of a publicly owned treatment works as defined pursuant to Title 7 **Del.C.** Ch. 60, *Environmental Controls*, §6002 and regulated pursuant to Title 7 **Del.C.** Ch. 60, *Environmental Controls*, §6003 or used for the storage and conveyance of wastewater to a

treatment plant regulated in accordance with the requirements of the *Clean Water Act*.

1.2.6 Agricultural/Farm ASTs, shall only be subject to the requirements of Part A and Part E of these Regulations, provided that the Owner ~~and~~ or Operator shall comply with a written best management practice for the Agricultural/Farm AST, that has been submitted in writing and has received written approval from the approved by the Department, and appropriately updated for any substantial change of conditions. The approved plan must be updated and re-submitted for approval if there are substantial changes to conditions described in the plan. Failure to comply with the best management practice shall constitute a violation of this subsection subject to all appropriate enforcement sanctions including but not limited to daily penalties.

1.3 Enforcement

1.3.1 Any person who violates these Regulations shall be subject to all appropriate legal sanctions including but not limited to the provisions set forth in Title 7 **Del.C.** Ch. 74A, *The Jeffrey Davis Aboveground Storage Tank Act*, §7410A.

1.4 Severability

1.4.1 If any provisions of these Regulations are adjudged to be unconstitutional or invalid by a court of competent jurisdiction, the remainder of these Regulations shall not be affected thereby.

1.5 Right of Appeals

1.5.1 Any person whose interest is substantially affected by any action of the Secretary may appeal to the Environmental Appeals Board in accordance with Title 7 **Del.C.** Ch. 60, *Environmental Controls*, §6008.

1.5.2 Any person or party to an appeal before the Environmental Appeals Board who is substantially affected by a decision of the Environmental Appeals Board may appeal to the Superior Court in accordance with Title 7 **Del.C.** Ch. 60, *Environmental Controls*, §6009.

1.6 Joint and Several Liability

1.6.1 Throughout these Regulations, Owners and Operators are jointly and severally liable for all duties and requirements. When used in these Regulations, "Owners or Operators" shall mean that the Owners and Operators are jointly and severally liable for the applicable duties and requirements.

8 DE Reg. 1167 (02/01/05)

2.0 Definitions

The following words, terms and phrases have the meaning ascribed to them in this section, except where the context clearly indicates a different meaning:

"Aboveground Storage Tank" or "AST" means a single aboveground containment vessel having a capacity of greater than 250 gallons and currently or previously having contained ~~Regulated Substances~~ regulated substances on or after January 1, 1992. The term includes all ancillary aboveground pipes and ~~Dispensing Systems~~ dispensing systems up to the first permanently installed point of isolation and all ancillary underground pipes and ~~Dispensing Systems~~ dispensing systems. Within this definition, the word "vessel" includes any container that can be partially visually inspected, from the exterior, in an underground area. The term AST does not include any of the following:

- _____ "septic tank;
- _____ "pipeline facility (including gathering lines) regulated under:
 - the *Natural Gas Pipeline Safety Act of 1968* as amended [49 U.S.C. §1671 et seq.], or
 - the *Hazardous Liquid Pipeline Safety Act of 1979* as amended [49 U.S.C. §2001 et seq.]; or

- Pipelines regulated pursuant to 33 U.S.C. and 49 CFR 195 *Transportation of Hazardous Liquids by Pipeline*; or
- Pipelines regulated pursuant to 46 U.S.C. and 33 CFR 154 *Facilities transferring oil or hazardous material in bulk* and 33 CFR 156 *Oil and hazardous material transfer operations*.
- surface impoundment, pit, pond, or lagoon;
- liquid trap or associated gathering lines directly related to oil or gas production or gathering operations;
- Flow Through Process Tank that contains a ~~Regulated Substance~~ regulated substance or substances and that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of material during the operation of the process. Flow Through Process Tanks include, but are not limited to, seal tanks, surge tanks, bleed tanks, check and delay tanks, phase separator tanks, or tanks in which physical or chemical change of a material is accomplished. A Flow Through Process Tank does not include: 1) a tank that is used for the storage of material before its introduction into a production process; 2) a tank that is used for storage of products or by-products from the production process; or 3) a tank that is used only to recirculate material; or 4) a tank that stores fuels for combustion subsequently used to provide heat for a process;
- ~~transformer~~ transformers, regulators and breakers used for the sole purpose of electrical power distribution ~~and transmission~~;
- containment vessels operated as part of a publicly owned treatment works as defined pursuant to Title 7 **Del.C.** Ch. 60, *Environmental Controls*, §6002 and regulated pursuant to Title 7 **Del.C.** Ch. 60, *Environmental Controls*, §6003 or used for the storage and conveyance of wastewater to a treatment plant regulated in accordance with the requirements of the Clean Water Act.
- An AST that has met the requirements of permanent closure in accordance with these Regulations.

"Accidental Release" as it relates to Financial Responsibility requirements of Part D, means any sudden or nonsudden release of a ~~Regulated Substance~~ regulated substance from an AST that is deemed at the Department's discretion to represent an unacceptable risk to human health, safety or the environment based on accepted principles of risk assessment.

"Agricultural/Farm AST" means an AST less than 40,000 gallons containing a ~~Regulated Substance~~ regulated substance, the contents of which are applied to the soil, crops, or livestock or ingested by livestock and used solely to directly facilitate the production of crops, livestock, livestock products or golf course turf. Crops include fish hatcheries, rangeland, cropland and nurseries including turf grass growing operations. Agricultural/Farm ASTs do not include ASTs used to store substances used in a manufacturing process. A manufacturing process does not include Agricultural/Farm ASTs used to store and blend ~~Regulated Substances~~ regulated substances for retail sales.

"Ancillary Piping" means all piping, including valves, elbows, joints, flanges, and flexible connectors, attached to an AST through which ~~Regulated Substance~~ regulated substance may flow.

"Annual Aggregate" means the total amount of financial responsibility available to cover all obligations that might occur in one year.

"API" means American Petroleum Institute.

"ASTM" means American Society for Testing and Materials.

"Blanketing" means the technique of maintaining the Ullage volume in a regulated AST below the Limiting Oxidant Concentration (LOC) by the use of an ~~Inert Gas~~ inert gas.

"Bodily Injury" shall have the meaning given to this term by State law; however this term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for bodily injury;

"**Bulk Storage**" as it is used in Part B, Section 12.0 of these Regulations, means an AST which is used to store a Flammable Regulated Substance and has the Flammable Regulated Substance added to or withdrawn from the AST by a vessel, tanker truck, rail car or pipeline.

"**Cathodic Protection System**" means a method to prevent corrosion to metal objects by forcing protective current from an external source onto the structure to be protected to counter or overcome any corrosion activity on its surface.

"**CERCLA**" means the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* [42 USC, § 9601(14)] and any amendments thereto.

"**Certified API 570 Inspector**" means an individual who is certified by the American Petroleum Institute under the terms of the API 570 certification program to perform piping inspections.

"**Certified API 653 Inspector**" means an individual who is certified by the American Petroleum Institute under the terms of the API 653 certification program to perform AST inspections.

"**Certified STI-SP001 Inspector**" means an individual who is certified by the Steel Tank Institute (STI) under the terms of the STI certification program to perform Shop-Fabricated shop-fabricated AST inspections.

"**Change In Service**" means any change to a registered AST to include but not be limited to permanent change in nature of contents, Removal removal, Permanent Change in Contents permanent change in contents, Relocation relocation, Permanent Closure in Place permanent closure in place, change in status from either ~~In-Service~~ In Service Tank or ~~Out-Of-Service~~ Out of Service Tank, conversion to storage of other than Regulated-Substances regulated substances or conversion to a use other than as an AST, or when the AST is emptied.

"**Chief Financial Officer**" in the case of Local Government Owners and Operators, means the individual with the overall authority and responsibility for the collection, disbursement, and use of funds by the Local Government.

"**Combustible**" means capable of undergoing ~~Combustion~~ combustion.

"**Combustion**" means the chemical process of oxidation that occurs at a fast enough rate to produce heat and usually light in the form of either a glow or flame.

"**Compartmentalized AST**" means a single walled compartmentalized AST bearing one Underwriter's Laboratory (UL) label or a double walled compartmentalized AST sharing the same interstice. A compartmentalized AST is a single tank for the purposes of compliance with all applicable requirements of these Regulations. The total capacity of a compartmentalized AST is the sum of all the compartment volumes.

"**Compatible**" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of an AST under conditions likely to be encountered at an AST facility.

"**Consumptive Use**" with respect to heating fuel means consumed on the premises where stored, and is used solely for the operation of equipment used for the generation of heat and is connected directly or via a day tank to the heat generating equipment.

"**Continuous Leak Detection**" means the uninterrupted measurement of the contents or other characteristics or parameters of an AST which immediately notifies the Operator of the failure of an AST to contain a ~~Regulated-Substance~~ regulated substance.

"**Controlling Interest**" means direct ownership of at least 50 percent of the voting stock of another entity;

"**Corrective Action**" means the sequence of actions, or process that includes confirming a release, site assessment, interim remedial action, remedial action, monitoring, and termination of the remedial action.

"Day" means a calendar day; however, when used to determine when a document is due or an action is required, and the day falls on the weekend or a holiday, the document may be submitted, or the action started, on the first working day after the weekend or holiday.

"**Deflagration**" means the propagation of a ~~Combustion~~ combustion zone at a velocity which is less than the speed of sound in the unreacted medium.

"**Deflagration Pressure Containment**" means the technique of specifying the design pressure of a regulated AST and its appurtenances so they are capable of withstanding the maximum pressures resulting from an internal ~~Deflagration~~ deflagration.

"**Deflagration Suppression**" means the technique of detecting and arresting ~~Combustion~~ combustion in the Ullage volume of a regulated AST while the ~~Combustion~~ combustion is still in its incipient stage, thus preventing the development of pressures that could result in a rupture of the AST.

"**Department**" means the Delaware Department of Natural Resources and Environmental Control.

"**Dispensing**" as it is used in Part B, Section 12.0 of these Regulations, means an AST which stores a Flammable Regulated Substance, which is transferred directly from the AST into a portable container, or into the fuel tank of a motor, a motor vehicle or a boat to be used as a motor fuel.

"**Dispensing System**" means any devise including, but not limited to, hoses (rigid or flexible), piping, fittings, fixtures, gauges, alarms, rupture disks, pressure release valves, flanges, or valves and pumps that are used to distribute, meter or control the flow of Regulated Substance regulated substance to and from an AST.

"Domestic Well" means a well that may serve no more than three dwellings and is used for potable nonpublic water supply purposes and may be used for non-potable household purposes.

"Effective Date" means the most recent date of promulgation of these Regulations.

"**Electrically Isolated**" means the electrical separation of the AST from the piping, and from other metallic structures and the environment by means of a nonconductive fitting or bushing.

"Empty" or "Emptying" means to thoroughly clean the interior of the AST and all ancillary piping of all residual regulated substances including but not limited to all sludge, solids, liquids, vapors, and gases.

"EPA" means the United States Environmental Protection Agency.

"**Existing AST**" means an AST for which substantial physical installation began prior to the effective date of these Regulations June 11, 2004. The term substantial physical installation includes, but is not limited to, a permit or contract for the installation.

"External Liner" means a layer or membrane constructed of a material compatible with the contents of the AST and is installed inside an existing secondary containment structure to provide additional assurance of impermeability.

"**Facility**" means any location or part thereof containing or having contained one or more ASTs.

"**Field-Constructed**" means an AST which is constructed by assembling on-site at a Facility.

"**Financial Reporting Year**" means the latest consecutive twelve-month period for which any of the following reports used to support a financial test is prepared:

- a 10-K report submitted to the SEC; or
- an annual report of tangible net worth submitted to a recognized rating service such as Dun & Bradstreet; or
- annual reports submitted to the Energy Information Administration or the Rural Electrification Administration; or
- audited financial report; or

- annual reports submitted to the Board of Governors of the Federal Reserve System, the Comptroller of the Currency, or the Federal Deposit Insurance Corporation.

"Fixed Roof" means an AST which has an immovable roof or cover used as the sole means to either contain the vapors from a ~~Regulated Substance~~ regulated substance stored within the AST or prevent unwanted contaminants from entering the AST.

"Flammable" means a ~~Regulated Substance~~ regulated substance which meets the definition of an NFPA 30 Flammable Liquid.

"Floating Roof" means an AST which has a movable roof or cover which floats or rides upon the surface of a ~~Regulated Substance~~ regulated substance to contain vapors from a ~~Regulated Substance~~ regulated substance stored within the AST or prevent unwanted contaminants from entering the AST.

"Flow Through Process Tank" means a tank that contains a ~~Regulated Substance~~ regulated substance or substances and that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of material during the operation of the process. Flow Through Process Tanks include, but are not limited to, seal tanks, surge tanks, bleed tanks, check and delay tanks, phase separator tanks, or tanks in which physical or chemical change of a material is accomplished. A Flow Through Process Tank does not include: 1) a tank that is used for the storage of material before its introduction into a production process; or 2) a tank that is used for storage of products or by-products from the production process; or 3) a tank that is used only to recirculate materials; or 4) a tank that stores fuel for combustion subsequently used to provide heat for a process.

"Free Product" means ~~immiscible liquid phase Regulated Substance existing in the subsurface with a positive pressure such that it can flow into a well.~~

"Guarantor" means a business entity that:

- Possesses a controlling interest in the Owner ~~and~~ or Operator; or
- Possesses a controlling interest in a firm that has a controlling interest in the Owner ~~and~~ or Operator; or
- Is an affiliate which is controlled through stock ownership by a common parent firm that possesses a controlling interest in the Owner ~~and~~ or Operator; or
- Is engaged in a substantial business relationship with the Owner ~~and~~ or Operator and is issuing the guarantee as an act incident to that business relationship.

"Heating Fuel" also known as heating oil, means a type of fuel oil that is one of seven technical grades and is used for heating purposes. These grades are: No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 residual and other fuels used as substitutes for one of these fuels such as kerosene and diesel when used for heating purposes. It contains one percent (1%) or more of a petroleum product, or was originally derived from a petroleum product or petroleum containing product.

"Impervious" means a material of sufficient thickness, density and composition that is impenetrable, or has a permeability of less than 1×10^{-7} cm/sec. to the ~~Regulated Substance~~ regulated substance, and that will prevent the discharge to the lands, ground waters, or surface waters of the State of any ~~Regulated Substance~~ regulated substance for a period of at least as long as the maximum anticipated time during which the ~~Regulated Substance~~ regulated substance will be in contact with the material.

"Impressed Current Cathodic Protection System" means direct current supplied to a Cathodic Protection System.

"Indicated Release" means there are signs that an AST, or the secondary containment system are failing or could potentially fail to contain a regulated substance. Indicated releases are releases that are not observable and are not directly attributable to another source.

"Industrial Well" means a non-potable well that is used in the processing, washing, packing, or manufacturing of a product excluding food and beverages.

"**Inert Gas**" means a gas which is nonreactive with the contents of an AST. Inert gases may include but shall not be limited to nitrogen, carbon dioxide, helium, argon, xenon and krypton. An ~~Inert Gas~~ inert gas may consist of a mixture of different inert gases.

"**Inerting**" means the technique by which a ~~Combustible~~ combustible mixture in the Ullage volume of an AST is rendered non-ignitable by the addition of an ~~Inert Gas~~ inert gas which reduces the ~~Oxidant~~ oxidant concentration below the Limiting Oxidant Concentration (LOC).

"**In Service**" means an AST that:

- is being actively maintained or operated; or
- contains a ~~Regulated Substance~~ regulated substance or has a ~~Regulated Substance~~ regulated substance regularly added to or withdrawn from the tank ~~AST~~; or
- is emptied solely for the purpose of cleaning, routine maintenance, or a change in product, for a time period not to exceed 45 one hundred eighty (180) days.

"**Leak**" means the failure of an AST to contain a ~~Regulated Substance~~ regulated substance.

"**Leak Detection**" means electronic, manual or mechanical measurement of the contents or other characteristics or parameters of an AST which notifies the Operator of the failure of an AST to contain a ~~Regulated Substance~~ regulated substance.

"**Legal Defense Cost**" means any expense that an Owner ~~and~~ or Operator or provider of financial ~~assurance-responsibility~~ incurs in defending against claims or actions brought by:

- The EPA or the Department to require investigations and/or ~~e~~Corrective ~~a~~Action or to recover the costs of investigations and/or ~~e~~Corrective ~~a~~Action; or
- Or on behalf of a third party for Bodily Injury or property damage caused by an Accidental Release; or
- Any person to enforce the terms of a financial ~~assurance-responsibility~~ mechanism.

"**Limiting Oxidant Concentration**" (LOC) means the concentration of an ~~Oxidant~~ oxidant below which a ~~Deflagration~~ deflagration cannot occur.

"**Local Government**" shall have the meaning given this term by applicable State law and includes Indian tribes. The term is generally intended to include:

- Counties, municipalities, townships, separately chartered and operated special districts (including Local Government public transit systems and redevelopment authorities), and independent school districts authorized as governmental bodies by State charter or constitution; and
- Special districts and independent school districts established by counties, municipalities, townships, and other general purpose governments to provide essential services.

"**Major Repair or Major Alteration**" means operations that require cutting, addition, removal and/or replacement of the annular plate ring, the shell to bottom weld, or a sizable portion of the shell of an AST. These include but are not limited to the following:

- the installation of any shell penetration beneath the design liquid level larger than 12 inches National Pipe Standard, or any bottom penetration located within 12 in. of the shell.
- the removal and replacement or addition of any shell plate beneath the design liquid level, or any annular plate ring material where the longest dimension of the replacement plate exceeds 12 in.
- the complete or partial (more than one-half of the weld thickness) removal and replacement of more than 12 in. of vertical weld joining shell plates, or radial weld joining the annular plate ring.
- the installation of a new bottom. This does not include new bottoms in tanks ASTs where the foundation under the new bottom is not disturbed and either condition (1) or (2) are met:
 - (1) For tanks ASTs with annular rings, the annular ring remains intact.

- (2) For tanks ASTs without annular rings, the repair does not result in welding on the existing bottom within the critical zone.
 - the removal and replacement of any part of the weld attaching the shell to the bottom or to the annular ring.
 - jacking of a tank shell.

"Monitor Well" means a well installed in accordance with the Delaware's Regulations Governing the Construction and Use of Water Wells that will be used for the monitoring of ground water quality.

"Motor Fuel" means petroleum or a petroleum-based substance which is typically used in the operation of a motor vehicle, small engine, or aircraft engine, including:

- Motor gasoline;
- Aviation gasoline;
- No. 1 or No. 2 diesel fuel, and
- Any grade of gasohol.

"Motor Oil" means a petroleum product used to lubricate the internal parts of an engine. The term includes lubricating and operational fluids for the mechanical components associated with the engine. This includes any hydraulic, transmission, gear or braking lubricating or operational fluid that through use, storage or handling has become unsuitable for its original purpose due to the presence of impurities or loss of original properties.

"NACE" means National Association of Corrosion Engineers.

"NAPL" means a Non-Aqueous Phase Liquid composed of one or more organic compounds that are immiscible or sparingly soluble in water. The term encompasses all potential occurrences of NAPL including free, mobile, and residual.

- "Free NAPL" means NAPL that is hydraulically connected in the pore space and has the potential to be mobile in the environment.
- "NAPL Body" means the 3-dimensional form and distribution of NAPL in the subsurface existing in any phase.
- "NAPL Conceptual Site Model (NCSM)" means a model describing the physical properties, chemical composition, occurrence and geologic setting of the NAPL body from which estimates of flux, risk and potential remedial action can be generated. The NCSM may be a dynamic, living model that changes through time as a function of natural attenuation or engineered remedial action processes, or additional site knowledge.
- "Mobile NAPL" means free NAPL that is moving laterally or vertically in the environment under prevailing hydraulic conditions. The result of the NAPL movement is a net mass flux from one point to another. Not all free NAPL is mobile, but all mobile NAPL must be free NAPL.
- "Residual NAPL" means NAPL that is hydraulically discontinuous and immobile under prevailing conditions. Residual NAPL cannot move, but is a source for chemicals of concern dissolved in groundwater or in the vapor phase in soil gas. The residual NAPL saturation is a function of the initial or maximum NAPL saturation and the porous medium.

"New AST" means a tank for which substantial physical installation began on or after the effective date of these Regulations June 11, 2004. The term substantial physical installation includes, but is not limited to, a permit or contract for the installation.

"NFPA" means National Fire Protection Association, Inc.

"Noncommercial Purposes" with respect to Motor Fuel or motor oil means the product in the AST is not used for any activities that result in monetary gain means a business or organization whose activities do not result in monetary gain, including but not limited to educational institutions, non-profit organizations under the terms of the Internal Revenue Service code definition in section 501(c), State, Federal and Local governmental entities and religious organizations.

"Non-Ignitable" means a gas or vapor in the presence of an Oxidant oxidant in which ~~Combustion~~ combustion cannot be initiated by the introduction of an ignition source such as a flame, spark, or heat.

"Occurrence" as it relates to financial responsibility, means an accident, including continuous or repeated exposure to conditions, which results in a release from an AST. This definition is not intended either to limit the meaning of "occurrence" in a way that conflicts with standard insurance usage or to prevent the use of other standard insurance terms in place of "occurrence".

"Operator" means a person operating a facility or who has operated a facility, including, but not limited to, by lease, contract or other form of authorization agreement. Operator includes any Person who has any of the responsibility for the care, custody, and control of the daily operation of an AST, including but not limited to responsibility conferred by lease, contract or other form of authorization agreement.

"Orphan Tank" means:

- a tank for which the last person to operate the tank cannot be identified; or
- a tank on property as to which the property Owner can establish that the Owner did not obtain and could not have obtained, through the exercise of reasonable and due diligence, knowledge of the existence of the tank prior to purchase of the property.

"Out-Of-Service Out of Service" means an AST that is:

- designated as ~~[an] Out-Of-Service~~ Out of Service by the Owner and Operator ~~and the Owner and Operator shall provide notification to the Department on a Department registration form; or~~
- an empty tank; ~~or~~ except when the AST is emptied solely for the purpose of cleaning, routine maintenance or a change in product for a time period not to exceed one hundred eighty (180) days,
- ~~not in use, in that it has not had, within any 45-day period, a Regulated Substance transferred into or withdrawn from the tank and has been drained of all contents and is empty.~~

"Owner" means a person:

- a person who has or has had a legal interest in a Facility or AST; or
- a person who has or has had an equitable interest in a Facility or AST; and
- ~~except when a person holds an interest in a tank, as a security interest unless through foreclosure or other such action the holder has taken possession of or operated the tank~~ Owner does not mean any person who, without participating in the management of a Facility or Aboveground Storage Tank, holds indicia of ownership in a Facility or Aboveground Storage Tank primarily to protect the person's security interest or is a fiduciary which has a legal title to or manages any property for purposes of administering an estate or trust of which such property is part. In the case of foreclosure the person shall not be deemed the owner of the Aboveground Storage Tank provided that the person provides notification to the Department within thirty (30) days of the initiation of foreclosure proceedings for any property containing an Aboveground Storage Tank, either In Service or Out of Service utilizing a form provided by the Department.

"Oxidant" means any material that can react with a Regulated Substance regulated substance to support ~~Combustion~~ combustion in the Ullage of an AST. Oxygen in air is the most common Oxidant oxidant.

"Participation in Management" means actually participating in the management or operational affairs of an Aboveground Storage Tank or Facility and does not include merely have the capacity to influence, or the unexercised right to control, an Aboveground Storage Tank or Facility operations.

"PEI" means Petroleum Equipment Institute.

"Permanent Change in Contents" means ~~leaving an AST and Ancillary Piping in its installed location, removing the Regulated Substance from the AST and Ancillary Piping,~~

~~thoroughly cleaning the interior of the AST and the Ancillary Piping, and continuing active use of the AST and Ancillary Piping with the intent of only storing and conveying a non-Regulated Substance in the AST and Ancillary Piping~~ the replacement of one substance stored in an AST and ancillary piping for another substance that would effect a change in the AST and ancillary piping's regulated status based on capacity and substance stored.

"Permanent Closure in Place" or "Permanently Closed in Place" or "Permanently Closing in Place" or "Permanently Closed" means leaving an AST and Ancillary Piping ~~ancillary piping~~ in its installed location, removing the Regulated Substance ~~regulated substance~~ from the AST and Ancillary Piping ~~ancillary piping~~, thoroughly cleaning the interior of the AST and the interior of the Ancillary Piping ~~ancillary piping~~, disconnecting the Ancillary Piping ~~ancillary piping~~ from the AST, securing the AST and the Ancillary Piping ~~ancillary piping~~ to prevent unauthorized access, and discontinuing active use of the AST and Ancillary Piping ~~ancillary piping~~ with the intent of not introducing a Regulated Substance ~~regulated substance~~ into the AST and Ancillary Piping ~~ancillary piping~~.

"Permeability" means the ease with which fluid can move through a material and is measured by the rate of flow in suitable units.

"Person" means an entity, individual, trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, company, association, state, municipality, commission, political subdivision of a state, or any interstate body.

"Pipe" means an impermeable hollow cylinder or tubular conduit that conveys or transports Regulated Substances ~~regulated substances~~, or is used for venting, filling, vapor recovery, or removing Regulated Substances ~~regulated substances~~.

"Professional Engineer" means "engineer", as defined in Title 24 Del.C. Chapter 28, *Professional Engineers*, namely, a person who by reason of his or her advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice Professional Engineering, and who is licensed by the Delaware Association of *Professional Engineers*.

"Property Damage" shall have the meaning given this term by applicable State law. This term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for property damage. However, such exclusions for property damage shall not include corrective action associated with releases from tanks which are covered by the policy.

"Provider of Financial Assurance Responsibility" means an entity that provides financial assurance ~~responsibility~~ to an Owner and or Operator of an AST through one of the mechanisms listed in these Regulations, including a Guarantor, insurer, risk retention group, surety, issuer of a letter of credit, issuer of a state required mechanism, or a state.

"Public Well" means a well that is used to supply water to more than three dwelling units, 25 or more employees, or for the preparation or manufacturing of food or beverages, or to the public at large.

"RCRA" means the *Solid Waste Disposal Act*, as amended by the *Resource Conservation and Recovery Act of 1976*, as amended, [42 USC §6901 et seq.].

"Reconstruction" means any work necessary to reassemble an AST that has been dismantled and ~~Relocated-relocated~~ to a new site.

"Regulated Substance" means a liquid or gas that:

- contains one percent (1%) or more of a hazardous substance as defined in the *Comprehensive Environmental Response, Compensation and Liability Act of 1980* [42U.S.C. §9601(14)] and any amendments thereto; or
- contains 0.1 percent (0.1%) or more of a carcinogen as defined by EPA in the *Integrated Risk Information System (IRIS)* April 2002 and as updated; or
- is a petroleum product, or contains one percent (1%) or more of a petroleum product, or was originally derived from a petroleum or petroleum containing product, including crude oil or any fraction thereof, which is liquid at standard conditions of

temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute); or

- contains heating fuel as defined in this Part; or
- is a substance determined by the Secretary through regulation to present a risk to public health or welfare or the environment if released into the environment.

"**Release**" means the spilling, leaking, discharging, leaching, or disposing of a ~~Regulated Substance~~ regulated substance into groundwater, surface water, soil, or air that is not permitted by law, regulation or permit.

"**Release Prevention Barrier**" means an Impervious barrier that serves to prevent the escape of ~~Regulated Substance~~ regulated substance or to contain or channel the released ~~Regulated Substance~~ regulated substance for ~~Leak Detection~~ leak detection.

"**Relocation**" or "**Relocating**" or "**Relocated**" means removing the ~~Regulated Substance~~ regulated substance from an AST, thoroughly cleaning the interior of the AST, moving the AST to a new location within a Facility without a transfer of ownership or moving the AST to a different Facility without a transfer of ownership, installing the AST in its new location, and inspecting the AST prior to its continued use for the storage of a ~~Regulated Substance~~ regulated substance.

"**Remedial Action**" means activities conducted to protect human health, safety, and the environment. These activities include but are not limited to evaluating risk, making no further action determinations, monitoring institutional and engineering controls, and designing and operating cleanup equipment.

"**Removal**" or "**Removing**" or "**Removed**" means taking the ~~Regulated Substance~~ regulated substance from the AST and ~~Ancillary Piping~~ ancillary piping, thoroughly cleaning the interior of the AST and ~~Ancillary Piping~~ ancillary piping, completely displacing the AST and ~~Ancillary Piping~~ ancillary piping from its installed location, and rendering the AST and ~~Ancillary Piping~~ ancillary piping permanently non-useable or discontinuing use of the AST and ~~Ancillary Piping~~ ancillary piping as an AST and ~~Ancillary Piping~~ ancillary piping with the intent of not introducing a ~~Regulated Substance~~ regulated substance into the AST and ~~Ancillary Piping~~ ancillary piping.

"**Retrofit**" or "**Upgrade**" means to modify an AST to meet standards contained in these Regulations.

"**Sacrificial Anode Cathodic Protection System**" means a system to control corrosion of a metal surface which entails installing an electrode of an electrochemical cell that will oxidize preferentially to the metal surface that has been made the cathode of the electrochemical cell.

"**Secondary Containment**" means a containment system designed and constructed to retain any ~~Regulated Substance~~ regulated substance that leaves the primary containment including an AST and Ancillary Piping and prevent any ~~Regulated Substance~~ regulated substance from reaching the surface water, groundwater, or adjacent land before cleanup occurs. Included are structures/ devices sufficiently impermeable to contain released ~~Regulated Substances~~ regulated substances for a period of time sufficient for the cleanup and removal of captured material including;

- dikes, berms or retaining walls;
- curbing;
- diversion ponds, holding tanks, sumps;
- vaults;
- double-walled tanks;
- liners external to the tanks;
- other means as approved by the Department.

"**Secretary**" means the Secretary of the Department of Natural Resources and Environmental Control or a duly authorized designee.

"**Shop-Fabricated**" means an AST which is constructed at a tank manufacturer's plant and transported to a Facility for installation.

"Site Assessment" means to measure for the presence of a release where contamination is most likely to be present at an AST site. Selection of sample types, sample locations and measurement methods shall be based on the nature of the substance stored, the type of backfill, the depth to groundwater, and other factors appropriate for identifying the presence of a release. A site assessment is not restricted to the property containing the AST System.

"Spark Extinguishing System" means a process in which the radiant energy of a spark or an ember is detected and the spark or ember is quenched.

"Spent Acid" or **"Spent Caustic"** means an acid or caustic ~~Regulated Substance~~ regulated substance which was used in a process where it was mixed with, or reacted with, or used as a catalyst to produce, or may have come in contact with a Flammable liquid as defined by NFPA 30.

"State" means the State of Delaware.

"Substantial Business Relationship" means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from and depends on existing economic transactions between the Guarantor and the Owner and or Operator.

"Substantial Governmental Relationship" means the extent of a governmental relationship necessary under applicable state law to make an added guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from a clear commonality of interest in the event of an AST release such as coterminous boundaries, overlapping constituencies, common ~~ground-water~~ ground-water aquifer, or other relationship other than monetary compensation that provides a motivation for the Guarantor to provide a guarantee.

"Tangible Net Worth" means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties. For purposes of this definition, "assets" means all existing economic benefits obtained or controlled by a particular entity as a result of past transactions.

"Tank Management Branch Section" means the Tank Management Branch Section of the Division of Air and Waste Management Waste and Hazardous Substances in the Delaware Department of Natural Resources and Environmental Control.

"Termination" means only those changes that could result in a gap in financial responsibility coverage as where the insured has not obtained substitute coverage or has obtained substitute financial responsibility coverage with a different retroactive date of the original policy.

"UL" means Underwriters Laboratories, Inc.

"Ullage" means the volume of a Fixed Roof AST which does not contain a ~~Regulated Substance~~ regulated substance in liquid form. It is synonymous with the vapor space.

"Underground Pipe" means piping or portions of piping meeting all of the following conditions:

- Is physically underground and cannot be visually inspected; and
- Conveys or transports a ~~Regulated Substance~~ regulated substance stored in the AST; and
- Is located between the AST and the first vessel, tank or other piece of equipment (other than piping components such as pumps, valves and the Dispensing System) that does not meet the definition of an AST.

"Upgrade" or **"Retrofit"** means to modify an AST to meet standards contained in these Regulations.

"Upper Flammable Limit (UFL)" means the highest concentration of a ~~Flammable~~ flammable substance in which ~~Combustion~~ combustion can propagate in the presence of an Oxidant oxidant.

"Vault" means a structure that completely encloses the tank and must be constructed of materials compatible with the Regulated Substance to be contained in the AST.

"Verifiable Service" means delivery of mail by means of a delivery service that provides verification upon delivery.

8 DE Reg. 1167 (02/01/05)

3.0 Reference Standards

3.1 Referenced Standards Organizations

3.1.1 The referenced standards listed in this Section have served in part as the basis for the standards enacted under these Regulations. The most recent editions of the referenced standards are available for review and inspection with prior notification at the Department of Natural Resources and Environmental Control, Tank Management Branch Section and from the following sources (addresses of the cited organizations are subject to change):

- 3.1.1.1 American Petroleum Institute (API), 1220 L Street, N.W., Washington, D.C. 20005-4070, (202) 682-8375.
- 3.1.1.2 National Association of Corrosion Engineers (NACE), P. O. Box 218340, Houston, Texas 77218, (713) 492-0535.
- 3.1.1.3 Underwriters Laboratories (UL), 333 Pfingsten Road, Northbrook, Illinois 60062-2096, (847) 272-8800.
- 3.1.1.4 National Fire Protection Association (NFPA), Batterymarch Park, Quincy, MA 02269, (617)770-3000.
- 3.1.1.5 American Society for Non-destructive Testing (ASNT), P.O. Box 28518, 1711 Arlington Lane, Columbus, Ohio 43228-0518, (614-274-6003).
- 3.1.1.6 Steel Tank Institute (STI), 570 Oakwood Road, 944 Donata Court, Lake Zurich, Illinois 60047, (847) 438-8265.
- 3.1.1.7 American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19429-2959.
- 3.1.1.8 American Society of Mechanical Engineers (ASME), ASME International Three Two Park Avenue, New York, NY 10016-5990-0, (800) 843-2763.
- 3.1.1.9 National Board Inspection Code, National Board of Boiler and Pressure Vessel Inspectors Testing, 1055 Crupper Drive, Columbus, OH 43229-1183, (614)888-8320.
- 3.1.10 American National Standards Institute (ANSI), 1819 L Street, NW, 6th Floor, Washington, DC 20036
- 3.1.1.10 United States Department of Labor, Occupational and Safety and Health Administration (OSHA), 200 Constitution Avenue, Washington, D.C. 20210.

3.2 Applicability

3.2.1 In these Regulations, all referenced standards mean the most recent edition or version referenced in Part A of the Regulations. The referenced standards apply to all ASTs without regard to or limitation by the application or usage of the referenced standard as expected or specified by the publishers of the referenced standards. For example, API 650 expressly applies only to tanks that contain petroleum, but as utilized in these Regulations, API 650 applies to all ASTs. Where there is an irreconcilable conflict between a standard or recommendation published by an industry or professional organization and referenced by these Regulations, and a requirement in these Regulations, the most stringent shall apply and control. Where there is an irreconcilable conflict between standards or recommendations published by industry or professional organizations and referenced by these Regulations, the most stringent shall apply and control.

3.3 Titles of Documents Standards

3.3.1 American Petroleum Institute (API)

3.3.1.1 RPAPI Standard 570, Piping Inspection Code: In-Service Inspection, Rating, Repair, and Alteration, and Rerating of In-Service Piping Systems, 3rd Edition, November 2009.

3.3.1.2 RPAPI Standard 620, Design and Construction of Large, Welded, Low-Pressure Storage Tanks, 12th Edition, 2013.

3.3.1.3 RPAPI Standard 650, Welded Steel Tanks for Oil Storage, 12th Edition, March 2013.

3.3.1.4 RPAPI Recommended Practice 651, Cathodic Protection of Aboveground Petroleum Storage Tanks, September 2014 Edition.

3.3.1.5 RPAPI Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction, 4th Edition with Addendum #1(2010), Addendum #2 (2012) and Addendum #3 (2013).

3.3.1.6 RPAPI Specification 12D, Specification for Field Welded Tanks for Storage of Production Liquid, Edition 11, 2008.

3.3.1.7 RPAPI Standard 2000, Venting Atmospheric and Low Pressure Storage Tanks, 7th Edition, 2014.

3.3.1.8 API Recommended Practice 1615, Installation of Underground Petroleum Storage Systems, 6th Edition, April 2011.

3.3.1.9 API Recommended Practice 2015, Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks, 7th Edition, May 2014.

3.3.1.10 API Recommended Practice 2016, Guidelines and Procedures for Entering and Cleaning Petroleum Storage Tanks, 1st Edition, 2001.

3.3.2 National Association of Corrosion Engineers (NACE)

3.3.2.1 NACE RP-01-69-2013 Standard Practice 0169-2013, Control of External Corrosion on Underground or Submerged Metallic Piping Systems, 2013 Edition.

3.3.2.2 NACE Recommended Practice 0193-2011-01-93-2014, External Cathodic Protection of On-grade Carbon Steel Storage Tank Bottoms, 2011 Edition.

3.3.2.3 NACE RStandard Practice 0294-2006-02-94-2006, Design, Fabrication, and Inspection of Tanks for the Storage of Concentrated Sulfuric Acid and Oleum at Ambient Temperatures, 2006 Edition.

3.3.3 Underwriters Laboratory, Inc. (UL)

3.3.3.1 UL142, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, 9th Edition, December 2006.

3.3.3.2 UL971, Standard for Nonmetallic Underground Piping For Flammable Liquids, 1st Edition, 1995 with revisions through March 2006.

3.3.3.3 UL2085, Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids, 2nd Edition, December 1997.

3.3.4 National Fire Protection Association (NFPA)

3.3.4.1 NFPA 30, Flammable and Combustible Liquids Code, 2015 Edition

3.3.4.2 NFPA 303A, Automotive and Marine Service Station Code, 2011 Edition

3.3.4.3 NFPA 69, Standards on Explosion Prevention Systems, 2014 Edition.

- 3.3.4.4 NFPA 704, *Standard for the Identification of the Fire Hazards of Materials for Emergency Response*, 2012 Edition.
- 3.3.4.5 NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2015 Edition.
- 3.3.5 American Society for Non-destructive Testing (ASNT)
 - 3.3.5.1 SNT-TC-1A, *Personnel Qualifications and Certification in Nondestructive testing* Testing, 2011 Edition.
 - 3.3.5.2 ASNT, *Central Certification Program* NDT Level II, November 2010 Edition.
- 3.3.6 Steel Tank Institute (STI)
 - 3.3.6.1 SP001-03, *Standard for Inspection of In-Service Shop Fabricated Above Ground Tanks for Storage of Combustible and Flammable Liquid*, 5th Edition, September 2011.
 - 3.3.6.2 SP031, *Standard for Repair of Shop-Fabricated Aboveground age of Flammable and Combustible Liquids*, 4th Edition, November 2008.
- 3.3.7 American Society for Testing and Materials (ASTM)
 - 3.3.7.1 ASTM D-2517, *Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings*, 2011 Edition.
 - 3.3.7.2 ASTM D-2996-04, *Standard Specification for Filament Wound Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin Thermosetting Resin) Pipe*, 2007 Edition.
 - 3.3.7.3 ASTM D-2583-13A, *Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor*, 1996 Edition.
- 3.3.8 American Society of Mechanical Engineers (ASME)
 - 3.3.8.1 ASME RTP-1 2000-2002-2013, *Reinforced Thermoset Plastic Corrosion Resistant Equipment*, 2013 Edition.
 - 3.3.8.2 ASME, *Boiler and Pressure Vessel Code* Section VIII, Division 1, Design & Fabrication of Pressure Vessels, 2013 Edition.
 - 3.3.8.3 ASME B31.1, *Power Piping*, 2014 Edition.
 - 3.3.8.4 ASME B31.3, *Process Piping*, 2012 Edition.
 - 3.3.8.5 ASME B31.4, *Pipeline Transportation Systems for Liquids and Slurries*, 2012 Edition.
- 3.9 American National Standards Institute (ANSI)
 - 3.9.1 ANSI 31.1, *Power Piping*
 - 3.9.2 ANSI 31.3, *Process Piping*
 - 3.9.3 ANSI 31.4, *Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols*
- 3.403.9 National Board Inspection Code (NBIC)
 - 3.3.409.1 National Board Inspection Code, *National Board Inspection Code, Part 3, Repairs and Alterations, Appendix 9, Repair, Alteration and Inspection of Fiber Reinforced Thermosetting Plastic Pressure Equipment* 2013 Edition.
- 3.3.10 Occupational Safety and Health Administration (OSHA)
 - 3.3.10.1 OSHA, 29 CFR, 1910.1200, *Occupational Safety and Health Standards, Toxic and Hazardous Substances, Hazard Communication*, May 2012.

4.0 Registration And Notification Requirements Tank Registration and Fees

- 4.1 Registration Requirements
- 4.1.1 Any person that owns or operates an AST, ~~unless specifically exempted in §1 of this Part with the exception of those ASTs listed in Part A, subsection 1.2.2~~ must shall register each AST with the Department ~~on~~ utilizing an AST registration form provided by the Department.
- 4.1.2 ~~Registration of ASTs shall be renewed annually by payment~~ Annual payment of registration fees ~~shall be made~~ in accordance with Part A, Section 4.65 of these Regulations, on or before February 1 of every year and until the Department receives a formal notice that the AST has been ~~Removed removed~~ or ~~Permanently Closed permanently closed~~ or undergone a ~~Permanent Change permanent change~~ in ~~Contents contents~~ in accordance with these Regulations.
- 4.1.3 No person shall own or operate an AST unless the AST is registered with the Department
- 4.1.4 Any person who sells or otherwise transfers ownership of an AST must shall notify the new Owner of the AST registration requirements of this Part A. of these Regulations.
- 4.1.5 The Owner shall sign and date all AST registration submittals.
- 4.1.6 The Owner shall notify the Department in writing of any significant change in the information presented on the original registration form utilizing a form provided by the Department, including but not limited to change of address, change of tank ownership, ~~change in tank status, or change in product stored from a Regulated Substance to an unregulated substance~~ change of tank Operator, or a change in service at least ten (10) days prior to the change.
- 4.1.7 Owners may provide notice for multiple ASTs at a single Facility using one AST registration form, but Owners with ASTs located at more than one Facility must file a separate AST registration form for each Facility.
- 4.1.8 Each registration form shall have attached a Safety Data Sheet (SDS) which complies with the definition of such as contained in OSHA, 29 CFR, 1910.1200, Hazard Communication, with the exception of those ASTs storing heating fuel, diesel, kerosene or gasoline.
- 4.1.9 ASTs that are not subject to an annual registration fee as specified in PART A, subsection 4.5 of these Regulations, are not required to have their registrations renewed on an annual basis by the submittal of any documentation. The AST registration remains in effect until the Department is notified of the AST's removal, permanent closure, permanent change in contents, or transfer of ownership.
- 4.2 Existing ASTs
- 4.2.1 Owners and Operators must shall notify the Department of all existing ASTs that have contained a Regulated Substance on or after January 1, 1992, by completing an AST registration form provided by the Department and submitting the form to the Department by September 5, 2002.
- 4.3 Change in In Service, Permanent Closure in Place, Emptying and Removal
- 4.3.1 The Owner and Operator of any AST which would become subject to these Regulations due to a Change In Service shall comply with these Regulations before instituting the changed use.
- 4.3.2 Owners or Operators must shall notify the Department ~~on~~ utilizing a form provided by the Department prior to ~~Removing, Permanently Closing in Place,~~ Emptying or making a Change In Service to an AST. The notification form must be received by the

Department at least ten (10) days prior to beginning the ~~Removal-removal~~ or Permanent ~~permanent~~ closure in ~~Place place~~, emptying, or making a Change In Service to the AST, except in the case of a retrofit or upgrade which shall require the notification as specified in PART A, subsection 4.6, unless such action is in response to an imminent threat to human health, safety or the environment.

- 4.3.3 Removal or Permanent permanent closure in ~~Place place~~ or Change In Service of an AST without required notification of the Department is prohibited.
- 4.3.4 Any change in the schedule of work for a Change In Service must be communicated to the Department in writing a minimum of forty eight (48) hours prior to the new scheduled date of work.
- 4.3.5 The Owner shall notify the Department in writing of the actual date of completion of any Change In Service.
- 4.4 Transfer of ownership Ownership
- 4.4.1 When a transfer of ownership of an AST occurs, the new Owner shall submit a ~~transfer of ownership form and a completed registration form~~ all required Safety Data Sheets, and proof of compliance with the financial responsibility requirements in PART D of these Regulations to the Department so that the Department shall receive these forms no later than ~~thirty (30) days~~ seventy two (72) hours after the transfer or in accordance with an alternate schedule approved by the Department.
- 4.4.2 The seller or former Owner shall at the time of ownership transfer, deliver to the buyer/ and new Owner all available documents and information relevant to the AST, such as including but not limited to:
- 4.4.2.1 Regulated Substance storage records;
 - 4.4.2.2 Any approved plans for new installations;
 - 4.4.2.3 Copies of registration forms;
 - 4.4.2.4 Testing data and reports;
 - 4.4.2.5 Reports documenting AST Permanent Closure in Place and Removal;
 - 4.4.2.6 Tank lining specifications used, if applicable;
 - 4.4.2.7 Monitoring reports;
 - 4.4.2.8 Soil and/or groundwater sampling and laboratory chemical analyses reports;
 - 4.4.2.9 Site assessment reports;
 - 4.4.2.10 Equipment maintenance schedules and logs;
 - 4.4.2.11 Repair records.
- 4.4.3 ~~Any person who assumes ownership of an AST from a previous registrant must complete and return to the Department a new registration form and a transfer of ownership form. The new Owner and Operator may operate the AST for no more than 72 hours after assuming ownership without the Department having received the new registration form and a transfer of ownership form.~~
- 4.4.4 Any change in the structure of the AST Owner, including but not limited to any change in the corporate form and any change in the form of the business entity, shall constitute a transfer of ownership.
- 4.5 Registration fees Fees
- 4.5.1 On or before February 1 of each calendar year, Owners and Operators of an AST must shall submit to the Department an annual per tank registration fee in accordance with Title 7 Del.C. Ch. 74A, *The Jeffrey Davis Aboveground Storage Tank Act*, §7413A and the table in PART A, subsection 4.5.3 of these Regulations.

4.5.2 A registration fee not received by the Department by October 1, 2002 or by February 1 of each calendar year thereafter is subject to a late charge of 10% of the total fee.

4.5.3 Registration Fee Schedule

| Tank Size | Yearly Fee |
|----------------------------|------------|
| 12,499 – 39,999 gallons | \$300.00 |
| 40,000 gallons and greater | \$750.00 |

| Tank Size | Substance Stored | Annual Fee |
|--|---|------------|
| Greater than or equal to 12,499 gallons and less than 40,000 gallons | Regulated substance other than diesel, heating fuel or kerosene | \$300 |
| Greater than or equal to 40,000 gallons | All regulated substance | \$750 |
| Greater than or equal to 12,499 gallons and less than 40,000 gallons | Aq/Farm ASTs | \$300 |
| Greater than or equal to 40,000 gallons | Aq/Farm ASTs | \$750 |

4.5.4 No annual registration fee will be required if an AST is ~~Removed~~ removed or ~~Permanently Closed~~ permanently closed in ~~Place~~ place or undergoes a ~~Permanent Change~~ permanent change in contents from a ~~Regulated Substance~~ regulated substance to a non-regulated substance prior to the February 1 deadline for payment of the registration fee. To qualify for this exemption, the registration fee shall be assessed until the Owner and or Operator of the AST must comply with has completed the requirements in these Regulations for compliance with the notification and Removal removal or ~~Permanent Closure~~ permanent closure in ~~Place~~ place or ~~Permanent Change~~ permanent change in contents requirements of these Regulations and the Department has received all required sample results.

4.5.5 The initial AST registration fee shall not be assessed until the calendar year following the year in which the AST installation is completed.

4.6 Retrofitting/Upgrade of ASTs or Upgrading of ASTs

4.6.1 AST Owners and Operators shall notify the Department of all Retrofits retrofits or Upgrades upgrades of an AST on utilizing a form provided by the Department and include construction plans and supporting documents such as equipment and manufacturer specifications. at least ten (10) days prior to beginning the Retrofit retrofit or Upgrade upgrade work, or other schedule as approved by the Department.

4.6.2 If within the ten (10) day period, the required notification to the Department is completely satisfied, and written approval from the Department has been received the Retrofit retrofit or Upgrade upgrade construction may proceed without waiting for the expiration of the ten (10) days.

4.6.3 If within one (1) year after initial notification to the Department the receipt of the written approval from the Department the retrofit or upgrade work has not commenced, the approval shall expire. The Owner may submit a new registration form and a letter requesting an extension must be submitted to the Department.

4.6.4 The retrofit or upgrade of the AST may proceed after the Department has issued written approval of the retrofit or upgrade construction plans. The Department shall issue a formal letter of approval or denial within ten (10) days of the Department's receipt of

the retrofit or upgrade notification. If the Owner does not receive written notification from the Department within the ten (10) days the Owner may commence retrofit or upgrade construction work provided that:

4.6.4.1 The Owner notifies the Department in writing of the date retrofit or upgrade construction work will commence; and

4.6.4.2 The Owner shall recognize that any actions taken without prior approval is at the risk of the Owner and does not absolve the Owner of the obligation to comply with all applicable requirements of the Regulations.

8 DE Reg. 1167 (02/01/05)

17 DE Reg. 750 (01/01/14)

5.0 Alternative Procedures Approval Requirements

5.1 Alternative Procedures

5.1.1 The Owner ~~and~~ or Operator of an AST subject to the provisions of these Regulations may request in writing a determination from the Department that any requirement of these Regulations shall not apply to such AST, and shall request approval of an alternative procedure as required.

5.2 Requirements for Requesting an Approval of an Alternative Procedure

5.2.1 The Department in its discretion may approve alternative procedures or technology or a combination of alternative procedures or technologies not specified in the Regulations ~~if the following requirements are met~~. The requirements alternative procedure request must shall be submitted in writing and shall set forth as a minimum the following information:

5.2.1.1 Name and location of the Facility and the specific AST(s) for which an alternative procedure is sought; and

5.2.1.2 The specific provision of the Regulations for which an alternative procedure is sought; and

5.2.1.3 The contents of the AST; and

5.2.1.4 The basis for the alternative procedure, including but not limited to the technical difficulties that would result from compliance with the established provision; and

5.2.1.5 The alternative procedure or technology for which approval is sought; and

5.2.1.6 Documentation that demonstrates that the alternative procedure or technology meets or exceeds the performance standard for approved technologies and that the alternative procedure or technology offers a no less stringent degree of protection for human health, safety or the environment as would the requirements specifically established in these Regulations.

5.3 Department Response

5.3.1 The Department ~~will~~ shall provide a written response within ninety (90) days to all requests for alternative technology approvals. ~~The request may be denied, approved or approved with conditions~~ written response shall state the Department's justification for denial, approval, or approval with conditions of the request. If the technology or procedure or a combination of technologies or procedures is approved, the Owner and Operator ~~must~~ shall comply with any conditions imposed by the Department on its use to ensure the protection of human health, safety or the environment.

5.4 ~~In the case of a denial of a request under this Section the Department will respond to the request stating the justification for the denial.~~

17 DE Reg. 750 (01/01/14)

6.0 Information Access

6.1 Department Authority to Obtain Information

6.1.1 For the purpose of developing or assisting in the development of a standard regulation or of enforcement of these Regulations, an Owner ~~and~~ or Operator shall, upon the request of a duly designated officer or employee of the State designated by the Secretary of the Department, furnish information relating to the tank and/or its contents and shall permit the designated officer or employee at all reasonable times to have access to and to copy all records relating to the tank or its contents and to conduct monitoring or require remediation activities, pursuant to Title 7 **Del.C.** Ch. 74A, *The Jeffrey Davis Aboveground Storage Tank Act*, §7406A, which the designated officer or employee deems necessary. For the purpose of developing or assisting in the development of a standard or regulation or enforcement of these Regulations, the designated officer or employee is authorized to:

6.1.1.1 enter at reasonable times the Facility or other place where an AST or its records are located. The Owner ~~and~~ or Operators Operator shall permit unannounced inspections of tanks pursuant to these Regulations;

6.1.1.2 inspect and obtain samples of regulated substances from any ~~Person~~ person ~~of Regulated Substances~~ and to conduct monitoring of tanks, contents, or surrounding soils, water, and/or air. An inspection ~~must~~ shall be commenced and completed with reasonable promptness~~[:]::]~~

6.1.1.3 document the site assessment, inspection or monitoring with photographs.

6.2 Requirements for Requests for Confidential Data Submission.

6.2.1 In submitting data under Title 7 **Del.C.** Ch. 74A, *The Jeffrey Davis Aboveground Storage Tank Act*, and these Regulations, a person required to provide such data may:

6.2.1.1 designate Designate the data which the Owner ~~and~~ or Operator believe is entitled to ~~protection~~ protections as business or corporate ~~property~~ under this subsection; and

6.2.1.2 submit Submit such designated data separately from other data submitted under these Regulations.

6.3 Protection under United States Code Title 18 Section 1905

6.3.1 Any such records, reports or information obtained shall be entitled to protection under United States Code Title 18 §1905, *Disclosure of confidential information generally.*

6.4 Confidential Business Information Designation and Freedom of Information Act Regulations

6.4.1 Any information submitted to the Department in which a confidential business information designation is requested shall be subject to Part A, Section §98.0 of these Regulations and the *Freedom of Information Act Regulations* adopted pursuant to 29 **Del.C.** Ch. 100 as amended.

7 DE Reg. 1765 (06/01/04)

7.0 Release Preparedness Plan and Release Intervention

7.1 Release Preparedness Plan Requirements

7.1.1 The AST Owner or Operator must prepare a Release Preparedness Plan by June 11, 2005, for ~~Releases~~ releases from ASTs at the Facility. A copy ~~must~~ shall be kept at the facility Facility at all times and be made immediately available to the Department upon request. The ~~contingency plan~~ Plan shall be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or

non-sudden Release of a Regulated Substance to soil, surface water or ground water. The ~~plan must~~ Plan shall contain the following information:

- 7.1.1.1 A Facility map showing the location of buildings, ASTs and their stored products, and site utilities; ~~and~~
- 7.1.1.2 Emergency contact phone numbers (i.e. fire, police, DNREC, USCG, hospitals, environmental contractors); ~~and~~
- 7.1.1.3 The general location of area receptors and points of exposure such as natural resources, surface water bodies, public and private supply wells, and residential communities; ~~and~~
- 7.1.1.4 Fire, explosion and health and safety contingencies; ~~and~~
- 7.1.1.5 Contaminated soil excavation, staging, treatment and disposal contingencies; ~~and~~
- 7.1.1.6 Regulated Substance substance removal, containment and recovery contingencies; ~~and~~
- 7.1.1.7 The ~~plan~~ Plan must shall include the actions Facility personnel ~~must shall~~ take to respond to fires, explosions or any unplanned sudden or non-sudden Release ~~release~~ of a Regulated Substance regulated substance to air, soil or surface water at the Facility; ~~and~~
- 7.1.1.8 The ~~plan~~ Plan shall list names, addresses, and office phone numbers of all persons qualified to act as emergency coordinator and this list ~~must shall~~ be kept up to date. Where more than one person is listed, one ~~must shall~~ be named as primary emergency coordinator and others ~~must shall~~ be listed in the order in which they will assume responsibility as alternates. A Facility emergency coordinator ~~must shall~~ be available to respond at all times; ~~and~~
- 7.1.1.9 The ~~plan~~ Plan must shall include a list of all emergency equipment at the Facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list ~~must shall~~ be kept up to date. In addition, the ~~plan~~ Plan must shall include the location and a physical description of each item on the list and a brief outline of its capabilities; ~~and~~
- 7.1.1.10 The ~~plan~~ Plan must shall include an evacuation plan for Facility personnel where there is a possibility that evacuation could be necessary. This plan ~~must shall~~ describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked
- 7.1.2 A Release ~~preparedness plan~~ Preparedness Plan formulated under the direction of another local, State or federal program or a facility Facility emergency or operational plan that meets the objectives of this Section may be accepted by the Department as proof of compliance with this Section.
- 7.1.3 The Release Preparedness Plan shall be reviewed and amended if:
 - 7.1.3.1 Applicable regulations are revised.
 - 7.1.3.2 The ~~plan~~ Plan fails after a release.
 - 7.1.3.3 The Facility changes its design or operations.
 - 7.1.3.4 The list of emergency coordinators changes.
- ~~7.2~~ Release Intervention
 - ~~7.2.1~~ The Department may assume control of any Release when it is determined that the Owner or Operator is not responding in accordance with the Regulations and Title 7 Del.C. Ch. 74A, The Jeffrey Davis Aboveground Storage Tank Act. All release liability will remain with the Owner or Operator. The Department may recover all release response intervention costs from the Owner and Operator and initiate enforcement action as necessary to achieve regulatory compliance.

8.0 Release and Leak Documentation, Response and Confirmation

8.1 Release Documentation, Response and Confirmation

8.1.1 No person shall knowingly allow any Release of a Regulated Substance from an AST to continue. Owners and Operators shall take immediate action to contain any Release so as to minimize the environmental impact of the Release and to immediately identify and mitigate fire, explosion and vapor hazards.

8.1.2 A Release of a Regulated Substance from an AST in excess of the reportable quantities specified in the regulations promulgated pursuant to Title 7 **Del.C.** Ch. 60, §6028, the *Delaware Regulations Governing the Reporting of a Discharge of a Pollutant or an Air Contaminant*, as amended, shall be reported to the Department in accordance with the requirements of Title 7 **Del.C.** Ch. 60 and the Regulations promulgated thereunder as amended.

8.1.3 Documentation on the routine in-service inspection report shall be made at the time of discovery of any Release or a suspected Release of a Regulated Substance from an AST in an amount less than the reportable quantities specified in the regulations promulgated pursuant to Title 7 **Del.C.** Ch. 60, §6028, the *Delaware Regulations Governing the Reporting of a Discharge of a Pollutant or an Air Contaminant*, as amended, that impacts soil, groundwater, or surface water outside a Secondary Containment area. If the commencement of cleanup activities cannot begin within 24 hours of discovery and cannot be completed within 7 days, the routine in-service inspection report shall be sent to the Tank Management Branch via fax or electronic mail.

8.1.4 When documenting a Release or a suspected Release from an AST the Owner and Operator shall describe:

8.1.4.1 The chemical name or identity of any substance involved in the Release or suspected Release and the approximate quantity released;

8.1.4.2 The Facility location and the Release or suspected Release location at the Facility;

8.1.4.3 The medium or media into which the Release or suspected Release occurred (i.e., soil, groundwater, surface water);

8.1.4.4 Possible impacted area receptors (i.e., surface water, wells, utilities, basements);

8.1.4.5 All corrective actions undertaken.

8.1.5 A suspected Release includes but is not limited to the following:

8.1.5.1 The discovery of released Regulated Substance in the area surrounding an AST, such as the presence of stained soils, vapors in soils, basements or utility lines, free product or dissolved product discovered in Monitor Wells or water supply wells, or sheens observed on surface water bodies; or

8.1.5.2 The occurrence of unusual operating conditions observed by the Owner and Operator, such as the sudden loss of Regulated Substance, erratic behavior of Regulated Substance Dispensing System, unless the AST is found to be defective but not leaking and is immediately repaired or replaced; or

8.1.5.3 AST monitoring results from a Leak Detection method or Release detection equipment unless either:

8.1.5.3.1 an equipment failure can be demonstrated and the faulty equipment is immediately repaired or replaced and additional monitoring does not confirm the initial result; or

8.1.5.3.2 in the case of inventory control, a second month of data does not confirm the initial result.

- ~~8.1.5.4~~ The presence of a Regulated Substance, or a signal from a Leak Detection device, or a laboratory report that shows the sample removed from an observation tube or Monitoring Well, or soil/water samples removed from an AST excavation contains a Regulated Substance, shall be evidence of a Release unless the responsible party affirmatively proves that no Release has occurred.
- ~~8.1.6~~ Upon an indication of a suspected Release of a Regulated Substance from an AST the Owner and Operator must immediately investigate and within seven (7) days confirm whether or not a Release has occurred. Actions may include but are not limited to:
- ~~8.1.6.1~~ Performing a visual inspection of all exposed portions of the AST including but not limited to: the storage tank, piping, loading rack, Dispensing System and ancillary equipment, and surrounding containment areas and ground surfaces;
- ~~8.1.6.2~~ Checking inventory records for discrepancies;
- ~~8.1.6.3~~ Checking Release detection monitoring devices;
- ~~8.1.6.4~~ Checking Monitoring Wells;
- ~~8.1.6.5~~ Testing system components, including but not limited to: storage tank bottoms, and underground piping and equipment, for tightness or integrity; Owners and Operators must repair, replace or Upgrade the AST, and begin corrective action in accordance with Part E of these Regulations if the test results of the AST indicate that a Leak exists. Owners and Operators must conduct a site check if the test results for the AST do not indicate that a Leak exists but environmental contamination is the basis for suspecting a Release.
- ~~8.1.6.6~~ Owners and Operators must measure for the presence of a Release where contamination is most likely to be present at the AST site. In selecting sample types, sample locations, and measurement methods, Owners and Operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, type of backfill, the depth of ground water, and other factors appropriate for identifying the presence and source of the Release. Site check for the presence of a Release may be conducted by the use of: Monitoring Wells, analysis of soil samples, vapor monitoring (soil gas survey) methods or other methods.
- ~~8.1.6.7~~ Complete other actions as necessary to confirm the Release.
- ~~8.1.7~~ Within 24 hours of confirming a suspected Release of a Regulated Substance from an AST, Owners and Operators shall take immediate action according to this Section.
- ~~8.1.8~~ If a Release, other than those that can comply with §8.1.3 of this Part, is confirmed, the requirements of Part E of these Regulations shall be followed, unless the Owner and Operator is directed to do otherwise by the Department.
- ~~8.2~~ Leak Documentation, Response and Confirmation
- ~~8.2.1~~ No person shall knowingly allow any Leak of a Regulated Substance from an AST to continue.
- ~~8.2.2~~ A Leak of a Regulated Substance in a quantity less than the reportable quantities specified in the regulations promulgated pursuant to Title 7 **Del.C.** Ch. 60, §6028, the *Delaware Regulations Governing the Reporting of a Discharge of a Pollutant or an Air Contaminant*, as amended, inside the Secondary Containment area or that does not impact soil, groundwater, or surface water, and cannot be cleaned up within (7) seven days must be reported to the Tank Management Branch as soon as possible but in no instance shall reporting exceed (7) seven days from the time of discovery. Reporting may be made in person or by telephone or by electronic mail.
- ~~8.2.3~~ Documentation of the Leak and the calculations of how the amount leaked was determined must be maintained by the Owner and Operator at the Facility for the operational life of the AST.

- ~~8.2.4~~ Actions to prevent a reoccurrence of the Leak and actions to mitigate evidence of a Leak shall be initiated within 30 days. These actions shall include but are not limited to:
- ~~8.2.4.1~~ Repairing or replacing defective equipment or;
 - ~~8.2.4.2~~ Modifying operating procedures or;
 - ~~8.2.4.3~~ Retraining employees.
- ~~8.2.5~~ Evidence from a Leak on Secondary Containment surfaces other than soil, shall be mitigated by mechanical and/or chemical means that do not compromise the impermeability of the Secondary Containment and which permit potential future Leaks to be readily discernible from evidence of previous Leaks.
- ~~8.2.6~~ Evidence from Leaks on the Secondary Containment surfaces comprised of soil shall be eliminated by excavating all impacted soils or a means by which a new stain is easily detectable and which does not compromise the impermeability of the Secondary Containment. Any area that is excavated shall be backfilled with a material of equal or superior impermeability.

98.0 Submittal Of Confidential Information

8.1 Denial of Claim of Confidentiality

- ~~9.18.1.1~~ Any claim of confidentiality as to the name and address of applicants on any registration or notification applicants forms will be denied by the Department.

8.2 Requirements for Business Confidentiality Claim

- ~~9.28.2.1~~ A business confidentiality claim ~~must~~ shall be asserted at the time of submission of the information or at the first opportunity provided, and shall be asserted by a person claiming confidentiality, or the Department may release the information without further notice to the person. Business information is entitled to confidential treatment if:

~~9.2.18.2.1.1~~ The business has asserted a business confidentiality claim which has not expired by its terms, nor been waived nor withdrawn, and

~~9.2.28.2.1.2~~ The business has satisfactorily shown that it has taken reasonable measures to protect the confidentiality of the information and that it intends to continue to take such measures, and

~~9.2.38.2.1.3~~ The information is not, nor has been, reasonably obtainable without the business' consent by other persons (other than governmental bodies) by the use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding), and

~~9.2.48.2.1.4~~ No statute specifically requires disclosure of the information, and

~~9.2.58.2.1.5~~ ~~Either (a) the~~ The business has satisfactorily shown that disclosure is likely to cause substantial harm to its competitive position or ~~(b) the~~ information is voluntarily submitted and its disclosure would likely impair the Department's ability to obtain necessary information in the future.

8.3 Release of information to EPA

- ~~9.38.3.1~~ Any information to which this section Section applies, which may be entitled to confidential treatment as determined by the Department, may be released upon request to the United States Environmental Protection Agency (EPA).

8.4 Confidentiality and Freedom of Information Act

- ~~9.48.4.1~~ Any information submitted to the Department in which a confidential business information designation is requested shall be subject to Part A, Section 9 8.0 of these Regulations and the *Freedom of Information Act Regulations* adopted pursuant to 29 Del.C. Ch. 100 as amended.

409.0 Signage Requirements

9.1 Requirements for Hazard Labeling of ASTs

10.19.1.1 All ASTs having with a capacity greater than 250 gallons and containing a Regulated Substance-regulated substance other than diesel, Heating Fuel heating fuel or kerosene and all ASTs having a capacity greater than 19,999 gallons and containing diesel, Heating Fuel or kerosene shall be labeled using the hazard rating system in accordance with NFPA 704, Standard for the Identification of the Fire Hazards of Materials for Emergency Response.

9.1.2 All ASTs with a capacity greater than 19,999 gallons containing diesel, heating fuel or kerosene shall be labeled using the hazard rating system in accordance with NFPA 704, Standard for the Identification of the Fire Hazards of Materials for Emergency Response.

9.2 Requirements for Labeling of Empty ASTs

10.29.2.1 All ASTs having with a capacity greater than 250 gallons and containing a Regulated Substance-regulated substance other than diesel, Heating Fuel heating fuel or kerosene and all ASTs having a capacity greater than 19,999 gallons and containing diesel, Heating Fuel or kerosene shall be labeled with the word "Empty" if the tank contents have been removed.

9.2.2 All ASTs with a capacity greater than 19,999 gallons containing diesel, heating fuel or kerosene shall be labeled with the word "Empty" if the tank contents have been removed.

9.3 Requirements for Labeling of Contents and Tank Identification Number of ASTs

10.39.3.1 All ASTs having with a capacity greater than 250 gallons and containing a Regulated Substance-regulated substance other than diesel, Heating Fuel heating fuel or kerosene and all ASTs having a capacity greater than 19,999 gallons and containing diesel, Heating Fuel or kerosene shall be labeled with the name of the tank contents or the name of the chemical family associated with the tank contents and the tank identification number as noted on the DNREC registration form.

9.3.2 All ASTs having a capacity greater than 19,999 gallons and containing diesel, heating fuel or kerosene shall be labeled with the name of the tank contents or the name of the chemical family associated with the tank contents and the tank identification number as noted on the DNREC registration form.

9.4 Compliance Date for Labeling of ASTs

10.49.4.1 All ASTs existing on February 1, 2006 that are required to have a label in accordance with the ~~Requirements of this Section~~ PART A, subsection 9.1, PART A, subsection 9.2, or PART A, subsection 9.3 shall be appropriately labeled by February 1, 2006.

9.4.2 All ASTs installed or brought into service after February 1, 2006 that are required to have a label in accordance with the requirements of PART A, subsection 9.1, PART A, subsection 9.2, or PART A, subsection 9.3 shall be appropriately labeled before regulated substance is stored in the AST.

9.5 Requirements for Labeling of Permanently Closed AST

9.5.1 All ASTs with a capacity greater than 250 gallons and contained a regulated substance other than diesel, heating fuel or kerosene and which are permanently closed in accordance with the requirements of these Regulations shall be labeled with the words Permanently Closed and the date of permanent closure within thirty (30) days of the closure date, or for ASTs that were permanently closed prior to the most recent effective date of these Regulations, labels must be affixed within ninety (90) days of the most recent effective date of these Regulations.

9.5.2 All ASTs with a capacity greater than 19,999 gallons and contained diesel, heating fuel or kerosene and which are permanently closed in accordance with the requirements of these Regulations shall be labeled with the words Permanently Closed and the date of permanent closure within thirty (30) days of the closure date, or for ASTs that were permanently closed prior to the most recent effective date of these Regulations, labels must be affixed within ninety (90) days of the most recent effective date of these Regulations.

8 DE Reg. 1167 (02/01/05)

PART B INSTALLATION AND UPGRADE REQUIREMENTS FOR NEW AND EXISTING ABOVEGROUND STORAGE TANKS

PART B INSTALLATION AND UPGRADE REQUIREMENTS FOR NEW AND EXISTING ASTS

1.0 General Requirements For All New ASTs Aboveground Storage Tanks and AST Relocations

1.1 General Requirements for All New ASTs and AST Relocations

1.1.1 AST Owners and Operators shall notify the Department at least sixty (60) days ~~prior~~ prior to installation of all proposed New ASTs or Relocated ASTs used for storing Regulated Substances. Notice shall specify as a minimum:

1.1.1.1 the date of commencement of installation activities;

1.1.1.2 location including the address and a plan view dimensioned drawings of the ~~facility~~ Facility of sufficient detail to locate the AST's with respect to the property lines and buildings or other structures located on the property and showing the relation of the AST to the site and the site to the surrounding area;

1.1.1.3 drawings, design data, and material cut sheets for the type of AST and piping Leak Detection system systems;

1.1.1.4 description of the Regulated Substance to be stored including, Safety Data Sheet which complies with the definition of such as contained in OSHA, 29 CFR, 1910.1200, Hazard Communication, with the exception of those ASTs storing heating fuel, diesel, kerosene or gasoline and CAS registry number or numbers if available;

1.1.1.5 type of overfill protection device, including drawings and manufacturer specifications;

1.1.1.6 detail showing the proposed method of drawing of the secondary containment including the calculations demonstrating the capacity;

1.1.1.7 the design drawing of the proposed Cathodic Protection System showing the layout, calculations on the Cathodic Protection System, material cut sheets including anodes, cables, rectifier, hour meter and backfill, if as applicable;

1.1.1.8 description and drawings of the AST(s) and foundation to be installed, including dimensions, capacity, material of construction, manufacturer's name and address, model number, supplier's name and address, and any other information that completely describes the AST and foundation;

1.1.1.9 description of piping to be used, including Pipe pipe diameters, materials, connections, manufacturer specifications and piping diagrams, as applicable;

1.1.1.10 any other information that will shall accurately convey the intended AST configuration.

1.1.1.11 type of measuring gauge, and drawings and manufacturer specifications detailing the measuring gauge;

1.1.1.12 drawings, design data, material cut sheets detailing the release prevention barrier;

1.1.1.13 drawings, design data, and calculations for all normal and emergency venting systems;

1.1.1.14 design data for exterior corrosion protection.

1.1.2 No new ASTs shall be constructed of wood or concrete after the effective date of these Regulations June 11, 2004.

1.1.3 Upon notification by the AST Owner and or Operator, a review by the Department of the notification and accompanying documents must shall be made for compliance with the requirements for new ASTs or Relocate relocated ASTs as applicable, and-

1.1.3.1 A formal letter of approval or denial of the installation shall be issued by the Department to the Owner and Operator within sixty (60) days of the Department's receipt of the installation notification and supporting documentation as specified in PART B, subsection § 1.1 of this Part.

1.1.3.2 If a denial is issued, all required corrections and compliance with the new AST requirements or Relocated relocated AST requirements, as applicable, must shall be met before the installation can be approved.

1.1.3.3 If within the sixty (60) day notification period, the Department or its designee issued a formal letter of approval, the installation of the AST may begin.

1.1.4 Approval letters must shall be posted at the construction site at the facility Facility where the new AST installation or AST Relocation relocation is in progress.

1.1.5 During construction, an Owner and or Operator shall not cause or allow a substantial design change which is not in accordance with the approved plans and all terms and conditions of the Department's approval.

1.1.6 The design eEngineer of record must shall approve in writing any and all substantial design changes and resubmit to the Department for formal approval.

1.1.7 A formal approval of installation shall be valid for one year from the date of approval. If construction of the AST is not initiated within one year of issuance of the Department's letter of approval, the Owner or Operator shall request an extension in writing, including the cause for the delay and the expected date of construction initiation, or the approval shall lapse. For the purpose of this rule, initiated shall mean construction equipment commonly used in Facility or system AST construction has been mobilized to the site and that materials used in the construction of the Facility or AST have been delivered to the site and construction has begun.

1.1.8 Department approval for installation of an AST shall not eliminate the need to obtain applicable approvals and/or permits from the authority(ies) enforcing the State Fire Prevention Regulations State Fire Prevention Regulations, local building codes or other State or Federal laws or regulations.

1.9 ~~The Department shall assess a one-time construction permit fee for a New AST based on the schedule below for an AST constructed after the effective date of the Regulations promulgated pursuant to Title 7 Del.C. Ch. 74A, The Jeffrey Davis Aboveground Storage Tank Act, §7414A. Any person required to pay a fee under Title 16 Del.C. Ch. 66, Fire Prevention, to the State Fire Marshal related to an AST shall receive a 10% reduction in the construction permit fee.~~

Construction Fee Schedule

Tank Size _____ Construction

Permit Fee

12,499 - 39,999 gallons _____ \$1,500.00

1.1.9 All ASTs, piping, appurtenances and secondary containment shall be compatible with the regulated substance stored in the AST.

1.1.10 After the most recent Effective Date of these Regulations new ASTs shall not be installed within a minimum distance of a one hundred and fifty (150) foot radius from a public or industrial well, unless otherwise approved by the Department. A retrofit or upgrade of an AST shall not be considered a new installation for the purposes of this section.

1.1.11 After the most recent Effective Date of these Regulations new ASTs shall not be installed within a minimum distance of a one hundred (100) foot radius from a domestic well, unless otherwise approved by the Department. A retrofit or upgrade of an AST shall not be considered a new installation for the purposes of this section.

1.1.12 The Owner shall notify the Department in writing within seven (7) days after the date of final completion of a new installation. The Department shall complete a final on-site inspection within ten (10) days of receipt of the written notice of final installation completion. The Department shall issue written approval to operate or send a letter detailing deficiencies within ten (10) days after the final Department on-site inspection. If the Owner does not receive written notification from the Department within the ten (10) days, the Owner may commence tank operations provided that:

1.1.12.1 The Owner notifies the Department in writing of the date tank operations will commence; and

1.1.12.2 The Owner shall recognize that any actions taken without prior approval is at the risk of the Owner and does not absolve the Owner of the obligation to comply with all applicable requirements of the Regulations.

1.2 Construction Permit Fees

1.2.1 The Department shall assess a one-time construction permit fee for a new AST based on the construction fee table below for an AST constructed after June 11, 2004. Any Person required to pay a fee under Title 16 Del.C. Ch. 66, *Fire Prevention*, to the State Fire Marshal related to an AST shall receive a 10% reduction in the construction permit fee.

Construction Permit Fee Schedule

| <u>Tank Size</u> | <u>Substance Stored</u> | <u>Construction Fee</u> |
|---|--|---|
| <u>Greater than or equal to 12,499 gallons and less than 40,000 gallons</u> | <u>Regulated substance other than diesel, heating fuel or kerosene</u> | <u>\$1,500.00</u> |
| <u>Greater than or equal to 40,000 gallons</u> | <u>All regulated substance</u> | <u>\$3,750.00</u> |
| <u>Greater than or equal to 12,499 gallons and less than 40,000 gallons</u> | <u>Ag/Farm ASTs</u> | <u>\$1,500.00 *Does not apply if approved Best Management Practice is on file with the Department</u> |

| | | |
|---|--------------|------------|
| Greater than or equal to 40,000 gallons | Aq/Farm ASTs | \$3,750.00 |
|---|--------------|------------|

Note: An AST which was Out of Service or permanently closed prior to June 11, 2004 and is intended to be placed into service is subject to the above construction permit fee schedule.

8 DE Reg. 1167 (02/01/05)

17 DE Reg. 750 (01/01/14)

2.0 Design and Construction Requirements for New Metallic Field-Constructed ASTs

2.1 General Requirements for Design and Construction of New Metallic Field-Constructed ASTs

2.1.1 All new metallic Field-Constructed ASTs that will contain Regulated Substances shall:

2.1.1.1 Be of welded construction.

2.1.2.1-3.2 Meet or exceed the following design or manufacturing standards, as applicable:

2.1.2.1.2.1 API Standard 620, *Design and Construction of Large, Welded, Low-Pressure Storage Tanks*;

2.1.2.1.2.2 API Standard 650, *Welded [Steel] Tanks for Oil Storage*;

2.1.2.1.2.3 API Standard 12D, *Specification for Field Welded Tanks for Storage of Production Liquids*;

2.1.2.1.2.4 NACE RP0294-94 SP0294; *Design, Fabrication, and Inspection of Tanks for the Storage of Concentrated Sulfuric Acid and Oleum at Ambient Temperatures*;

2.1.2.1.2.5 NFPA 30, *Flammable and Combustible Liquids Code*;

2.1.2.1.2.6 Other standards approved by the Department.

2.1.2 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have a suitable foundation capable of supporting the tank AST full of product or the test media without excessive differential settlement as defined in API 653. The foundation design and construction shall be based on sound engineering practices. The foundation design shall provide positive drainage of water away from the base. ASTs located in areas subject to flooding ~~must~~ shall be protected from flotation.

2.1.3 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ with tank bottoms in contact with soil shall be protected from corrosion in accordance with § Part B, Section 5.0 of this Part.

2.1.4 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be placed on a release prevention barrier. The integrity of the ~~barrier~~ release prevention barrier shall not deteriorate due to exposure to the elements or soil in the presence of ~~Regulated Substances~~ regulated substances. The following are acceptable release prevention barriers:

2.1.4.1 An ~~Impervious~~ impervious soil layer or geosynthetic clay liner with a permeability of ~~10⁻⁷~~ 1 x 10⁻⁷ cm/sec or less; or

2.1.4.2 An ~~Impervious~~ impervious geosynthetic liner installed in accordance with manufacturer's ~~recommendations~~ recommendations such as a 60 mil unreinforced liner, 40 mil reinforced liner, or a material of similar or more stringent specifications and that is compatible with the Regulated Substance being stored; or

2.1.4.3 A double bottom with Leak Detection monitoring for the presence of a leak of a Regulated Substance ~~regulated substance~~ leakage; or

- 2.1.4.4 An Impervious impervious concrete slab foundation.
- 2.1.5 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have Secondary Containment secondary containment installed in accordance with PART B, Section §7.0 of this Part.
- 2.1.6 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have base line data including:
- 2.1.6.1 Floor and wall/shell thickness measurements which shall be kept on file by the Owner for the life of the AST and which shall be made available to the Department upon request.
- 2.1.6.2 Material certifications which shall be kept on file by the Owner for the life of the AST and which shall be made available to the Department upon request.
- 2.1.7 A report including the welding procedures, welding certification reports, and any non-destructive testing performed on the AST shall be kept on file by the Owner for the life of the AST and which shall be submitted to the Department prior to placing the AST in service.
- 2.1.8 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ constructed for the purpose of storing sulfuric acid or Spent Acid or Spent Caustic or other Regulated Substances regulated substances with similar corrosive properties, shall be subject to additional design consideration including but not limited to NACE Standard RPSP0294, material compatibility, coating requirements and additional non-destructive examination (NDE).
- 2.1.9 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall provide a method of Leak Detection leak detection in accordance with PART B, Section §9.0 of this Part.
- 2.1.10 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be equipped with an overfill prevention and spill containment system in accordance with PART B, Section §8.0 of this Part.
- 2.1.11 All ASTs regulated under this sSection shall be equipped with normal and emergency venting in accordance with API 2000 and NFPA 30.
- 2.1.12 All metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be inspected and tested in accordance with API 650 or the design standard(s) under which the AST was constructed as applicable before being placed iIn sService.
- 2.1.13 All exposed exterior surfaces of all metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be protected from corrosion.
- 2.1.14 The completed installation of all metallic Field-Constructed ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ is to be inspected and certified by a Certified API 653 Inspector.

3.0 Design Aand Construction Requirements Ffor New Metallic Shop-fabricated Shop-Fabricated ASTs

3.1 General Requirements for Design and Construction of New Metallic Shop-Fabricated ASTs

- 3.1.1 All new metallic Shop-Fabricated ASTs that will contain Regulated Substances regulated substances shall meet or exceed the following design or manufacturing standards, as applicable:
- 3.1.1.1 UL 2085, *Protected Aboveground Tanks for Flammable and Combustible Liquids*;

- 3.1.1.2 UL 142, *Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids*;
 - 3.1.1.3 API 650 Appendix Annex J, *Shop-Assembled Storage Tanks*;
 - 3.1.1.4 NFPA 30, *Flammable and Combustible Liquids Code*;
 - 3.1.1.5 ASME, *Boiler & and Pressure Vessel Code, Section VIII, Division 4*, *Design & Fabrication of Pressure Vessels*;
 - 3.1.1.6 Other standards approved by the Department.
- 3.1.2 All metallic ~~Shop-Fabricated~~ shop-fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ shall have a suitable foundation capable of supporting the tank ~~AST~~ full of ~~Regulated Substance~~ regulated substance or the test media without excessive differential settlement as defined in API 653 or manufacturer's recommendation. The foundation design and construction shall be based on sound engineering practices. The foundation design shall provide positive drainage of water away from the base. ASTs located in areas subject to flooding ~~must~~ shall be protected from flotation.
- 3.1.3 All metallic shop-fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ with tank bottoms in contact with soil shall be protected from corrosion in accordance with PART B, Section §5.0 of this Part.
- 3.1.4 All metallic Shop-Fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ shall be placed on a release prevention barrier. The integrity of the Release Prevention ~~b~~Barrier shall not deteriorate due to exposure to the elements or soil in the presence of ~~Regulated Substances~~ regulated substances. The following are acceptable release prevention barriers:
- 3.1.4.1 An Impervious soil layer, or geosynthetic clay liner with a permeability of ~~10⁻⁷~~ 1x10⁻⁷ cm/sec or less; or
 - 3.1.4.2 An Impervious geosynthetic liner installed in accordance with manufacturer's recommendations such as a 60 mil unreinforced liner, 40 mil reinforced liner, or a material of similar or more stringent specifications that is compatible with the Regulated Substance being stored; or
 - 3.1.4.3 A double bottom or double wall with Leak Detection monitoring for the presence of ~~a leak of a Regulated Substance~~ regulated substance leakage; or
 - 3.1.4.4 An Impervious impervious concrete slab foundation; ~~and~~ or
 - 3.1.4.5 An AST that is in a saddle or other suitable support may utilize steel containment.
- 3.1.5 All metallic Shop-Fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ shall have ~~Secondary Containment~~ secondary containment installed in accordance with PART B, Section §7.0 of this Part.
- 3.1.6 Installation of all metallic Shop-Fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ constructed for the purpose of storing sulfuric acid, Spent Acid or Spent Caustic or other ~~Regulated Substances~~ regulated substances with similar corrosive properties shall be subject to additional design consideration including but not limited to NACE Standard RPSP0294, material compatibility, coating requirements and additional non-destructive examination (NDE).
- 3.1.7 All metallic Shop-Fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ shall provide a method of ~~Leak Detection~~ leak detection in accordance with PART B, Section §9.0 of this Part.
- 3.1.8 All metallic Shop-Fabricated ASTs installed after the ~~effective date of these Regulations June 11, 2004~~ shall be equipped with an overfill prevention and spill containment system in accordance with PART B, Section §8.0 of this Part.

- 3.1.9 All metallic shop-fabricated ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be equipped with normal and emergency venting in accordance with API 2000, NFPA 30, UL 142 and UL 2085, as applicable.
- 3.1.10 All metallic shop-fabricated ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be tested in accordance with industry standards and manufacturer's recommendations before being placed in service.
- 3.1.11 All exposed exterior surfaces of all metallic shop-fabricated ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be protected from corrosion.
- 3.1.12 The completed installation of every metallic shop-fabricated AST installed after ~~the effective date of these Regulations June 11, 2004~~ is to be inspected and certified by an inspector familiar with Shop-Fabricated ASTs such as certified STI-SP001 Inspectors and qualified by experience for such inspections.
- 3.1.13 All metallic Shop-Fabricated ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have base line data including:
- 3.1.13.1 Floor and wall/shell thickness measurements which shall be kept on file by the Owner for the life of the AST and which shall be made available to the Department upon request.
- 3.1.13.2 Material certifications which shall be kept on file by the Owner for the life of the AST and which shall be submitted to the Department prior to placing the AST in service.
- 3.1.14.13.3 A report including the welding procedures, welding certification reports, and any non-destructive testing performed on the AST shall be kept on file by the Owner for the life of the AST and which shall be submitted to the Department prior to placing the AST in service.

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4.0 Design and Construction Requirements for New Non-metallic Non-Metallic Shop-fabricated Shop-Fabricated and Field-constructed Field-Constructed ASTs

4.1 General Requirements for Design and Construction of New Non-Metallic Shop-Fabricated and Field-Constructed ASTs

- 4.1.1 All new non-metallic ASTs shall be designed, fabricated, inspected, stamped and installed in accordance with ASME, RTP-1 *Reinforced Thermoset Plastic Corrosion Resistant Equipment*.
- 4.1.2 No new ASTs may ~~shall~~ be constructed of wood or concrete after ~~the effective date of these Regulations June 11, 2004~~.
- 4.1.3 Flammable substances shall not be stored in non-metallic ASTs without specific approval from the Department.
- 4.1.4 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have a suitable foundation capable of supporting the tank AST full of Regulated Substance regulated substance or the test media without excessive differential settlement as defined in API 653 or manufacturer's recommendations. The foundation design and construction shall be based on sound engineering practices. The foundation design shall provide positive drainage of water away from the base. ASTs located in areas subject to flooding ~~must~~ shall be protected from flotation.
- 4.1.5 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be placed on a release prevention barrier. The integrity of the ~~barrier release prevention barrier~~ shall not deteriorate due to exposure to the elements or soil in the presence of Regulated Substances regulated substances. The following are acceptable release prevention barriers:

- 4.1.5.1 An ~~Impervious~~ impervious soil layer, or geosynthetic clay liner with a permeability of 10^{-7} 1×10^{-7} cm/sec or less; or
- 4.1.5.2 An ~~Impervious~~ impervious geosynthetic liner installed in accordance with manufacturer's recommendations such as a 60 mil ~~non-un~~reinforced liner, 40 mil reinforced liner, or a material of similar or more stringent specifications and that is compatible with the ~~product~~ regulated substance being stored; or
- 4.1.5.3 A double bottom or double wall with Leak Detection monitoring for the presence of ~~a leak of a Regulated Substance~~ regulated substance leakage; or
- 4.1.5.4 An ~~Impervious~~ impervious concrete slab foundation.
- ~~[4.1.6]~~**[4.1.6]** All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have ~~Secondary Containment~~ secondary containment installed in accordance with ~~PART B, Section §7.0~~ of this Part.
- 4.1.7 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall have base line data including:
- 4.1.7.1 Floor and wall/shell thickness measurements which shall be kept on file by the Owner for the life of the AST and which shall be made available to the Department upon request.
- 4.1.7.2 Material certifications which shall be kept on file by the Owner for the life of the AST and which shall be submitted to the Department prior to placing the AST in service.
- 4.1.8 Installation of all non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ constructed for the purpose of storing sulfuric acid, Spent Acid or Spent Caustic or other ~~Regulations Substances~~ regulated substances with similar corrosive properties shall be subject to additional design consideration including but not limited to NACE Standard ~~FRSP0294~~, material compatibility, coating requirements and additional non-destructive examination (NDE).
- 4.1.9 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall provide a method of ~~Leak Detection~~ leak detection in accordance with ~~PART B, Section §9.0~~ of this Part.
- 4.1.10 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be equipped with an overflow prevention and spill containment system in accordance with ~~PART B, Section §8.0~~ of this Part.
- 4.1.11 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be equipped with normal and emergency venting in accordance with API 2000 and NFPA 30.
- 4.1.12 All non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be tested in accordance with industry standards and manufacturer's recommendations before being placed in service.
- 4.1.13 All exposed exterior surfaces of non-metallic ASTs installed after ~~the effective date of these Regulations must June 11, 2004~~ shall be protected from corrosion or deterioration.
- 4.1.14 The completed installation of all non-metallic ASTs installed after ~~the effective date of these Regulations June 11, 2004~~ shall be inspected in accordance with ASME RTP-1 and the NBIC, ~~Appendix 9~~ Part 3 Supplement 4.

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5.0 Design Aand Installation Requirements Ffor Cathodic Protection Systems Ffor ASTs

- 5.1 General Requirements for Design and Installation of Cathodic Protection Systems for AST

5.1.1 All New metallic ASTs including double bottom ASTs installed on foundations consisting of sand, soil or other material that can allow moisture penetration and corrosion, shall install a Cathodic Protection System to mitigate external corrosion of the tank bottom.

5.1.2 A Cathodic Protection System for the external bottom of a ~~n~~New or ~~e~~Existing metallic AST ~~must~~ shall be designed, installed, inspected and maintained to meet or exceed the requirements of the most recent edition of the following industry standards, as applicable:

5.1.2.1 NACE Standard ~~RP01-93~~ SP0193 *External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms*;

5.1.2.2 API Recommended Practice 651 - *Cathodic Protection of Aboveground Petroleum Storage Tanks*;]

5.1.2.3 NACE Standard ~~RPSP0169~~ - *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*

5.2 Required Qualifications of Personnel Designing Cathodic Protection Systems

5.2.1 Cathodic Protection Systems shall be designed by individuals who have obtained a NACE Cathodic Protection Level-3 Specialist Certification and have relevant work experience in the design of Cathodic Protection Systems for ASTs.

5.3 Design and Installation Requirements for Cathodic Protection Systems

5.3.1 Cathodic Protection Systems shall be installed ~~and operating within one year after installation~~ at the time of installation or upgrade of a metallic AST and shall be operational at the completion of the new installation or upgrade, or other schedule as approved by the Department.

5.3.2 Each Cathodic Protection System ~~must~~ shall be designed and installed with test stations or other methods to enable the Owner ~~and~~[/] or Operator to monitor the operation of the Cathodic Protection System.

5.3.3 Consideration for monitoring the cathodic protection status of the underside of the AST bottom ~~must~~ shall be provided for in the design.

5.3.4 Cathodic Protection Systems shall be designed to provide corrosion protection for the expected active life of the AST or have provisions to allow for the periodic rehabilitation of the Cathodic Protection System.

5.3.5 ~~After installation of a Sacrificial Anode System, [m][M]measurements of AST-to-soil~~ AST to soil potential ~~must~~ shall be made no sooner than sixty (60) days and no later than ~~one hundred and eighty (180) days~~ one hundred and eighty (180) days after installation of the Cathodic Protection System in accordance with the requirements of PART C, Section 5.0. ~~If inadequate cathodic protection is indicated, the cause shall be determined, and necessary repairs shall be made within ninety (90) days, or other schedule approved by the Department, in accordance with one of the industry standards referenced in §5.1.2 of this Part.~~

5.4 Cathodic Protection Criteria

5.4.1 The criteria for determining the effectiveness of cathodic protection shall be as indicated in NACE Standard ~~RPSP0193~~.

6.0 **Design, Construction, ~~And~~ and Repair Requirements For for Underground Piping**

6.1 General Requirements for New Underground Piping—General Requirements

6.1.1 All underground piping installed after ~~the effective date of these Regulations~~ June 11, 2004 shall comply with the requirements of this ~~section~~ Section.

6.1.2 All underground piping, fittings and connections that are either in contact with the ~~Regulated Substance~~ regulated substance or completely buried shall:

6.1.2.1 Be constructed of fiberglass reinforced epoxy, carbon steel, thermoplastic material extrusions, stainless steel, or galvanized steel; or

6.1.2.2 Be constructed of other materials as approved by the Department.

- 6.1.3 All underground piping and piping ~~Secondary Containment~~ secondary containment materials shall be compatible with the Regulated Substance that is to be stored in the AST.
- 6.1.4 The underground piping layout shall be designed to minimize crossed lines and interference with conduit and other AST components. If crossing of lines is unavoidable, adequate clearance ~~must~~ shall be provided to prevent contact.
- 6.1.5 All fill pipes leading to a pump-filled AST shall be equipped with a properly functioning check valve or equivalent device which provides automatic protection against backflow whenever the piping arrangement of the fill pipe is such that backflow from the AST is possible.
- 6.1.6 Each AST connection through which a ~~Regulated Substance~~ regulated substance can normally flow shall be equipped with an operating isolation valve to control flow unless the AST connection is located at a point higher than the highest liquid level in the AST, such as at the top of a horizontal AST. The valve shall be located on a nozzle welded to the shell of the AST.
- 6.1.7 Pipe joints ~~must~~ shall be cut accurately and deburred to provide liquid-tight seals. No threaded or flanged connections shall be in contact with the soil.
- 6.1.8 New underground piping systems shall be designed, constructed, and installed with access and isolation points to permit pressure testing of piping without the need for excavation.
- 6.1.9 Copper or brass tubing or malleable iron shall not be used in AST underground piping.
- 6.1.10 All new underground piping shall be tested in accordance with API 570 prior to introduction of any Regulated Substance regulated substance into the piping.
- 6.1.11 Metallic Underground underground metallic piping that penetrates earthen or concrete dike walls or other structures ~~must~~ shall be sleeved and electrically isolated from the sleeve.
- 6.2 Requirements for New Non - Metallic Underground Piping
- 6.2.1 New Non-metallic underground piping shall be designed and constructed in accordance with:
- 6.2.1.1 ASTM Specification ~~D-2996-74~~ D-2996, *Standard Specification for Filament Wound RTRP*; and
- 6.2.1.2 UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.
- 6.2.2 The ultimate shear strength of all adhesive and curing agents shall be in compliance with ASTM D-2517, as approved and supplied by the manufacturer.
- 6.2.3 Thermoplastic extrusion flexible underground piping shall be designed and constructed in accordance with:
- 6.2.3.1 UL 971, *Standard for Nonmetallic Underground Piping for Flammable Liquids*.
- 6.2.4 Other non-metallic underground piping may be approved by the Department.
- 6.3 Requirements for New Steel Underground Piping
- 6.3.1 New Steel Underground Piping:
- 6.3.1.1 shall be standard weight or heavier; and
- 6.3.1.2 shall be installed in accordance with:
- 6.3.1.2.1 API Recommended Practice 1615, *Installation of Underground Petroleum Storage Systems*; and
- 6.3.1.2.2 ~~[A]NSI~~ ASME B31.1, *Power Piping*; and
- 6.3.1.2.3 ~~[A]NSI~~ ASME B31.3, *Process Piping*; and

- 6.3.1.2.4 ANSI ASME B31.4, Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols Pipeline Transportation Systems for Liquids and Slurries; and
- 6.3.1.3 shall have a protective coating and be cathodically protected in accordance with PART B, subsection §6.5 of this Part; or
- 6.3.1.4 shall have non-metallic ~~Secondary Containment~~ secondary containment; or
- 6.3.1.5 shall have metallic ~~Secondary Containment~~ secondary containment that shall have protective wrapping or dielectric coating and shall be cathodically protected by an Impressed Current Cathodic Protection System or Sacrificial Anode Cathodic Protection System unless the metallic secondary containment is not in contact with the soil and is in a non-corrosive environment; or
- 6.3.1.6 shall not require the addition of cathodic protection if the steel Underground Pipe is not in contact with the soil and is in a non-corrosive environment.
- 6.4 Requirements for New Other Metallic Underground Piping
- 6.4.1 Metallic underground piping other than steel shall:
- 6.4.1.1 be schedule 40 or heavier thickness; and
- 6.4.1.2 be approved by the Department prior to installation.
- 6.5 Requirements for Corrosion Protection for New Steel Underground Piping
- 6.5.1 Corrosion protection for steel ~~Underground Piping~~ underground piping in contact with the soil shall:
- 6.5.1.1 consist of a Sacrificial Anode Cathodic Protection System or an Impressed Current Cathodic Protection System designed, fabricated, and installed in accordance with nationally recognized standards including but not limited to API recommended practice RP651, NACE standard number RP-0285-85, and NACE RP-01-69 SP0169; and
- 6.5.1.2 have a Cathodic Protection System designed by individuals who have obtained a NACE Cathodic Protection Level 3 Specialist Certification and have relevant work experience in the design of Cathodic Protection Systems for Underground Piping; and
- 6.5.1.3 be designed to provide corrosion protection for the expected active life of the AST system or have provisions to allow for the periodic rehabilitation of the Cathodic Protection System; and
- 6.5.1.4 have a test station or other method of monitoring which enables the Operator to confirm that the Cathodic Protection System is operating properly.
- 6.5.2 ~~After installation of a Sacrificial Anode System, m~~Measurements of Underground Pipe-to-soil potential ~~must~~ shall be made no sooner than sixty (60) days and no later than one hundred and eighty (180) days after installation of the Cathodic Protection System in accordance with the requirements of PART C, Section 5.0. If inadequate cathodic protection is indicated, the cause shall be determined, and necessary repairs shall be made within ninety (90) days or other schedule approved by the Department in accordance with one of the industry standards referenced in §5.1.2 of this Part.
- 6.6 Requirements for Backfill Material for New Underground Piping Installations
- 6.6.1 Backfill material adjacent to the underground piping ~~must~~ shall consist of sand or pea gravel. The material ~~must~~ shall be clean, washed, inert, free flowing, homogeneous, well granulated, non-corrosive, and free of debris, rock, ice, snow or organic material. Particle length shall be no more than 3/8-3/4" in size and shall comply with the manufacturer's specifications. Mixing of the backfill adjacent to the underground pipe with native substance and/or foreign objects is prohibited.

- 6.7 Repair Requirements for Underground Piping
- 6.7.1 Any ~~repairs to~~ Underground Pipe that ~~must be repaired~~ shall be repaired made to equal or exceed standards of its ~~the~~ original condition of the underground piping.
- 6.7.2 An Owner ~~and or~~ Operator may repair holes in ~~Underground Pipe~~ underground pipe and fittings such as with repair methods that include but are not limited to patching, welding, or clamping and that are made in accordance with manufacturer's specifications and applicable industry standards as a temporary repair for up to not to exceed thirty (30) days. After thirty (30) days with a temporary repair the underground piping shall be permanently repaired or shall be taken Out of Service.
- 6.7.3 Permanent repairs shall be:
- 6.7.3.1 Replacement of the affected section of underground piping pipe, or
- 6.7.3.2 Full welded encirclement of the affected section of underground piping pipe.

7.0 Design And Construction Requirements Ffor Secondary Containment and Spill Containment Ffor New ASTs

- 7.1 General Requirements for Secondary Containment for ASTs.
- 7.1.1 Secondary Containment containment shall be required for all New ASTs constructed after ~~the effective date of these Regulations~~ June 11, 2004.
- 7.1.2 Secondary Containment containment shall not be used to store materials. The ~~Secondary Containment~~ secondary containment will ~~shall~~ be used to collect spills or ~~Leaks~~ leaks, which must ~~shall~~ then be promptly removed, in accordance with appropriate disposal and safety procedures.
- 7.1.3 If not roofed or otherwise protected from the accumulation of precipitation, the ~~Secondary Containment~~ secondary containment area shall be equipped with a manually-controlled pump or siphon or a gravity drain ~~Pipe~~ pipe which has a manually-controlled valve, to remove precipitation that collects within the ~~Secondary Containment~~ secondary containment system to a Department approved location.
- 7.1.4 Secondary Containment containment must ~~shall~~ be designed and constructed to retain any ~~Regulated Substance~~ regulated substance that leaves the primary containment including an AST and ~~Ancillary Piping~~ ancillary piping and prevent any ~~Regulated Substance~~ regulated substance from reaching the surface water, groundwater, or adjacent land before cleanup occurs.
- 7.1.5 All drainage valves located within the ~~Secondary Containment~~ secondary containment system shall remain closed at all times except during controlled drainage events. ~~Secondary Containment~~ containment systems may be equipped with ~~Regulated Substance~~ regulated substance sensors that will ~~shall~~ automatically close all drainage valves in the event of a ~~Leak~~ leak with prior approval of the Department.
- 7.1.6 ASTs installed between June 11, 2004 and the most recent effective date of these Regulations. shall have all regulated substance transfer areas equipped with a spill containment system capable of containing and collecting those spills and overfills and preventing a release where filling connections are made with vehicles.
- 7.1.7 All regulated substance transfer areas where filling connections are made with vehicles shall be capable of containing and collecting 110% of the volume of the largest compartment of the largest vehicle that may be utilized and preventing a Release for all new ASTs installed and for all ASTs brought into service after the most recent effective date of these Regulations.
- 7.2 Secondary Containment Options for ASTs
- 7.2.1 Requirements for Diking Configuration as secondary containment

- 7.2.1.1 Dikes shall be constructed of materials compatible with the contents of the AST and which will ~~shall~~ retain any Regulated Substance that leaves the primary containment including an AST and Ancillary Piping ~~ancillary piping~~ and prevent any ~~Regulated Substance~~ regulated substance from reaching the surface water, groundwater, or adjacent land before cleanup occurs.
- 7.2.1.2 There ~~must~~ shall be no openings or unsealed penetrations of the walls or floor of the dike. Any exceptions will be tank AST specific and will shall require Department approval.
- 7.2.1.3 All dikes ~~must~~ shall have a minimum capacity to contain 110% of the volume of the largest AST within the diked area or 100% of the volume of the largest AST plus six inches of freeboard for precipitation, regardless of engineering controls or design.
- 7.2.1.4 The extent of the diked area ~~should~~ shall be sufficient to capture overflows, splashing caused by overfilling and/or the trajectory of sidewall leaks.
- 7.2.1.5 Sumps ~~should~~ shall be installed as part of all dikes and the dike floors sloped to the sumps to enhance material removal.
- 7.2.1.6 Pumps which are permanently installed for the removal of collected material to areas outside the dike area ~~should~~ shall be locked in the off position when not in use and ~~should~~ shall be monitored when in use to avoid discharging ~~Regulated Substances~~ regulated substances to the environment. Portable pumps which are used for the removal of collected material to areas outside of dikes ~~should~~ shall be monitored while in use to avoid discharging ~~Regulated Substances~~ regulated substances to the environment. Pumps which discharge material back to the ASTs within the diked area need not be locked when not in use, but pumps which pump in either direction ~~must~~ shall have valve locks to control discharges outside the dike, and when discharging outside the dike ~~should~~ shall be monitored.
- 7.2.1.7 An inspection and maintenance plan shall be developed to periodically review the condition of the ~~Secondary Containment~~ secondary containment system.
- 7.2.1.8 ~~A~~ Permanent ~~permanent~~ walkway, stairway or ramp ~~must~~ shall provide access to prevent dike wall degradation.
- 7.2.2 Requirements for Curbing/Paving as Secondary Containment
- 7.2.2.1 The paving/curbing combination, to be considered ~~Secondary Containment~~ secondary containment, ~~must be able to contain~~ shall have a minimum capacity to contain 110% of the volume of the largest AST[,] or 100% of the volume of the largest AST plus six inches of freeboard for precipitation[,] or [be able to] to direct spilled or leaked materials to a containment structure [that meets these requirements] has the ability [shall have a minimum capacity] [to contain 110% of the volume of the largest AST or 100% of the volume of the largest AST plus six inches of freeboard for precipitation], regardless of engineering controls or design.
- 7.2.2.2 The curbing and/or paving ~~must~~ shall be constructed of materials compatible with the contents of the ASTs around which they are installed. If necessary, the curbing and paving shall be coated with a protective material.
- 7.2.2.3 To provide a liquid tight seal, curbing ~~must~~ shall be installed as either part of the paving (integrally poured) or, if installed later, ~~must~~ shall have a liquid barrier included in the installation.
- 7.2.2.4 The extent of the curbed area ~~should~~ shall be sufficient to capture overflows, splashing caused by overfilling and/or the trajectory of sidewall leaks.

- 7.2.2.5 Sumps should ~~shall~~ be installed as part of all curbs and the floors sloped to the sumps to enhance material removal.
- 7.2.3 Requirements for Underground Vaults ~~as Secondary Containment~~
- 7.2.3.1 A Vault shall completely enclose the AST and ~~must shall~~ be constructed of materials compatible with the ~~Regulated Substance~~ regulated substance to be contained in the AST ~~and shall have a minimum capacity to contain 110% of the volume of the largest AST.~~
- 7.2.3.2 All lines to and from ASTs installed in Vaults ~~must shall~~ pass through the roof of the Vault. No lines ~~may shall~~ penetrate the walls or floor of the Vault.
- 7.2.3.3 Each AST shall have its own Vault. Adjacent ASTs may share common walls.
- 7.2.3.4 Vaults shall be designed according to sound engineering practices.
- 7.2.3.4.1 The floor shall be designed and constructed to withstand stress resulting from fully loaded ASTs within the Vault.
- 7.2.3.4.2 The top, walls, and floor shall be designed to withstand the anticipated loading including loading from traffic, soil, and groundwater.
- 7.2.3.4.3 The Vault shall be constructed to be liquid tight.
- 7.2.3.5 The AST and Vault shall be suitably anchored to withstand uplifting by either water or ~~a Regulated Substance~~ regulated substance, including when the AST is empty.
- 7.2.3.6 The only openings in a Vault are those necessary for access, inspection, filling, emptying and venting of the AST.
- 7.2.3.7 There ~~may shall~~ be no backfill around the AST and there shall be sufficient space between the AST and the vault to allow inspection of the AST and equipment. ASTs designed for underground use ~~may shall~~ not be used in Vaults.
- 7.2.3.8 Each Vault ~~vault~~ shall be equipped with Continuous Leak Detection and be capable of detecting vapors and liquids.
- 7.2.3.9 A means to admit a suitable fire suppression agent shall be provided for each Vault ~~vault~~ that contains ~~Flammable~~ flammable or ~~Combustible~~ combustible substances.
- 7.2.3.10 Each Vault ~~vault~~ shall have a means for personnel entry.
- 7.2.4 Requirements for Double-walled ASTs as Secondary Containment
- 7.2.4.1 A double walled AST may be used to fulfill the requirements for ~~Secondary Containment~~ secondary containment if the AST is installed with all of the following:
- 7.2.4.1.1 Overfill prevention as required in PART B, Section §8.0 of this Part; and
- 7.2.4.1.2 Leak ~~Detection~~ detection as required in PART B, Section §9.0 of this Part; and
- 7.2.4.1.3 Where an AST roof is involved, the outer wall of the double walled AST shall be designed to contain 100% of the volume of the AST. If there is an open top, the total containment ~~must shall~~ be constructed to contain 110% of the volume of the largest AST within the system or 100% of the volume of the largest AST plus six inches of freeboard for precipitation, regardless of engineering controls or design.
- 7.2.4.2 The outer containment wall shall be compatible with and capable of containing the ~~Regulated Substance~~ regulated substance stored.

- 7.2.5 Requirements for Secondary Containment External Liners
- ~~7.2.5.1~~ ~~An external liner is a liner of a material compatible with the contents of the AST which is installed inside an existing Secondary Containment structure, such as a dike, to provide additional assurance of impermeability. External liners are usually installed inside earthen dikes and under an AST.~~
- 7.2.5.21 Secondary Containment lining materials external liners shall be constructed and maintained to retain any Regulated Substance that leaves the primary containment including an AST and Ancillary Piping and prevent any Regulated Substance from reaching the surface water, groundwater, or adjacent land before cleanup occurs for the operational life of the ASTs.
- 7.2.5.32 External Lining materials ~~must~~ shall be compatible with the ~~Regulated Substance~~ regulated substance stored in the AST.

7 DE Reg. 1765 (06/01/04)

8.0 Design And Installation Requirements for Overfill and Spill Prevention

- 8.1 General Requirements for Design and Installation of Overfill and Spill Protection
- 8.1.1 Owners ~~and~~ or Operators shall institute safe fill, shutdown and transfer procedures or equivalent measures established by the Department, that ~~will~~ shall ensure that spills resulting from AST overfills or other Regulated Substance transfer operations do not occur.
- ~~8.1.2~~ Overfill equipment shall be installed on all ASTs constructed after the most recent date of promulgation of these Regulations.
- ~~8.1.3~~ Overfill equipment shall be installed on all ASTs reactivated per PART B, Section 16.3 after the most recent date of promulgation of these Regulations.
- ~~8.1.24~~ Receipts of Regulated Substance shall be authorized by the Operator, or ~~Facility~~ personnel trained by the Operator ~~and~~ or Owner. The authorizing person shall ensure the volume available in the AST(s) is greater than the volume of Regulated Substance to be transferred to the AST(s) before the transfer operation commences. The Operator ~~and~~ Owner shall ensure that all AST fill valves not in use are secured and that only the AST(s) designated is receiving Regulated Substance. The Operator ~~and~~ Owner shall ensure ~~that~~ the transfer operation is monitored either by manual or automatic means to prevent an overfill.
- 8.1.35 If the transfer operations are not being continuously monitored by a transfer operator Operator appropriately trained in safe transfer procedures, the AST ~~must~~ shall be equipped with overfill prevention equipment that ~~will~~ shall automatically shut off the flow into the AST when the AST is no more than 95% full or other safe fill level approved by the Department. All automatic shutoff equipment shall be equipped with a fail-safe mechanism that ~~will~~ shall function in the event of power failure, malfunction or similar event.
- 8.1.46 If the transfer operations are being continuously monitored by a transfer operator appropriately trained in safe transfer procedures, the AST ~~must~~ shall be equipped with a high level alarm or other automatic mechanism approved by the Department, that ~~will~~ shall immediately alert the Operator to prevent an overfill event.
- 8.1.46.1 The high level alarm shall be monitored continuously and upon alert the Operator ~~will~~ shall implement safe shut down procedures to prevent an overfill.
- 8.1.46.2 The alarm shall consist of a visual and audible device capable of alerting the transfer operator Operator both by sight and hearing, to prevent an overfill situation. If the operator Operator is in a surveillance station, this alarm shall cause a warning light and audible signal in that station to activate. In addition, this system shall alarm on failure, malfunction or power loss.

~~8.1.5~~ All Regulated Substance transfer areas where filling connections are made with vehicles shall be equipped with a spill containment system capable of containing and collecting those spills and overfills and preventing a Release.

8.1.67 If installed, an automatic shutdown system utilized during transfer of Regulated Substance a regulated substance shall include the capability to direct the flow of a Regulated Substance regulated substance to another AST capable of receiving the transferred Regulated Substance regulated substance or the capability to shut down the pumping or transfer system.

8.1.78 All ASTs shall be equipped with a gauge or other measuring device that is readily visible and accurately indicates the level of Regulated Substance ~~[the]~~ [a] regulated substance or quantity of Regulated Substance ~~[the]~~ regulated substance in the AST.

8.1.89 The overfill prevention and measuring device ~~must be~~ shall operate independently of each other.

9.0 Leak Detection Requirements ~~F~~for New ASTs

9.1 General Requirements for Leak Detection

9.1.1 A Leak leak of Regulated Substances regulated substances ~~must~~ shall be detected and contained before contamination of soil outside the containment area or water resources occurs.

9.1.2 New ASTs shall have a method, or combination of methods, of Leak Detection leak detection that can detect a Leak leak from any portion of the AST. Leak detection methods shall be separate from the method utilized to comply with the requirements for overfill prevention in PART B, Section 8.

9.1.3 Leak Detection detection methods ~~other than visual~~ shall be installed, calibrated, tested, operated and maintained in accordance with the manufacturer's instructions, including routine maintenance checks for operability to ensure that the device is functioning as designed.

9.1.4 All manufacturers' instructions, and the performance claims and their manner of determination described in writing by the equipment manufacturer or installer shall be retained at the Facility for the life of the AST.

9.1.5 Leak Detection detection systems require approval by the Department prior to installation. A Leak Detection leak detection response level shall be described in writing for each method or combination of methods of Leak Detection leak detection used for an AST.

9.1.6 The Leak Detection leak detection method or combination of methods used shall be capable of being inspected at least every seven (7) days to determine if a Leak leak from the AST has occurred.

9.1.7 Any interstitial spaces, including but not limited to those located in double-walled ASTs, double-walled piping, and double bottoms that are installed as part of a new or an Upgraded upgraded AST, shall be equipped with interstitial monitoring equipment capable of detecting a discharge of Regulated Substance a regulated substance into the interstitial space under all operating conditions.

9.1.8 The requirements of PART B, subsection §9.1.2, PART B, subsection §9.1.6 and PART B, subsection §9.1.7 shall not apply to double-walled ASTs that are not in contact with the soil and that additionally meet the requirements for Secondary Containment secondary containment in accordance with PART B, Section §7.0 of this Part.

8 DE Reg. 1167 (02/01/05)

10.0 Relocation, Repairs ~~A~~and Modifications Requirements for ASTs

10.1 General Requirements for Relocation, Repairs and Modifications

- 10.1.1 Repairs, modifications and Relocations relocations shall be performed, inspected and tested in accordance with API 653 or STI-SP001 or STI-SP031 or NACE RPSP0294 or ASME RTP-1 as applicable or other standards approved by the Department.
- 10.2 Additional Requirements for Relocated ASTs~~[-]~~
- 10.2.1 All Relocated relocated ASTs shall meets the standards for New ASTs~~[-]~~ as applicable, with the exception that the Department may approve the use of the existing material of construction, and shall meet the following requirements before; the AST is utilized for storage of Regulated Substances regulated substances:
- 10.2.1.1 The Owner ~~and or~~ Operator shall notify the Department of the scheduled Relocation relocation and shall have received a formal letter of approval according to the requirements of PART B, Section §1.0 of this Part; and
- 10.2.1.2 A thorough internal and external cleaning and inspection performed by a Certified API 653 Inspector or a Certified STI-SP001 Inspector or individual certified under ASME RTP-1 or National Board Inspection Code, as applicable, determines in its new location that the AST is free of defects per the requirements of the applicable code; and
- 10.2.1.3 ~~—————~~The AST is determined to be structurally sound in its new location by a Professional Engineer or an inspector certified per the applicable code such as but not limited to, a Certified API 653 Inspector or a Certified STI-SP001 Inspector, or qualified by training and experience in the absence of a code certification process.

8 DE Reg. 1167 (02/01/05)

11.0 Upgrade Requirements for Existing ASTs

- 11.1 General Requirements for Upgrading Existing ASTs
- 11.1.1 ~~Within one (1) year of the effective date of these Regulations~~ By June 11, 2005, all ASTs shall be equipped with a gauge or other measuring device that accurately shows the level of Regulated Substance regulated substance or the quantity of Regulated Substance regulated substance in the AST.
- 11.1.2 ~~Within one (1) year of the effective date of these Regulations~~ By June 11, 2005, all ASTs shall have an overfill prevention procedure per the requirements in PART B, Section §8.0 of this Part.
- 11.1.3 ~~Within three (3) years of the effective date of these Regulations,~~ By June 11, 2007, all ASTs shall have normal and emergency venting installed in accordance with API 2000 or NFPA 30 or UL142 or ~~[UL-2085]~~ [UL 2085] as applicable.
- 11.1.4 ~~Within ten (10) years of the effective date of these Regulations,~~ By June 11, 2014, the required overfill prevention equipment and the measuring device must shall function independently of each other per the requirements in PART B, Section §8.0 of this Part.
- 11.1.5 ~~Within seven (7) years of the effective date of these Regulations,~~ By June 11, 2011, an AST which is not equipped with cathodic protection or an internal liner approved by the Department and documented to be capable of preventing a release, shall be Upgraded upgraded to meet the requirements of PART B, subsection §11.1.7 of this Part.
- 11.1.6 ~~Within fifteen (15) years of the effective date of these Regulations,~~ By June 11, 2019, an AST which is equipped with cathodic protection in accordance with PART B, Section §5.0 of this Part, or an internal liner approved by the Department and documented to be capable of preventing a Release, shall be Upgraded upgraded to meet the requirements of PART B, subsection §11.1.7 of this Part.
- 11.1.7 All ASTs shall be equipped with or comply with at least one of the following per the schedule in PART B, subsection §11.1.5 or PART B, subsection §11.1.6 of this Part:

- 11.1.7.1 Leak ~~Detection~~ detection equipment in accordance with the requirements of PART B, Section §9.0 or alternate method approved by the Department; or
- 11.1.7.2 release prevention barrier in accordance with the requirements of ~~this Part~~ PART B; or
- 11.1.7.3 Double bottom in accordance with the requirements of ~~this Part~~ PART B; or
- 11.1.7.4 Annual in service test or inspection approved by the Department; or
- 11.1.7.5 Annual internal inspection in accordance with API 653 or other applicable standard.
- 11.1.8 ~~Within three (3) years of the effective date of these Regulations, By June 11, 2007, all ASTs must shall~~ comply with the ~~Inerting~~ inerting requirements of PART B, Section §12.0 of this Part.
- ~~11.1.9 Within one (1) year of the most recent Effective Date of these Regulations, all ASTs, piping, appurtenances and secondary containment shall be compatible with the regulated substance stored in the AST.~~
- 11.2 Upgrade Requirements for Existing Underground Piping Systems
- 11.2.1 ~~Within ten (10) years of the effective date of these Regulations, By June 11, 2014, all existing Underground Piping~~ underground piping that does not meet the requirements for new ~~Underground Piping~~ underground piping as required in PART B, Section §6.0 of this Part ~~must shall~~ be Upgraded upgraded to meet such requirements.
- 11.3 Upgrade Requirements for Tanks Built Prior to the ~~Effective Date of the Regulations June 11, 2004~~. Converting to Storage of a Regulated Substance
- 11.3.1 Persons, who own an aboveground storage tank installed prior to ~~the effective date of the Regulations June 11, 2004~~; which have has only stored non-Regulated ~~regulated~~ Substances substances; who intend to convert the aboveground storage tank to the storage of a ~~Regulated Substance~~ regulated substance and the conversion will make the tank subject to these Regulations, shall notify the Department of the ~~Change-In-Service~~ change in service on an AST registration form provided by the Department at least ~~ten (10)~~ sixty (60) days prior to initiating the ~~Change-In-Service~~ change in service. The form shall be accompanied with documentation that the tank shall comply with the following requirements:
- 11.3.1.1 The tank shall be subjected to a thorough internal and external cleaning and a inspection performed by a Certified API 653 Inspector or a Certified STI-SP001 Inspector or individual certified under ASME RTP-1 or National Board Inspection Code, as applicable, determining that the tank is free of ~~pinholes, cracks, structural damage, or excessive corrosion~~ defects per the applicable code; and
- 11.3.1.2 All aboveground and underground piping connected to the tank which will shall convey a ~~Regulated Substance~~ regulated substance shall comply with an API 570 external visual inspection and API 570 pressure test as applicable; and
- 11.3.1.3 The tank is determined to be structurally sound by a Professional Engineer or an inspector certified per the applicable code such as but not limited to a Certified API 653 Inspector or a Certified STI-SP001 Inspector or individual certified under ASME RTP-1 or National Board Inspection Code, or qualified by training and experience in the absence of a code certification process; and

- 11.3.1.4 The tank and underground piping shall comply with the schedule of Requirements specified in PART B, subsection §11.1 and PART B, subsection §11.2 of this Section.
- 11.3.2 If within the ~~ten (10)~~ sixty (60) day period, the required notification to the Department is completely satisfied, the conversion to storage of a ~~Regulated Substance~~ regulated substance may proceed without waiting for the expiration of the ~~ten (10)~~ sixty (60) days.
- 11.4 Upgrade Requirements for Tanks Built After ~~the Effective Date of the Regulations~~ June 11, 2004 Converting to Storage of a Regulated Substance
- 11.4.1 Persons, who own an aboveground storage tank installed after ~~the effective date of the Regulations~~ June 11, 2004; which have ~~has~~ only stored ~~non-Regulated Substances~~ non-regulated substances; who intend to convert the aboveground storage tank to the storage of a ~~Regulated Substance~~ regulated substance and the conversion will make the tank subject to these Regulations, shall notify the Department of the ~~Change-In-Service on~~ change in service ~~on~~ utilizing an AST registration form provided by the Department at least ~~ten (10)~~ sixty (60) days prior to initiating the ~~Change-In-Service~~ change in service. The form shall be accompanied with documentation that the tank shall comply with the following requirements:
- 11.4.1.1 The tank shall meet the standards for ~~New~~ new ASTs as specified in ~~this Part~~ PART B, as applicable; and
- 11.4.1.2 The tank shall be subjected to a thorough internal and external cleaning and a inspection performed by a Certified API 653 Inspector or a Certified STI-SP001 Inspector or individual certified under ASME RTP-1 or National Board Inspection Code, as applicable, determining that the tank is free of ~~pinholes, cracks, structural damage, or excessive corrosion~~ defects per the applicable code; and
- 11.4.1.3 All aboveground and underground piping connected to the tank which ~~will~~ shall convey a ~~Regulated Substance~~ regulated substance shall comply with an API 570 external visual inspection and API 570 pressure test as applicable.
- 11.4.1.4 The tank is determined to be structurally sound by a Professional Engineer or an inspector certified per the applicable code such as but not limited to a Certified API 653 Inspector or a Certified STI-SP001 Inspector or individual certified under ASME RTP-1 or National Board Inspection Code, or qualified by training and experience in the absence of a code certification process.
- 11.4.2 If within the ~~ten (10)~~ sixty (60) days period, the required notification to the Department is completely satisfied, the conversion to storage of a ~~Regulated Substance~~ regulated substance may proceed without waiting for the expiration of the ~~ten (10)~~ sixty (60) days.

7 DE Reg. 1765 (06/01/04)

8 DE Reg. 1167 (02/01/05)

12.0 Inerting Requirements for Ullage Volumes of ASTs ~~w~~Without a Floating Roof

12.1 General Requirements [For Inerting an AST without a Floating Roof]

- 12.1.1 All ASTs without a Floating Roof installed or erected after ~~the effective date of these Regulations~~ June 11, 2004 and containing Flammable Regulated Substances as defined by NFPA 30, or Spent Acids, or Spent Caustics, or other ~~Regulated Substances~~ regulated substances as defined by the Department shall have an automatic system in place to maintain the Ullage volume of the AST below the Limiting Oxidant Concentration (LOC), for any gaseous Oxidant which may be present, by the use of an Inert Gas ~~b~~Blanketing system in accordance with NFPA 69. Systems operated above the Upper Flammable Limit (UFL) shall be subject to approval by the Department prior to installation.

Other methods to prevent a Deflagration such as but not limited to ~~s~~Spark ~~e~~Extinguishing ~~s~~Systems, Deflagration ~~s~~Suppression, or Deflagration ~~p~~Pressure ~~e~~Containment shall be subject to approval by the Department prior to installation.

12.1.2 The following ASTs shall be exempt from the Inerting requirements of this Section:

12.1.2.1 All existing ~~Shop-Fabricated~~ shop-fabricated ASTs which meet the requirements of UL 142 and ~~any the~~ requirements of the Delaware State Fire Prevention Regulations;

12.1.2.2 All existing ~~Field-Constructed~~ field-constructed ASTs used for Dispensing which meet the requirements of API 650 and API 2000 and ~~any the~~ requirements of the Delaware State Fire Prevention Regulations;

12.1.2.3 New ~~Shop-Fabricated~~ shop-fabricated horizontal ASTs less than or equal to 50,000 gallons and new ~~Shop-Fabricated~~ shop-fabricated vertical ASTs less than or equal to 30,000 gallons used for Bulk Storage which meet the requirements of UL 142 and ~~any the~~ requirements of the Delaware State Fire Prevention Regulations;

12.1.2.4 New ~~Shop-Fabricated~~ shop-fabricated horizontal ASTs less than or equal to 50,000 gallons and new ~~Shop-Fabricated~~ shop-fabricated vertical ASTs less than or equal to 30,000 gallons used for Dispensing which meet the requirements of UL 142 and UL 2085 and the requirements of the Delaware State Fire Prevention Regulations;

12.1.2.5 New ~~Field-Constructed~~ field-constructed horizontal or vertical ASTs used for Dispensing that meet the requirements of API 650 and API 2000 and the requirements of the Delaware State Fire Prevention Regulations.

12.1.3 An automatic system shall be continuously in place, in use, and operating to designed specifications whenever an AST is in service and has the potential for a Flammable flammable atmosphere. The system shall be in place, in use and operated to designed specifications unless the AST has been cleaned sufficiently and purged of Flammable flammable vapors to safely permit hot work in, on or around the AST.

12.1.4 An automatic system shall be in place, in use, and operating to designed specifications that continuously monitors the LOC or alternate monitoring parameters as approved by the Department so that whenever the required LOC or alternate monitoring parameters is not met the system shall:

12.1.4.1 Energize an audible and a visual alarm at the location where the operating parameters of the affected AST are monitored and controlled; and

12.1.4.2 Be equipped with an emergency system capable of discontinuing the energy supply to any pumps engaged in moving liquid into or out of the affected AST.

12.1.5 Work to return the system to specified operating parameters shall begin immediately after an alarm is registered. If the AST cannot be returned to the required LOC within 24 hours, the Department ~~must~~ shall be notified and be given an indication of when the AST can be returned to the required LOC.

12.1.6 During the time period that the system is not operating within the required LOC no actions shall be taken which unreasonably increase the probability of a Deflagration deflagration occurring within the affected ~~tank~~ AST.

12.1.7 The system shall be repaired within a time frame mutually agreed to by the Department and the ~~tank~~ AST Owner ~~and or~~ Operator.

12.1.8 The Department shall be notified within 24 hours when the affected AST is returned to the required LOC.

- 12.1.9 The gases exhausted or vented from a regulated AST operating under an Inerting system shall be treated in a manner which is compliant with all applicable Department Regulations and Permits.

13.0 Out of Service Requirements

13.1 General Requirements for out of service ASTs

- 13.1.1 An AST is ~~Out-of-Service~~ out of service if the AST:

13.1.1.1 ~~has been designated as Out-of-Service~~ out of service by the Owner and or Operator; or

13.1.1.2 ~~is an empty tank except when the AST is emptied solely for the purpose of cleaning, routine maintenance or a change in product for a time period not to exceed one hundred eighty (180) days.~~ is an empty tank except when the AST is emptied solely for the purpose of cleaning, routine maintenance or a change in product for a time period not to exceed one hundred eighty (180) days. ~~or~~

13.1.1.3 ~~is not in use, in that it has not had, within any 45-day period, a Regulated Substance transferred into or withdrawn from the AST and has been drained of all contents and is empty.~~

- 13.1.2 The Owner and Operator shall notify the Department, ~~on~~ utilizing a form provided by the Department, upon taking an AST ~~Out-of-Service~~ out of service unless the AST is empty or ~~Out-of-Service~~ out of service because of scheduled testing or inspection per these Regulations.

- 13.1.3 The Owner and Operator of an AST that has remained out of service for greater than eighteen (18) months shall:

13.1.3.1 ~~Remove all the Regulated Substance from~~ Disconnect the AST and isolate ~~connected from all~~ piping; and

13.1.3.2 Secure the AST to prevent unauthorized entrance or tampering so that a Regulated Substance is not accidentally or intentionally introduced into the AST; and

13.1.3.3 ~~Thoroughly clean the interior of~~ Empty the AST and all ~~Ancillary Piping~~ ancillary piping of all sludge, solids, and residual Regulated Substance and retain documentation of the proper disposition of the removed sludge, liquids, solids and residual Regulated Substance regulated substance.

- 13.1.4 The Owner and or Operator of an AST that has remained ~~Out-of-Service~~ Out-of-Service out of service for a period greater than three (3) years shall assess the site to determine whether there is soil or groundwater contamination attributable to the AST as per the requirements of PART B, Section §14.0 of this Part.

- 13.1.5 An AST that is out of service, but is not empty, shall be in compliance with all the applicable requirements of these Regulations, until the AST is removed, permanently closed in place, has undergone a permanent change in contents to a non-regulated substance, or is converted to another use in accordance with these Regulations.

- 13.1.6 An AST that is out of service and is empty is not required to be in compliance with the inspection, monitoring, testing and record keeping requirements of PART C, with the exception of PART C, Section 5.0 as applicable, only during the time the AST is out of service and empty.

- 13.1.7 When an AST has been out of service, is empty, and a site assessment has been performed in accordance with these Regulations, the AST is determined by the Department to be permanently closed.

- 13.1.8 ASTs that are used periodically, such as for seasonal use or an emergency storage or overflow containment AST that is expeditiously emptied, are not "out of service"

even when they do not contain a regulated substance. The AST Owner or Operator must submit a request in writing to the Department to be designated as a seasonal or emergency storage or overflow containment AST.

13.2 Reactivating Out-of-Service Out of Service AST

~~13.2.1~~ An AST which has been taken Out of Service and for which notice is required under §13.1.2 of this Part shall not be placed back into service, nor shall a Regulated Substance be introduced into the AST until the Owner and Operator certifies to the Department in writing that the AST is in compliance with all applicable statutes and Regulations.

13.2.21 An AST Owner and or Operator who reactivates an AST, which has been Out of Service out of service per PART B, subsection §13.1.1 shall notify the Department by amending the AST registration form required by Part A, §4, utilizing a form provided by the Department ten (10) days prior to putting the AST back into service.

13.2.32 Prior to placing an AST which has been Out of Service out of service for more than 1 year and empty, back into service, the Owner and or Operator shall thoroughly inspect and test the AST and appurtenances per the required time frames in PART C of these Regulations, for evidence of the following conditions:

~~13.2.3.1~~ Corrosion of the interior or exterior of the AST or ancillary piping; and

~~13.2.3.2~~ Abnormal thinning of the AST walls or bottom; and

~~13.2.3.3~~ Perforations through the AST walls or bottom; and

~~13.2.3.4~~ Any other condition that would indicate a weakening of the structural integrity of the AST or identify a situation which could result in a Release of Regulated Substance from the AST.

13.2.3 An AST which was out of service prior to June 11, 2004 and is intended to be placed into service must comply with all new AST standards in these Regulations including payment of required construction fees in PART B, Section 1.2 and submission of installation documentation in accordance with PART B prior to being placed back In Service.

7 DE Reg. 1765 (06/01/04)

14.0 Site Assessment Requirements for AST Removal; or Relocation; or Permanent AST Closure in Place; or Permanent Change in Contents of an AST; or Out-of-Service Out of Service; or Retrofit; or Upgrade; or repair; or maintenance

14.1 General Requirements for Retrofit, Upgrade, repair or maintenance activity

14.1.1 ~~If, d~~During an any AST Removal, Permanent Closure in Place, Permanent Change in Contents, converting the AST to another use, or when an AST has been Out of Service for more than three years activity, when there is evidence of soil or groundwater contamination from a Regulated Substance regulated substance attributable to the AST, detected by site assessment, observation, or analysis, the Owner and or Operator shall notify the Department immediately of any evidence of soil or groundwater contamination from a regulated substance and shall comply with all notification and corrective action requirements of Part E of these Regulations.

14.2 Site Assessment During during an AST Removal, Relocation, Permanent Closure in Place, Permanent Change in Contents, Converting the AST to Another Use or Out-of-Service Out of Service Assessment-Retrofit, Upgrade, repair or maintenance associated with the AST

14.2.1 The Owner and or Operator of the AST shall assess the site perform a site assessment to determine whether there is soil or groundwater contamination attributable to the AST when:

- 14.2.1.1 The AST has been ~~Out-of-Service~~ out of service for a period greater than three (3) years; or
- 14.2.1.2 The AST has a ~~Permanent~~ permanent Change ~~change~~ in Contents contents from a ~~Regulated Substance~~ regulated substance to a ~~non-Regulated Substance~~ regulated substance; or
- 14.2.1.3 After dismantling and ~~Removing~~ removing an AST or ~~Permanently Closing in Place~~ permanently closing in place an AST or ~~Relocating~~ relocating an AST or converting the AST to a use other than as an AST; ~~or~~
- ~~14.2.1.4~~ Soil is excavated during retrofit, upgrade, repair, or maintenance associated with the AST.
- 14.2.2 The **[site]** assessment **[necessary]** to determine if any contamination is present[,] shall be performed using the following investigative methods, as applicable:
- 14.2.2.1 Test pits shall be excavated or soil borings advanced in the immediate vicinity of the AST, and representative soil and groundwater samples shall be obtained.
- 14.2.2.2 Soil and groundwater samples shall be obtained from the ground surface immediately beneath the AST, at the location of any visual staining or ~~Regulated Substance~~ regulated substance accumulation, and beneath the ancillary piping.
- ~~14.2.2.3~~ Soil and groundwater samples shall be representative of the conditions found in the vicinity of the AST subject to the assessment.
- 14.2.2.4 All ~~Leak Detection~~ leak detection devices or subsurface monitoring locations shall be sampled.
- ~~14.2.2.4~~ The site shall be evaluated in accordance with the most recent Delaware Aboveground Storage Tank Site Assessment Sampling Guidance or other approved Department procedure.
- 14.2.3 The soil and groundwater samples shall be submitted to an ~~appropriately certified a~~ laboratory for certified to perform the required analyses analysis. The samples shall include a sample obtained from the location with the highest concentration of volatile organics.
- 14.2.4 Samples Analytes shall be analyzed selected based upon any and all ~~Regulated Substances~~ regulated substances stored in the AST over its lifetime. Laboratory analysis methods for the analytes shall be methods approved by the Department.
- 14.2.5 ~~Laboratory analysis methods for the analyses required in §14.2.4 of this Part shall be as to the method approved by the Department~~ The samples shall be obtained from the locations with the suspected highest concentration of contaminants of concern.
- ~~14.2.6~~ A site assessment must be completed within thirty (30) days of a Permanent Change in Contents, or Removal or Permanent Closure in Place, or Relocation, or the Out-Of-Service requirement specified in §14.2.1.1, or converting the AST to a use other than an AST and the results of the required site assessment must be submitted to the Department within thirty (30) days of the completion of the site assessment.
- ~~14.2.6~~ A Site Assessment shall not commence without prior written approval by the Department.
- ~~14.2.7~~ The Owner or Operator shall complete a site assessment and submit the results to the Department within ninety (90) days of the completion of the activities referenced in PART B, subsection 14.2.2.

7 DE Reg. 1765 (06/01/04)

8 DE Reg. 1167 (02/01/05)

15.0 AST Removal Requirements

- 15.1 General Requirements for AST Removal
- 15.1.1 An The AST Owner and or Operator shall notify the Department of the scheduled Removal removal of an AST on utilizing a form provided by the Department not later than ten (10) days prior to the Removal removal of an AST.
- 15.1.2 An AST and ancillary piping may be treated as separate entities for the purpose of removal, permanent closure in place or permanent change in contents.
- 15.1.3 An The AST Owner and or Operator shall comply with the requirements of PART B, Section §14.0 of this Part.
- 15.2 Additional Requirements for AST Removal
- 15.2.1 To Remove remove an AST, an Owner and or Operator shall at a minimum comply with the following requirements:
- 15.2.1.1 Remove all the Regulated Substance regulated substance from the AST and Ancillary Piping-ancillary piping; and
- 15.2.1.2 Thoroughly clean the interior of the AST and all Ancillary Piping-ancillary piping of all sludge, solids, and residual Regulated Substance regulated substance with documentation of the proper disposition of the removed sludge, solids and residual Regulated Substance regulated substance; and
- 15.2.1.3 Completely displace the AST and Ancillary Piping-ancillary piping from its installed location, and render the AST and Ancillary Piping-ancillary piping permanently non-useable or discontinue use of the AST and Ancillary Piping-ancillary piping as an AST and Ancillary Piping-ancillary piping with the intent of not introducing a Regulated Substance regulated substance into the AST and Ancillary Piping-ancillary piping.

8 DE Reg. 1167 (02/01/05)

16.0 Permanent Closure in Place Requirements

- 16.1 General Requirements for Permanent Closure in Place of ASTs
- 16.1.1 An The Owner and or Operator shall notify the Department of the scheduled Permanent Closure in Place permanent closure in place of an AST on utilizing a form provided by the Department not later than ten (10) days prior to the Permanent Closure in Place permanent closure in place of an AST.
- 16.1.2 An Owner and Operator shall comply with the requirements of §14 of this Part. An AST and ancillary piping may be treated as separate entities for the purpose of removal, permanent closure in place or permanent change in contents.
- 16.1.3 The AST Owner or Operator shall comply with the requirements of PART B, Section 14.0.
- 16.2 Additional Requirements for Permanent Closure in Place of ASTs
- 16.2.1 To Permanently Close in Place Permanently close in Place an AST, an the AST Owner and or Operator shall at a minimum comply with the following requirements:
- 16.2.1.1 Remove all the Regulated Substance from the AST and Ancillary Piping; Empty the AST and all ancillary piping of all regulated substances in accordance with API RP2015 and API RP2016 and retain documentation of the proper disposition of the removed sludge, liquids, solids and residual regulated substance for a minimum of three (3) years; and
- 16.2.1.2 Thoroughly clean the interior of the AST and all Ancillary Piping of all sludge, solids, and residual Regulated Substance with documentation of the proper disposition of the removed sludge, solids and residual Regulated Substance; Secure the AST to prevent unauthorized entrance or tampering so that a regulated substance is not accidentally or intentionally introduced into the AST; and

- 16.2.1.3 ~~Secure the AST and Ancillary Piping to prevent unauthorized entrance or tampering so that a Regulated Substance is not accidentally or intentionally introduced into the AST and Ancillary Piping, by means such as securely bolting and locking or welding all manways and valves or capping or plugging fill lines, gauge openings, or pump lines and disconnecting and blanking all Ancillary Piping; All permanently closed ASTs shall be labeled in accordance with PART A, subsection 9.5.~~

16.3 Reactivating a Permanently Closed AST

- 16.3.1 An AST Owner or Operator who reactivates an AST, which has been permanently closed per this Part, shall notify the Department utilizing a form provided by the Department in accordance with PART B, subsection 1.1, prior to putting the AST back into service.

- 16.3.2 Prior to placing an AST which has been permanently closed back into service, the Owner or Operator shall meet all new AST standards in these Regulations.

- 16.3.3 An AST which was permanently closed prior to June 11, 2004 and is intended to be placed into service must comply with all new AST standards in these Regulations including payment of required construction fees in PART B, subsection 1.2 and submission of installation documentation in accordance with PART B.

8 DE Reg. 1167 (02/01/05)

17.0 Permanent Change in Contents Requirements

17.1 General Requirements for Permanent Change in Contents

- 17.1.1 ~~An The AST Owner and or Operator shall notify the Department of the scheduled Permanent Change in Contents permanent change in contents of an AST on utilizing a form provided by the Department not later than ten (10) days prior to the Permanent Change in Contents permanent change in contents of an AST.~~

- 17.1.2 ~~An Owner and Operator shall comply with the requirements of §14 of this Part. An AST and ancillary piping may be treated as separate entities for the purpose of removal, permanent closure in place or permanent change in contents.~~

- 17.1.3 The AST Owner or Operator shall comply with the requirements of PART B, Section 14.0.

17.2 Additional Requirements for Permanent Change in Contents

- 17.2.1 ~~To undergo a Permanent Change in Contents permanent change in contents in an AST, an the AST Owner and or Operator shall at a minimum comply with the following requirements:~~

- 17.2.1.1 ~~Remove all the Regulated Substance regulated substance from the AST and Ancillary Piping ancillary piping; and~~

- 17.2.1.2 ~~Thoroughly clean the interior of the AST and all Ancillary Piping ancillary piping of all sludge, solids, and residual Regulated Substance regulated substance with documentation of the proper disposition of the removed sludge, solids and residual Regulated Substance regulated substance; and~~

- 17.2.1.3 ~~Continue active use of the AST and Ancillary Piping ancillary piping with the intent of only storing and conveying a non-Regulated Substance regulated substance in the AST and Ancillary Piping ancillary piping.~~

8 DE Reg. 1167 (02/01/05)

PART C INSPECTION, MONITORING, TESTING, AND RECORD KEEPING REQUIREMENTS FOR ABOVEGROUND STORAGE TANKS

1.0 Inventory Control Requirements

1.1 General Requirements for Inventory Control

1.1.1 Every AST Owners and or Operators shall maintain inventory control records for each AST containing a Regulated Substance regulated substance. Records shall be kept for each AST or cluster of ASTs if they are normally interconnected, and shall include measurements of transfers of a Regulated Substance regulated substance into and out of the AST, measurements of inventory on hand, and records of gains and losses. Reconciliation of records shall be kept current, shall account for all variables which could affect an apparent loss or gain, and shall be in accordance with generally accepted practices. The records shall be accumulated for each day an AST has a Regulated Substance regulated substance added or withdrawn but in no instance shall the interval between measurement of inventory on hand exceed seven (7) days. The records shall include at a minimum:

1.1.1.1 Description and quantity of the Regulated Substance in the AST. The equipment used **[must] [shall]** be capable of measuring the level of Regulated Substance regulated substance over the full entire operating range of the AST's height.

1.1.2 ~~Each~~ By July 11, 2004 AST Owners and or Operators shall institute inventory control procedures ~~within thirty (30) days of the effective date of these Regulations~~ capable of detecting a significant variation of inventory. A significant variation shall be considered as a gain or a loss in excess of 1% of the throughput or storage capacity of each individual AST on a thirty (30) day or monthly basis.

1.1.2.1 Reconciliations of inventory measurements shall be conducted monthly or every thirty (30) days. If the significant variation persists for two consecutive months or two consecutive thirty (30) day periods, the Owner ~~and or~~ Operator shall conduct an investigation to determine the cause of the variation. This investigation shall be completed within ten (10) working days of the end of the second reconciliation period that shows significant variation. If this investigation does not reveal the cause of the inventory variation the Owner ~~and or~~ Operator shall notify the Department and shall adhere to the ~~reporting requirements of Part A, §8 and the corrective action requirements of Part E of these Regulations.~~

1.1.2.2 If the AST is equipped with a Continuous Leak Detection monitoring system and cathodic protection of the AST and ~~Ancillary Piping~~ ancillary piping, a significant variation of inventory for this section shall be considered as a gain or a loss in excess of 3% of the throughput or storage capacity of each individual AST on a monthly or thirty (30) day basis.

1.1.2.3 Inventory records shall be maintained for a period of not less than three (3) years and shall be made available for Department inspection within ten (10) days upon request.

8 DE Reg. 1167 (02/01/05)

2.0 Inspection Requirements for Secondary Containment

2.1 General Requirements **[for]** Secondary Containment Inspection

2.1.1 Secondary Containment containment for all ASTs subject to these Regulations shall be inspected as a part of external inspections and routine ~~in-service~~ in service inspections ~~within 180 days of the effective date of these Regulations~~ beginning no later than December 8, 2004.

- 2.1.2 If the ~~Secondary Containment~~ secondary containment has been tested or inspected and fails to meet the criteria established in Part B, § Section 7.0 of these Regulations, the Owner and or Operator will shall have sixty (60) days from the date of the inspection identifying the problem to correct the problem or other schedule approved by the Department. Temporary safety measures shall be instituted as required by the Department.
- 2.1.3 Owners and Operators of ASTs shall adhere to the reporting requirements of ~~Part A §8~~, and the corrective action requirements of Part E of these Regulations at anytime evidence of a leak or Rrelease from ~~S~~secondary Containment is noted during the course of an inspection.
- 2.1.4 If a significant change in the structure of the ~~Secondary Containment~~ secondary containment occurs, the Owner and or Operator shall verify that the ~~Secondary Containment~~ secondary containment meets or exceeds the criteria established in Part B, § Section 7.0 of these Regulations.
- 2.2 Routine In-~~Service~~ Inspections Requirements for Secondary Containment
- 2.2.1 The routine in-~~service~~ in service inspection shall monitor the condition of the ~~Secondary Containment~~ secondary containment at an interval not to exceed thirty-one (31) days.
- 2.2.2 The routine in-~~service~~ in service inspection of the ~~Secondary Containment~~ secondary containment shall include visual inspection from the ground.
- 2.3 External Inspections Requirements for Secondary Containment
- 2.3.1 External inspections of the ~~Secondary Containment~~ secondary containment shall monitor the condition of the ~~Secondary Containment~~ secondary containment at an interval not to exceed five (5) years.
- 2.3.2 External inspections of ~~Secondary Containment~~ secondary containment shall be performed by inspectors familiar with ~~Secondary Containment~~ secondary containment and qualified by experience for such inspections.
- 2.3.3 ~~Secondary Containment~~ containment shall be inspected to ensure that it has been maintained in a condition that shall ensure it is capable of retaining any ~~Regulated Substance~~ regulated substance that leaves the primary containment including an AST and ~~Ancillary Piping~~ ancillary piping and prevent any ~~Regulated Substance~~ regulated substance from reaching the surface water, groundwater, or soil outside the ~~Secondary Containment~~ secondary containment before cleanup occurs.

8 DE Reg. 1167 (02/01/05)

3.0 Testing Requirements for Overfill Protection and Gauges

- 3.1 General Requirements for Overfill Protection Testing
- 3.1.1 The overfill prevention system required in Part B, § Section 8.0 shall be tested no less frequently than every ninety-three (93) days to ensure proper function and records of testing shall be maintained at the Facility for three (3) years.
- 3.1.2 Existing ASTs with overfill prevention systems shall implement the testing requirements as required in PART C, subsection §3.1.1 of this Part within thirty (30) days of the effective date of these Regulations by July 11, 2004.
- 3.1.3 The gauge or measuring device required in Part B, § Section 8.0 shall be calibrated no less frequently than once every twelve (12) months and records of testing shall be maintained at the Facility for three (3) years.
- 3.1.4 Existing ASTs with a gauge or measuring device shall implement the calibration requirements as required in PART C, subsection §3.1.3 of this Part within thirty (30) days of the effective date of these Regulations by July 11, 2004.
- 3.1.5 The gauge or measuring device as required in PART B, Section 8.0 shall be calibrated, tested, operated and maintained in accordance with the manufacturer's

specifications, including routine maintenance checks for operability to ensure that the device is functioning as designed.

3.1.6 All manufacturer's instructions and performance claims and their manner of determination described in writing by the equipment manufacturer or installer for the gauge or measuring device shall be retained at the Facility for the life of the gauge or measuring device.

3.1.7 If the manufacturer of the gauge or measuring device cannot be determined, or no standard is available, the gauge or measuring device shall be calibrated to 1% of the volume of the AST.

3.1.8 The overfill protection system shall be calibrated, tested, operated and maintained in accordance with the manufacturer's specifications, including routine maintenance checks for operability to ensure that the overfill protection system is functioning as designed.

3.1.9 All manufacturer's instructions and performance claims and their manner of determination described in writing by the equipment manufacturer or installer for the overfill protection system shall be retained at the Facility for the life of the overfill protection system.

8 DE Reg. 1167 (02/01/05)

4.0 Inspection, Monitoring and Testing Requirements For for Underground Piping

4.1 General Requirements for Underground Piping Inspection, Monitoring and Testing

4.1.1 Existing ~~Underground Piping~~ underground piping in compliance with an API 570 inspection and testing schedule as of ~~the effective date of these Regulations June 11, 2004,~~ or other schedule approved by the Department, shall adhere to ~~their~~ its current established inspection schedule.

4.1.2 All existing ~~Underground Piping~~ underground piping not in compliance with an API 570 inspection and testing schedule as of ~~the effective date of these Regulations June 11, 2004,~~ or other schedule approved by the Department, shall be pressure tested annually, ~~per~~ in accordance with API 570 and API 574 where applicable, or in accordance with manufacturer's specifications, or in accordance with a method approved in writing by the Department, until it is ~~Upgraded~~ upgraded to the new piping standards or removed from service.

4.1.3 In lieu of annual testing, the Department may approve an alternative risk-based schedule on a case-by-case basis. Any alternative method shall be approved in writing by the Department prior to implementation. In no case shall the inspection interval exceed ten (10) years.

4.1.4 New ~~Underground Piping~~ underground piping shall comply with the inspection and testing schedule in accordance with API 570 or other schedule approved by the Department.

4.1.5 ~~Underground Piping~~ piping that has been repaired or reactivated after being out-of-service, shall be reassessed to ensure the ~~Underground Piping~~ underground piping meets or exceeds the original performance specifications prior to returning to service.

4.1.6 The steam return and exhaust lines of heating coils that discharge to the environment, or which pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system, shall be inspected for any possible contamination every month or every thirty (30) days.

4.1.7 Records of compliance with all testing requirements shall be kept on file at the Facility for the life of the ~~Underground Piping~~ underground piping system and shall be made available to the Department upon request.

4.1.8 Any ~~Underground Piping~~ underground piping determined to be Leaking leaking or Releasing a Regulated Substance releasing a regulated substance shall be removed from service, by prohibiting the introduction of additional Regulated Substances regulated substances into the ~~Underground Piping~~ underground piping, within 24 hours and evacuated as soon as practicable. Faulty ~~Underground Piping~~ underground piping shall remain ~~out-of-service~~ out of service until repaired. Release reporting and corrective actions shall be accomplished in accordance with Part A, §8 and Part E of these Regulations.

8 DE Reg. 1167 (02/01/05)

5.0 Inspection, Monitoring and Testing Requirements for Cathodic Protection Systems for ASTs and Underground Piping

5.1 General Requirements for ASTs and Underground Piping Cathodic Protection Systems

5.1.1 All Cathodic Protection Systems shall be operated and maintained to provide continuous corrosion protection to the external soil side portion of the metal components of that portion of the AST and ~~Underground Piping~~ underground piping that contain a ~~Regulated Substance~~ regulated substance and are in contact with the soil.

5.1.2 A Cathodic Protection System shall be inspected and maintained to meet or exceed the requirements of the most recent edition of the following industry standards:

5.1.2.1 NACE Standard RP0193, *External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms*; and

5.1.2.2 API RP651, *Cathodic Protection of Aboveground Petroleum Storage Tanks*; and

5.1.2.3 NACE Standard RP0169, *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*, and

5.1.3 By June 11, 2005 [Existing] [existing] ASTs with a Cathodic Protection System shall have, ~~within one year of the effective date of these Regulations,~~ test stations or access points which enable the Owner and or Operator to test the adequacy of cathodic protection.

5.1.4 Owners and Operators of Existing ASTs with a Cathodic Protection System shall initiate the requirements in this Section on ~~the effective date of the Regulations~~ June 11, 2004.

5.2 Requirements for Impressed Current Cathodic Protection Systems

5.2.1 The source of protective current for an Impressed Current Cathodic Protection System shall be monitored in accordance with one of the Standards referenced in PART C, subsection §5.1.2, of this Part every sixty-three (63) but in no case shall the monitoring frequency be less than at least once every thirty-one (31) days, and the results recorded. If any inspection or monitoring indicates that the system is not functioning properly and the AST or ~~Underground Piping~~ underground piping are not being adequately protected in accordance with one of the Standards referenced in PART C, subsection §5.1.2 of this Part, the cause shall be determined and the necessary repairs shall be made within ~~ninety sixty~~ sixty (60) days or other schedule approved by the Department, in accordance with one of the Standards referenced in PART C, subsection §5.1.2 of this Part.

5.2.2 All Impressed Current Cathodic Protection Systems shall be inspected and tested every twelve (12) months as part of a preventative maintenance program to minimize in-service failure. The inspection and tests shall include a check for electrical shorts, ground connections, meter accuracy, and circuit resistance. The effectiveness of isolating devices, continuity bonds, and insulators shall be evaluated during this inspection.