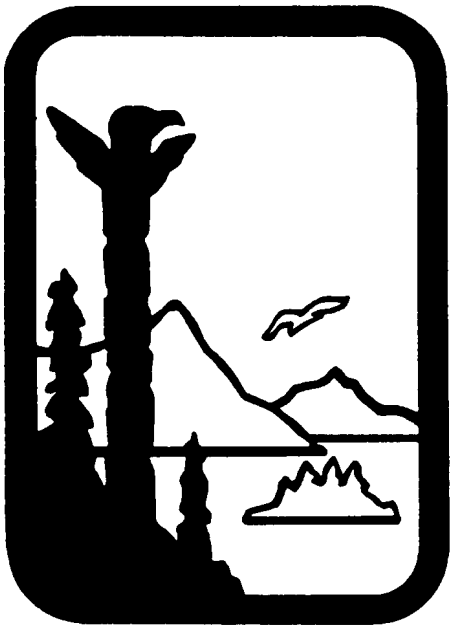
Department of Environmental Conservation
Division of Spill Prevention & Response



Contingency Plan Regulation Project, Phase 2
Oil Discharge Prevention Regulations
Discussion Summary & Draft Regulatory Language
September 28, 2005

Frank Murkowski
Governor

Kurt Fredriksson
Commissioner

Contingency Plan Regulations Project – Phase 2

Introduction

> *"The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people."*
> *Alaska Constitution, Article 9, Section 2*

The Alaska Department of Environmental Conservation (ADEC) has been engaged in a multi-year, multi-phase project to comprehensively review and update the oil discharge prevention and contingency plan (c-plan) regulations in 18 AAC 75. The current phase involves a review and update of regulations relating to oil spill prevention and prevention plans for all regulated operators. The oil spill prevention regulations are generally found within 18 AAC 75 Article 1 and the prevention plan requirements are located at 18 AAC 75.425(e)(2).

ADEC sent a letter to all oil discharge prevention and contingency plan holders in July 2004, asking five questions designed to stimulate discussion of potential revisions to the oil pollution prevention regulations. ADEC also held a workshop in Anchorage in November 2004 to elicit further comments on our oil spill prevention regulations.

The results from these activities, along with internal discussions within ADEC, were then used to formulate suggested draft revisions to our regulations, which were presented as a discussion paper for informal public comment on April 1, 2005. ADEC met informally with a number of groups regarding the paper and received written comments from the following groups:

- Alyeska Pipeline
- BP Exploration (Alaska) Inc.
- Caliber Inspection
- ConocoPhillips Alaska, Inc.
- Cook Inlet Keeper
- Cook Inlet Pipeline
- Cook Inlet RCAC
- Cornell and Associates
- Delta Western, Inc.
- Doyon Drilling
- North Slope Borough
- Offshore Systems, Inc.
- Prince William Sound RCAC
- SeaRiver Maritime, Inc.
- Tesoro
- Unocal Alaska
- U.S. Air Force
- VECO Alaska
- Yukon Fuels Company

ADEC greatly appreciates the significant level of effort put forward by the groups listed above, both in their written comments and during informal discussions with department staff. Their written comments, along with further discussions, both internally within ADEC and informally with various stakeholders, were used to improve the discussion paper's draft regulatory revisions. The results have been incorporated into the current document for additional discussion.

Because of the significant changes that were made as a result of the informal comment process, ADEC has opted to release a second informal discussion paper for additional comment before developing formal proposed regulations.

General Concepts / Guiding Principles

> *"The spill prevention requirements in Article 1 are intended to complement, rather than duplicate, the requirements of other State and federal agencies."*
>
> *1994 C-Plan Guidance*

In developing suggested revisions to our regulations, we followed several basic guidelines:

1. Make the regulations efficient and enhance clarity. As much as possible, the requirements should be logical and clear to the regulated community and should not conflict with other regulatory or statutory requirements. The terminology used in the regulations should be clear and consistent throughout the regulations.

2. The regulations should be designed to "fill in the gaps" where federal or other State agency requirements are either non-existent or inadequate. This follows the intent of the original regulations.

3. The regulations should complement other requirements and form a comprehensive, coherent regulatory regime. They should not duplicate or conflict with other agency requirements.

4. The regulations must be current. References to outdated standards should be removed or updated.

5. Implementation of any new or revised regulation must be realistic. Some of the regulatory changes we are considering involve operations and maintenance procedures that may be instituted by the regulated community upon effect of any regulatory action with minimal initial cost. Other changes would require an outlay of capital, necessitating some reasonable amount of lead time for facilities to come into compliance.

Discussion

> *"… the handling of oil in large quantities is a hazardous undertaking that poses a significant threat to the economy and environment of the state, which can be substantially reduced only by the taking of rigorous safety precautions involving considerable expense; conversely, persons handling oil in smaller amounts pose a correspondingly lower risk to the economy and environment of the state, and are capable of safe oil handling practices at correspondingly lower costs …"*
>
> *AS 46.03.758(a)(3)*

We received many substantive comments on the April 1 discussion paper, ranging from minor technical updates to inclusion of entire new sections. Those comments have been addressed in the revised draft attached to this document, with detailed discussion of the potential changes presented after each regulatory section.

Application of state leak detection regulations to refined product lines, crude oil gathering lines, and process flow lines

Several comments were received recommending that ADEC modify or increase its regulatory scope to apply leak detection standards to gathering lines, flow lines, subsea multi-phase pipelines, and refined product lines. One commenter also suggested development of separate regulations for exploration and production facility pipelines, and to include oil spill prevention requirements for

- Three-phase flow pipelines (oil, gas and water);
- Above ground pipelines;
- Subsea pipelines;
- Corrosion monitoring requirements, including a requirement to smart pig pipelines as BAT, wherever technically feasible;
- Specific repair and maintenance standards; and,
- Audit and inspection requirements on a specific frequency using a specific DOT or other federal reference standard, and specific inspector qualification standards.

ADEC conducted a careful review and analysis of these comments and the underlying assumptions, and agrees with the commenters that regulatory oversight of pipelines that are generally referred to as gathering and flow lines is warranted. Prototype regulations for gathering and flow lines are included in this draft as a proposed new section, 18 AAC 75.082.

In reaching this conclusion, ADEC used a "demonstrated need" criterion process. Demonstrated need in this case can be understood as consisting of:

- Historical spill data indicating a need for better oil discharge prevention measures regarding gathering and flow lines,
- Lack of other federal or state oversight of gathering and flow lines, and
- Documented requests for specific regulatory oversight of gathering and flow lines under the contention that the statutory responsibilities of the department under AS 46.03.010 et al. are not being met.

ADEC recorded spill data appears to indicate that roughly 400 spills between 1992 and 2005 on the North Slope involved gathering and flow lines, totaling roughly 500,000 gallons of oil or multi-phase mixtures discharged, and roughly 25 spills from gathering and flow lines in Cook Inlet during the same time period. Spills from unregulated gathering and flow lines appear to make up more than a third of the pipeline spills on the North Slope by number. The majority of the discharges directly attributable to gathering and flow lines are as a result of structural or mechanical failure.

Federal regulatory oversight of these lines, under the U. S. Department of Transportation, is codified in 49 CFR Part 195. The federal regulatory definition of "gathering lines" is

> "Gathering line means a pipeline 219.1 mm (8 5/8 in) or less nominal outside diameter that transports petroleum from a production facility."[1]

Specifically excluded from federal regulation are: gathering lines in rural areas, lines less than 1 mile long, and gathering lines located offshore.[2] Additionally, the Pipeline Safety Act of 1992 excludes gathering lines less than 6 inch diameter from regulation. It should be noted that most gathering and flow lines in Alaska range in size from 6 inch to 24 inch in diameter.

The federal government has recognized that gathering lines pose a potentially high risk to the environment[3], but federal regulatory oversight has been slow or nonexistent.[4] The oil industry has opposed federal regulation of gathering lines, arguing that gathering lines

- Generally operate in low population density areas and are less likely to have public safety consequences (deaths, injuries, fires, explosions, and evacuations);
- Spills from gathering lines are smaller than those from transmission pipelines (based upon the premise that gathering lines are 6 to 8 inch in diameter);
- Most gathering line spills are the result of internal or external corrosion;
- Most spills don't impact water; and
- Most spills have little environmental impact and can usually be promptly remediated in place.[5]

The U.S. Department of Energy is just beginning to survey the makeup of gathering lines nationwide and current state regulatory oversight mechanisms.[6] Federal regulation, if it happens, is likely many years away and will likely be directed towards tank battery systems and small diameter (6 to 8 inch) lines, which are the common arrangement for gathering lines in the lower 48, rather than the longer, larger-diameter gathering and flow lines common in Alaska.

The arrangement of gathering and flow lines in Alaska appears to be unique in the United States. There are some similarities between the Cook Inlet platforms and offshore platforms in the Gulf of Mexico and coastal California, but nowhere is the expansiveness of the North Slope facilities mirrored in the lower 48.

Most of the non-common carrier pipelines on the North Slope are not even considered as gathering lines by either the oil industry or the federal regulatory agencies. BPXA has stated that they "do not operate "gathering lines" as this term is defined in 49 CFR Part 192 and 195".[7] BPXA does operate 6 or 7 low stress (<20% SMYS) pipelines or segments on the North Slope. They are all larger than 8 5/8" outside diameter. Because they are larger in diameter than the federal regulatory definition of gathering lines and are operated at less than 20% SMYS, BPXA apparently asserts that the exemption clause in 49 CFR 195.1(b)(3) applies to these lines.

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[1] 49 CFR 195.2
[2] 49 CFR 195.1(b)
[3] Pipeline Safety Act of 1992 (P.L. 102-508, Oct. 24, 1992), Section 208(b)
[4] See, for example, GAO reports GAO/RCED-00-128 of May 2000 and GAO-02-785 of August 2002
[5] Taken from a letter from Benjamin Cooper, Association of Oil Pipe Lines, to Stacey Gerard, USDOT, dated January 17, 2004
[6] Telephone conversation with Elizabeth Hocking, Argonne National Laboratory, August 3, 2005
[7] Letter from Garry Meek, BP, to Stacey Gerard, USDOT, dated January 16, 2004, in reference to Docket No. RSPA-03-15864

In 2003 the USDOT/RSPA Office of Pipeline Safety Gathering Line Team visited the North Slope and met with BPXA and ConocoPhillips to discuss the unique characteristics of North Slope oil production. Their findings were that the North Slope had

- 3,000 pipelines known as "well lines" that ranged from 2 to 8 inches in diameter;
- 500 pipelines known as "flow lines" that ranged from 6 to 60 inches in diameter[8]; and
- 12 pipelines known as "transportation lines" that ranged from 2 to 24 inches in diameter[9].

They also noted that most pipelines were also referred to as "production pipelines" and were not considered by the operators to be under the jurisdiction of USDOT.[10]

It should also be noted that the current trend for new offshore production is to send multi-phase oil product via gathering and flow lines from offshore facilities to an onshore processing unit. Examples include the currently proposed Oooguruk Development (Pioneer), the Nikaitchuq (Kerr-McGee), and the Liberty projects on the North Slope, and the Osprey platform in Cook Inlet. Large diameter "flow lines" from these projects are, or would be, exempt from federal and current state oil discharge prevention regulations.

ADEC has received numerous comments from many public organizations over the course of several years requesting that the department specifically address the regulation of gathering and flow lines, most recently by Cook Inlet RCAC[11], North Slope Borough[12], and Prince William Sound RCAC[13].

Recent informal discussions and comments by the oil industry indicate that they also have identified gathering and flow lines as a clear and present hazard to the environment. [14]

During recent meetings with the Alaska Oil & Gas Conservation Commission (AOGCC)[15] and other state agencies on the issue of gathering lines, AOGCC indicated that they were concerned about the lack of regulatory oversight of gathering and flow lines, particularly in light of the aging infrastructure, and that they had also received requests from other groups (borough governments) for regulations pertaining to gathering and flow lines. AOGCC and the Alaska Department of Natural Resources (ADNR) both support ADEC's proposed regulation of gathering and flow lines.

We encourage and anticipate significant discussion on this issue.

[8] These flow lines are most likely the multi-phase pipelines that form the corpus of gathering line spill sources.
[9] The 2" line is likely a natural gas liquids (NGL) line. Most of the others are regulated by ADEC as crude oil transmission pipelines. At least seven of these lines are not regulated by USDOT because they are operated as "low stress" pipelines.
[10] USDOT/RSPA memo from Frederick Joyner dated August 14, 2003
[11] Letter of June 15, 2005, requesting regulation of subsea gathering lines
[12] Letter of June 20, 2005, incorporating previous comments made in 2003 and 2004 regarding gathering and flow lines
[13] Letter of June 30, 2005, requesting improved regulation of gathering lines, process flow lines, and refined product pipelines
[14] BPXA letter of June 30, 2005
[15] Meeting with representatives of AOGCC, RCA, ADNR, ADEC, and JPO, August 01, 2005 in Anchorage, AK, follow-on meeting held August 30, 2005

Adoption into Regulation of Standards and Recommended Practices by Reference

ADEC notes that we are considering several design, construction, and inspection standards for incorporation into the pollution prevention regulations. We do not intend to enter into facility design and construction plan review in order to ensure compliance with 18 AAC 75, Article 1, however. Our purpose in considering these nationally recognized standards is to define a baseline minimum performance standard which will effectively reduce or mitigate the threat of an unintended oil discharge in accordance with our statutory authority and responsibility. We would use these standards as reference materials during our normal, routine facility inspection program, but would not act as reviewers for facility design and construction.

Several commenters questioned the adoption of industry standards into regulation with exceptions. Where we have proposed excepting certain provisions of a standard, such as the risk-based inspection process in API Standard 653, we have done so after determining that the excepted provisions are inadequate or inappropriate to meet our statutory requirements. Where we have specifically called out provisions of a standard, such as the initial system testing of API 1130, we do so to specifically call out that item as a requirement, regardless of the wording of the standard or recommended practice.

Several commenters also questioned the adoption of recommended practices as regulation. ADEC agrees with the approach taken by the U.S. Dept. of Transportation Office of Pipeline Safety[16]:

> "… we proposed the following levels of compliance for the different types of API and NFPA documents that would be incorporated by reference:
>
> · **Standard, Specification or Code**-An operator would be expected to comply with the provisions.
>
> · **Recommended Practice-**An operator would be expected to follow the provisions unless the operator notes in the procedural manual the reasons why compliance with all or certain provisions is not necessary for the safety of a particular breakout tank or tanks.
>
> · **Publication**-These provisions provide guidelines, safety practices and precautions for the operator's review and consideration for inclusion in the procedural manual.
>
> By this proposal we meant that operators would have to meet the referenced parts of standards, specifications, and codes according to the terms of those parts. Although operators could decide not to abide by referenced parts of recommended practices or publications, we did not intend for them to have this same discretion regarding compliance with referenced parts of standards, specifications, or codes. Therefore, in the final rules, none of the references to parts of standards, specifications, or codes may be interpreted to include a statement in the document's foreword or elsewhere outside the referenced part that would absolve the operator of its responsibility to comply with the referenced part. For example, the statement in section 1-1.3 of NFPA 30 that the code does not apply to "[t]ransportation of flammable and combustible liquids, as governed by the U. S. Department of Transportation" does not nullify the references to particular sections of NFPA 30 in final Sec. 195.264.

[16] 64 FR 15926, April 2, 1999

> Nonetheless, if the referenced part of a standard, specification, or code allows or calls for the use of engineering judgment, in determining compliance with the referenced part, we will not object to the use of judgment. We will, however, compare the judgment used against what is reasonable under the circumstances. If an operator wishes to achieve a particular objective in a way that differs from the referenced part of a standard, specification, or code or falls outside the range of allowable judgment, it can request permission to do so by applying to us or the appropriate state agency, as applicable, for a waiver of the referenced part (see 49 U.S.C. 60118)."

ADEC encourages the regulated community to review the standards called out in this document as they apply to their facilities, and to propose other appropriate design, construction, installation, inspection, or operation standards that should be considered by ADEC for incorporation into future regulation.

CPR Phase 2 – Suggested Regulatory Changes to 18 AAC 75 Articles 1, 4 & 9

Reading and understanding state regulations can be confusing for people who are not familiar with how state regulations are laid out. To assist you in understanding our draft, please note that state regulations are laid out in the following manner:

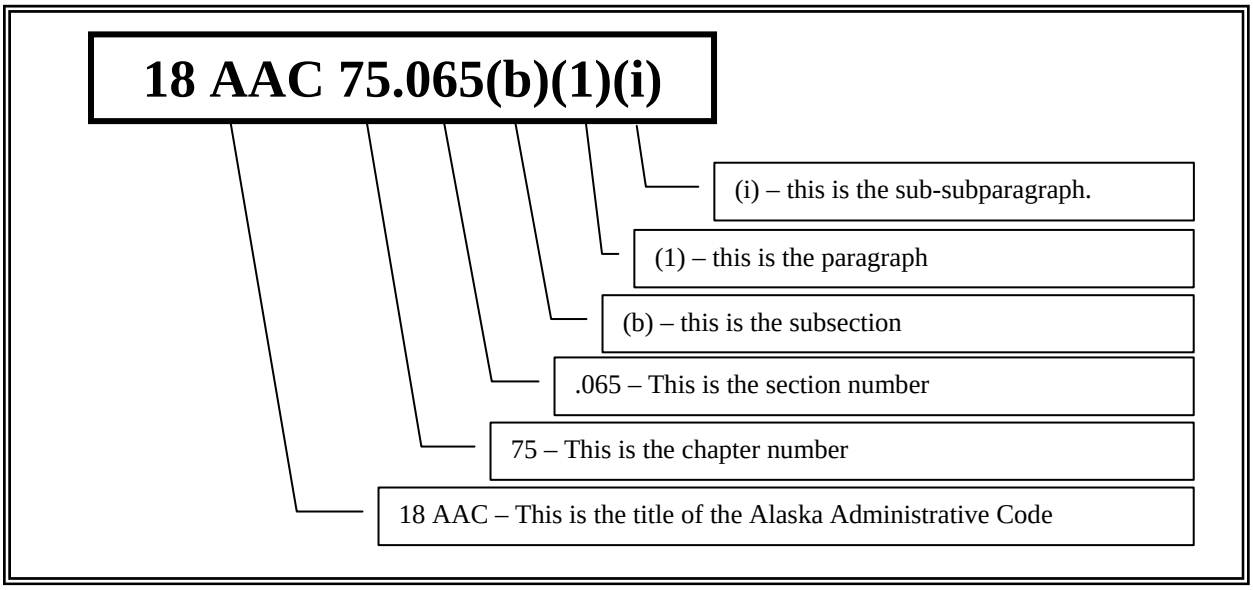

Figure 1 Alaska Regulatory Numbering System

In the following text, the proposed draft changes generally follow the formatting requirements of the "Drafting Manual for Administrative Regulations", 15th Edition, June 2002, and its Supplement dated September 2004, as promulgated by the State of Alaska Department of Law. The draft changes are indicated as follows:

Underlined text indicates lead-in text or prefatory notes that explain the changes to the following text.

[CAPITALIZED TEXT] indicates current regulatory text proposed for deletion.

Bold, underlined text indicates proposed changes to the regulations.

[…] indicates unchanged chunks of regulatory text.

The rationale and a discussion of draft proposed changes are found at the end of each regulatory section. Explanatory footnotes are also included to provide additional information regarding regulatory intent. The footnotes themselves are not part of the draft proposed changes to the regulations.

For comparison purposes, a complete copy of the current 18 AAC 75 regulations can be found online at http://www.state.ak.us/dec/regulations/index.htm.

18 AAC 75, Article 1 - Oil Pollution Prevention Requirements

18 AAC 75.007. General oil pollution prevention requirements

18 AAC 75.007(a) is amended to read:

(a) Except where application of the requirements of **18 AAC 75.005 – 18 AAC 75.085** [18 AAC 75.005 - 18 AAC 75.090] would be preempted by federal law, those requirements apply to each facility or operation for which an approved oil discharge prevention and contingency plan is required under AS 46.04.030 **or AS 46.04.055(j)**.

(b) A vessel, barge, pipeline, railroad tank car, or other facility subject to the applicable requirements of this chapter must be equipped and operated in accordance with this chapter and other state and federal law applicable to the prevention of an oil discharge. A railroad must be operated in compliance with applicable federal railroad safety regulations.

18 AAC 75.007(c) is amended to read:

(c) If a requirement of **18 AAC 75.005 – 18 AAC 75.085** [18 AAC 75.005 - 18 AAC 75.090] and a corresponding requirement of federal law differ and application of the requirement of **18 AAC 75.005 – 18 AAC 75.085** [18 AAC 75.005 - 18 AAC 75.090] would not be preempted by federal law, the more stringent requirement applies.

18 AAC 75.007(d) is repealed, with the repealed text incorporated into a proposed new section, 18 AAC 75.020:

(d) **Repealed**[17] **[**THE OWNER OR OPERATOR SHALL ENSURE THAT ALL PERSONNEL ARE APPROPRIATELY AND REGULARLY TRAINED REGARDING COMPANY AND STATE POLLUTION PREVENTION MEASURES THAT ARE APPLICABLE TO EACH PERSON'S DUTIES. AFTER COMPLETING A TRAINING COURSE OR PROGRAM, EACH PARTICIPANT SHALL SIGN AND DATE A STATEMENT THAT LISTS THE COURSE CONTENT].

18 AAC 75.007(e) is amended to read:

(e) The owner or operator shall **have in place**[18] [INSTITUTE] programs designed to ensure that each drill operator, each person who has navigational, towline, security, or maintenance duties, and any other person **directly**[19] responsible for an activity that might result in a violation of this chapter is free of substance-abuse or medical **condition**[20] [PROBLEM] that would impair that person's ability to do that person's job. **The requirements of this section may be met**

(1) for a railroad, by a program in accordance with 49 CFR Part 219;

[17] Text relocated to new section, 18 AAC 75.020.
[18] Wording changed for clarity.
[19] Wording change to clarify zone of responsibility
[20] Changed to match federal terminology and practice

(2) for a pipeline, by a program in accordance with 49 CFR Part 199; or

(3) for a vessel, by a program in accordance with 46 CFR Part 16[21].

[FOR A RAILROAD, THE REQUIREMENTS OF THIS SUBSECTION ARE SATISFIED BY THE IMPLEMENTATION OF PROGRAMS THAT MEET THE REQUIREMENTS OF THE FEDERAL RAILROAD ADMINISTRATION FOR THE CONTROL OF ALCOHOL AND DRUG USE AND FOR MEDICAL MONITORING OF THE QUALIFICATIONS OF EMPLOYEES.]

(f) The owner or operator shall provide security measures and surveillance appropriate to each component of the operation to minimize the risk of vandalism, sabotage, and unauthorized entry.

18 AAC 75.007(g) and (h) are repealed, with the text being relocated to a new section, 18 AAC 75.020:

(g) **Repealed[22] [**THE OWNER OR OPERATOR SHALL MAINTAIN FOR THE LIFE OF THE FACILITY OR OPERATION, A HISTORY SPILLS OVER 55 GALLONS, INCLUDING THE SOURCE, CAUSE, AMOUNT, AND CORRECTIVE ACTION TAKEN].

(h) **Repealed[23]** [THE OWNER OR OPERATOR SHALL PREPARE AND MAINTAIN RECORDS TO DOCUMENT TRAINING, INSPECTIONS, TESTS, MAINTENANCE, AND REPAIRS REQUIRED BY 18 AAC 75.005 - 18 AAC 75.090. UNLESS SPECIFIED OTHERWISE, RECORDS MUST BE KEPT FOR AT LEAST THREE YEARS AND MUST BE AVAILABLE FOR INSPECTION AND COPYING BY THE DEPARTMENT UPON REQUEST].

Rationale & Discussion

18 AAC 75.007(a) and (c)

Paragraph (a) includes two technical changes. One change is due to the proposed repeal of 18 AAC 75.090. The other change adds the correct statutory reference to indicate that railroad tank car operators are required to meet the oil discharge prevention and contingency plan requirements of Article 4 and the oil discharge prevention regulations of Article 1.

Paragraph (c) includes a similar technical change.

18 AAC 75.007(d)

Paragraph (d) is proposed to be repealed, with the text relocated to a new section, 18 AAC 75.020.

[21] The additional text clarifies that appropriate federal regulations will be deemed acceptable in lieu of a program developed specifically to meet 18 AAC 75.007(e).
[22] Topic moved to a new section, 18 AAC 75.020
[23] Ditto.

18 AAC 75.007(e)

When the current regulations were adopted in 1992, federal drug and alcohol abuse programs were less widespread or complete than they are in 2005. A more comprehensive listing of equivalent federal drug and alcohol abuse program regulations is included, along with some editorial revisions for clarity and consistency with federal regulatory language.

18 AAC 75.007(f)

One commenter suggested adding "acts of terrorism" to the security and surveillance risks listed in 18 AAC 75.007(f). In keeping with the premise that the Article 1 regulations are meant to fill in identified gaps in federal and state requirements, we did not add the suggested text. Anti-terrorism requirements enforced by the Office of Homeland Security are quite broad reaching and detailed and that further measures on our part would be redundant and potentially confusing to operators. Further identification of security risks could compromise facility security and potentially result in violations of the federal Homeland Security Act.

18 AAC 75.007(g) & (h))

Paragraphs (g) and (h) are proposed for repeal, with the text relocated to a new section, 18 AAC 75.020.

18 AAC 75.015. Waiver

18 AAC 75.015(a) is amended to read:

(a) The department may waive a requirements of 18 AAC 75.005 – 75.090 if the owner or operator demonstrates to the department's satisfaction that an equivalent level of protection will be achieved by using a technology or procedure other than the technology or procedure required by **18 AAC 75.005 – 18 AAC 75.085** [18 AAC 75.005 - 18 AAC 75.090][24].

Rationale & Discussion

The department is proposing a technical change to ensure consistency with the proposal to repeal 18 AAC 75.090.

A new section, 18 AAC 75.020, is created to read:

18 AAC 75.020. Oil discharge prevention training & recordkeeping

(a) The owner or operator shall have in place personnel training programs designed to ensure that all personnel with job duties involving inspection, maintenance, or operation of oil storage and transfer equipment[25] regulated under 18 AAC 75.005 - 18 AAC 75.085 are

[24] Technical correction

[25] "Oil storage and transfer equipment" will be construed in its most inclusive form, to include tanks, secondary containment, piping, hoses, pumps, valves, leak detection systems, and any and all appurtenances to such equipment.

appropriately and regularly[26] trained regarding company and state oil pollution prevention measures that are applicable to each person's duties.

(b) Personnel training programs shall include the following:

(1) a listing of each position with job duties listed under (a) and the training and level of knowledge appropriate to that position;

(2) a listing of any licenses, certifications, or other prerequisites needed to hold each position listed in (1)[27]; and

(3) a listing of training objectives[28] and the means of achieving them, including training subjects, training schedules, frequency, and type.

(c) Completion of training required by this subsection shall be verified by

(1) a statement, signed and dated by each participant, listing the course or program content;

(2) shipboard records verified by the vessel master; or

(3) computerized records verified by the owner or operator.

(d) The owner or operator shall maintain for the life of the facility or operation, a history of all known oil discharges over 55 gallons, including the source, cause, amount, and corrective action taken. Copies of records shall be provided to the department upon request.

(e) The owner or operator shall prepare and maintain records in permanent form[29] to document training, inspections, tests, maintenance, and repairs required by 18 AAC 75.005 - 18 AAC 75.085. Unless specified otherwise, records must be kept for at least five years and copies shall be provided to the department upon request.

[26] "Appropriately and regularly" is best determined by specific job duty criteria, but minimum frequency will generally be considered as annual unless specific factors indicate a shorter time interval.

[27] "Licenses, certifications, or other prerequisites" would include, by way of examples, USCG licensing, OSHA mandated training, drug and alcohol testing requirements, commercial driver licenses, respirator fit-test certifications, etc.

[28] Training objectives are specifically spelled out by federal regulations (USCG, EPA, USDOT) for many regulated operations. The working assumption will be that federal training objectives will be sufficient to meet the intent of this requirement.

[29] "permanent form" would include paper files, DVD-ROM, CD-ROM, archival computer backup tapes, or other form of archival, non-volatile computer data storage format, not including floppy disks. Stating that "the computer ate the data" is not a valid response to requests for records.

Rationale & Discussion

General Comments

During Phase 1 of this project one commenter requested that oil spill prevention training requirements be strengthened, including more stringent recordkeeping requirements, operator certification standards, and 3rd party verification of training.

We agree that training is an important component of a spill prevention program, noting that human factors were the major cause of 26% of all reported spills between 1995 and 2002[30]. As a result, ADEC is considering creation of a new section, 18 AAC 75.020, specifically covering oil discharge prevention training and recordkeeping. The new section would attempt to clarify the training required and sets recordkeeping requirements. Additionally, the proposed draft language of 18 AAC 75.425(e)(2) explicitly lists prevention training programs as part of the prevention plan portion of the c-plan.

18 AAC 75.020(a)

We are proposing to essentially keep the current wording of 18 AAC 75.007(d), transferring it to the new section as paragraphs (a) and (c). The department intends to continue the current practice of accepting training rosters, personnel training records, and training class outlines as meeting the requirement for a signed and dated statement listing the course or program content. We are proposing 18 AAC 75.020(c) to indicate how the department would verify compliance with this paragraph.

The department's intention is that these are minimum standards for training, and that operators are free to develop training programs that exceed the minimum. In some cases, training required by federal regulation may meet state requirements. For example, onshore facilities required to train personnel in accordance with 40 CFR 112.7(f) would likely meet the requirements of this section.

Several operators questioned the terminology in previous drafts regarding who was to be trained and to what level. We have attempted to clarify who would be required to be trained by revising the requirement to be task-based. The department believes that the level of training would vary greatly among the regulated operators and is most effectively determined by the operator on an individual basis.

18 AAC 75.020(b)

ADEC is proposing this paragraph as minimum training program standards. We note that there are many different types of operations of widely varying size regulated by this section and that accurately specifying a training program that would be appropriate for all regulated operators is an exercise in futility. The regulated operators themselves are in the best position to design an effective and efficient training program to meet their specific conditions. Other federal and state regulations also address training, and portions of the programs required by 33 CFR Part 154 or 49 CFR Part 195 may be applicable to this proposed requirement.

[30] "Statewide Summary of Oil & Hazardous Substance Spill Data", November 2003, ADEC.

18 AAC 75.020(c)

The department is including a general provision that documentation of compliance with the provisions of Article 1 is available to the department as a means of verifying compliance.

One regulated operator noted that shipboard training accomplished through drills and is documented by ship's logs. We are proposing the inclusion of shipboard records as a means of verifying compliance.

Several regulated operators use computerized databases to track training. We are proposing inclusion of computerized records as a potential means of verifying compliance, although noting that the proposed paragraph 18 AAC 75.020(e) requires that the computer records be in a permanent form, such as CD-ROM or archival computer backup tape.

18 AAC 75.020(d)

The department notes that the current requirement of 18 AAC 75.007(g), carried over to the potential new regulation 18 AAC 75.020(d), requires a history of all spills in Alaska over 55 gallons, not all spills nation- or worldwide. We are including a provision that copies of spill reports are available to the department as a means of verifying compliance with this requirement.

Three operators felt that the language change (from "available for inspection and copying by the department upon request" to "provided to the department upon request") unreasonably placed a paperwork burden upon the operator. The department disagrees.

18 AAC 75.020(e)

The department is including a general provision that records documenting compliance with the provisions of Article 1 be maintained in a permanent form for a default period of five years, corresponding to the c-plan approval period, unless specified otherwise.

18 AAC 75.025. Transfer requirements

(a) The owner or operator of an oil terminal facility, railroad, oil tank vessel, or oil barge shall take all appropriate measures to prevent spills or overfilling during a transfer of oil, including reduced loading rates at the beginning and end of a transfer.

18 AAC 75.025(b) is amended to read:

(b) Unless it is technically unfeasible **or unsafe** to do so, an oil containment boom appropriate for local conditions must be deployed in an effective manner around an oil tank vessel or barge during the transfer of

(1) crude oil,

(2) persistent products, and

(3) oily ballast water.

[CRUDE OIL AND OTHER PERSISTENT PRODUCTS.]

(c) Except for crude oil washing, tank cleaning operations may not be conducted during cargo offloading.

(d) The owner or operator shall ensure that each person involved in a transfer is capable of clearly communicating orders to stop a transfer at any time during the transfer.

(e) A positive means must be provided to stop a transfer in the shortest possible time consistent with the best commercially available technology.

(f) Before beginning a transfer to or from an area not protected by secondary containment, the owner or operator shall ensure that all valves in the transfer system have been checked to ensure that they are in the correct position, and that all manifolds not in use are blank flanged or capped. Where feasible, the owner or operator shall also inspect for damage or defects all piping and hoses used in the transfer before and at least once during each transfer.

18 AAC 75.025(g) is amended to read:

(g) The lowermost drain and all outlets of any tank car or tank truck must be **visually**[31] examined for leakage before filling and before departure. All tank car or tank truck manifolds must be blank flanged or capped, and valves must be secured before leaving the transfer area.

18 AAC 75.025(h) is added to read:

(h) For purposes of this section, "transfer" means any movement of oil within an oil terminal facility or between an oil terminal facility and a railroad tank car, tank truck, oil tank vessel, or oil barge by means of pumping, gravity, or displacement.

[31] Clarification of the type of examination required

Rationale & Discussion

18 AAC 75.025(b)

Several regulated operators noted that "technically unfeasible" is not defined, and could be subjectively applied. Some also noted that conditions could be safe to conduct an oil transfer, but not safe to deploy boom. ADEC is suggesting additional wording to clarify the intent.

The previous discussion draft included a proposed requirement for preventative booming around combustible petroleum products, such as diesel or Jet-A. Based upon comments from several regulated operators, we have withdrawn that proposed requirement. ADEC agrees that the additional cost, wear and tear on equipment, and time required provides little net benefit compared to the current requirements.

18 AAC 75.025(g)

ADEC is proposing a technical change to clarify that visual inspection of drains and outlets is required.

18 AAC 75.025(h)

ADEC is proposing a section-specific definition of "transfer" to clarify that internal fuel transfers onboard vessels are not regulated by this section.

18 AAC 75.027. Requirements for laden oil tank vessels

18 AAC 75.027(a) is amended to read:

(a) In addition to the applicable requirements of 18 AAC 75.007 - 18 AAC 75.025, a laden oil tank vessel must carry or have ready access to sufficient oil transfer equipment to facilitate lightering to and from other vessels. **The oil transfer equipment[32] must be sufficient to lighter the volume of the largest cargo tank within 24 hours.[33]**

(b) The owner or operator shall ensure that each laden tank vessel has on board a person who is designated as an oil spill prevention and response officer and is responsible for training and drilling the crew on state and federal oil pollution prevention and response requirements.

(c) If the master is not fluent in English, a person fluent in English and in the master's language must be immediately available to the bridge of any laden tank vessel when underway in state waters.

18 AAC 75.027(d) is amended to read:

(d) The owner or operator shall ensure that measures are in place that allow the prompt detection of an oil discharge including measures such as visual lookouts, the sounding of all cargo tanks to check cargo and water levels in the tanks after an intentional or unintentional grounding**, collision, or allision[34]**, and, where technically feasible, electronic leak detection systems.

(e) A tank vessel under escort by another vessel must, at all times, be operated in a manner that permits the escort vessel to be available immediately to provide the intended assistance to the tank vessel.

(f) While in state waters, towing line must be made up and prepared for rapid deployment to a towing vessel. The tow line must be fitted to allow tow vessels commonly available in the area of operation to take the vessel in tow rapidly. For a vessel operating at the oil loading terminal at Valdez, the Prince William Sound towing package may be used instead of having lines made up, if the package permits rapid deployment to a towing vessel.

Rationale & Discussion

Adoption of International Safety Management (ISM) System for Vessels

One commenter suggested the incorporation of the ISM code (33 CFR 96) for shipping into state regulations. We considered this an unnecessary duplicative of federal regulations and therefore not in keeping with the intent of Article 1 as described in the beginning of this document.

[32] "oil transfer equipment" is intended to include pumps, hoses, connectors, fenders, line, and all ancillary equipment required to perform the transfer

[33] This is intended to be a performance standard to determine what is "sufficient oil transfer equipment"

[34] "allision" is defined in Article 9

Along similar lines, one commenter suggested requiring submission of ISM documentation, including ABS audits, as part of the C-Plan application and approval process. ADEC does not believe that requesting U.S. Coast Guard approved certifications as part of the public review of a contingency plan provides a net benefit to the process. The ISM certificates are available onboard the vessels for our inspectors to view during inspections.

Tanker Escorts

Several comments requested that the current Prince William Sound (PWS) crude oil tanker escort system, in its entirety, be adopted into regulation. One other comment[35] suggested a reduction in escort requirements for double-hulled tankers equipped with fully redundant systems.

ADEC notes that the PWS tanker escort system was originally put in place is response to U.S. Coast Guard regulations, and that the current PWS crude oil tanker escort system is required as a condition of approval for current state-required tanker c-plans for the Prince William Sound operating area, and that these c-plans are due for renewal in November 2007.

ADEC has discussed the status of the PWS crude oil tanker escort system with the U.S. Coast Guard. It is anticipated that the department and the Coast Guard will cooperate in development of any new PWS crude oil tanker escort regulations. In the event that the federal government does not proceed with this rulemaking, the state, at this time, intends to resume a careful and thorough regulatory process to develop and institute state PWS tanker escort regulations. This regulatory process would include, but not be limited to, a consideration of predicted tanker fleet characteristics, changes in escort vessel capabilities, an updated PWS crude oil risk assessment, and other relevant factors. That said, an acceptable and probably more desirable alternative would be for the state to collaborate, in a non-regulatory process, with the Coast Guard, the PWS crude oil tanker operators, and the PWS RCAC to determine the appropriate PWS tanker escort system. The escort system developed through this process could then be submitted by the tanker operators as part of their 2007 c-plan renewal application.

Two comments requested state regulations requiring tanker escorts in Cook Inlet. The department notes that significant study and discussion of this subject has occurred since the early 1990's, including the October 2000 U.S. Coast Guard - sponsored Cook Inlet Ports and Waterways Safety Assessment, with the general conclusion that tanker escorts in Cook Inlet were not warranted. However, ADEC understands that the USCG is considering a new Cook Inlet risk assessment, based upon updated data. Therefore, the department will defer judgment until this process is completed.

18 AAC 75.027(a)

ADEC proposed the addition of a performance standard to clarify compliance with this sub-section in the previous discussion draft, but the intent was unclear to several commenters. ADEC has revised the wording in an attempt to clarify our intent.

Additionally, the previous draft indicated a 12 hour performance target. Based upon comments from the regulated operators and a review of federal regulations, the proposed standard is now based on 24 hours.

[35] CAPT Colby's informal proposal of June 2004.

18 AAC 75.027(d)

ADEC is proposing a technical change to clarify that the activities listed apply to collision and allision as well as grounding.

18 AAC 75.037. Requirements for laden oil barges

18 AAC 75.037(a) is amended to read:

(a) In addition to the applicable requirements of 18 AAC 75.007 - 18 AAC 75.025, a laden oil barge must carry or have ready access to sufficient oil transfer equipment to facilitate lightering to and from other vessels. **The oil transfer equipment must be sufficient to lighter the volume of the largest cargo tank within 24 hours.**[36]

(b) The owner or operator of a laden oil barge shall ensure that each barge or vessel towing a barge has on board a person who is designated as an oil spill prevention and response officer and is responsible for training and drilling the crew on state and federal oil pollution prevention and response requirements.

(c) If the master is not fluent in English, a person fluent in English and in the master's language must be immediately available to any vessel towing an oil laden barge.

18 AAC 75.037(d) is amended to read:

(d) The owner or operator shall ensure that measures are in place that allow the prompt detection of an oil discharge, including visual inspections of the barge and the area around the barge, and the sounding of all cargo tanks to check cargo and water levels in the tanks after an intentional or unintentional grounding**, collision, or allision**[37].

(e) The owner or operator shall inspect towing equipment every two months and shall record the results of each inspection and any actions taken to resolve problems discovered during an inspection.

(f) The owner or operator shall provide an adequate means of recovering a barge that breaks free of its towing vessel. The recovery means must be capable of being used by other vessels if the towing vessel is lost or incapacitated.

Rationale & Discussion

18 AAC 75.037(a)

ADEC proposed the addition of a performance standard to clarify compliance with this sub-section in the previous discussion draft, but the intent was unclear to several commenters. ADEC has revised the wording in an attempt to clarify our intent.

18 AAC 75.037(d)

ADEC is proposing a technical change to clarify that the activities listed apply to collision and allision as well as grounding.

[36] This is intended to be a performance standard to determine what is "sufficient oil transfer equipment"
[37] "allision" is defined in Article 9

18 AAC 75.045. Operating requirements for exploration and production facilities

(a) In addition to the applicable requirements of 18 AAC 75.007 - 18 AAC 75.025, the owner or operator of an exploration or production facility shall collect and store oil produced during a formation flow test or other drilling operation in a manner that prevents the oil from entering the land or waters of the state.

18 AAC 75.045(b) is amended to read:

(b) In state waters, a **marine structure used for drilling**[38] [PREFABRICATED OFFSHORE PLATFORM THAT IS TOWED INTO PLACE AND BEGINS OPERATIONS AFTER THE EFFECTIVE DATE OF THIS SECTION] must be inspected for fatigue and structural integrity as required by 30 C.F.R. 250, Subpart I, as amended through **July 1, 2001**[July 1, 1991], the provisions of which are adopted by reference. The inspection must be conducted after [PLATFORM] installation **of the structure** and before drilling or production operations begin. The owner or operator shall submit to [THE SUPERVISOR OF THE APPROPRIATE REGIONAL OFFICE OF] the department a report of the inspection results and any corrective actions taken.

18 AAC 75.045(c) is amended to read:

(c) Closure valves for pipelines leaving **marine structures** [THE PLATFORM] must be located at a protected location that isolates the pipeline from the **structure** [PLATFORM] if a discharge or other emergency occurs and must function both manually and remotely as part of an emergency shutdown system.

18 AAC 75.045(d) is amended to read:

(d) The owner or operator of an exploration or production facility shall provide, at a minimum,

> **(1)** containment and collection devices such as drip pans and curbs for offshore [DRILLING] **exploration and production wells**[39] and
>
> **(2) sufficiently impermeable**[40] wellhead sumps for [ONSHORE DRILLING] **exploration and production wells located onshore or on artificial islands or ice islands drilled and completed after July 1, 2007.**

18 AAC 75.045(e) is amended to read:

(e) **A marine structure, other than an artificial island, used for oil** [AN OFFSHORE] production [PLATFORM, INCLUDING A MOBILE OFFSHORE DRILLING UNIT,] must have a sufficiently impermeable deck with catch tanks or other devices adequate to contain, collect, and divert spilled oil. The catch tank must have adequate storage capacity to contain

[38] "marine structure" is defined in Article 9
[39] terminology change for consistency
[40] "sufficiently impermeable" is defined in Article 9

anticipated and accidental discharges of oil and high-liquid-level alarms that will immediately notify the operator if a high liquid level develops.

(f) Oil storage tanks, including bulk fuel tanks, must meet the applicable requirements of 18 AAC 75.065**, 18 AAC 75.066**[41]**,** and 18 AAC 75.075.

(g) Piping associated with an exploration or production facility must meet the applicable requirements of 18 AAC 75.080.

Rationale & Discussion

General Comments

During Phase 1 of this project one commenter requested that 18 AAC 75.045 be revised to adequately address North Slope drilling operations, particularly offshore ice and gravel islands and temporary bottom-founded drill structures.

Some commenters stated that the current regulations for offshore exploration and production facilities (18 AAC 75.045) were originally developed for Cook Inlet and do not adequately address offshore facilities on the North Slope. We have attempted to modify and update this section to properly include North Slope offshore operations.

ADEC has attempted to revise 18 AAC 75.045 to more accurately include all types of oil well drilling operations throughout the state. By rewording the language to include "marine structure used for drilling" and defining "marine structure", the inspection provisions of 30 CFR 250, Subpart I, incorporated by reference, would now include the facilities referred to by the commenter.

18 AAC 75.045(b) & (c)

ADEC is proposing a change in terminology to more accurately reflect the types of offshore oil exploration and production facilities in service in the state. A definition of "marine structure" is proposed later in this document in Article 9.

18 AAC 75.045(d)

ADEC is proposing adding a new requirement that wellhead sumps be sufficiently impermeable, as defined in 18 AAC 75.990(124). To retrofit the existing wellhead sumps is impractical, but to design future wellhead sumps to meet the impermeability standard is well within the capability of today's technology. One regulated operator commented that the sufficiently impermeable standard should not apply to artificial islands such as the Northstar Project. The department disagrees.

Several regulated operators noted that the original wording could be read as requiring sufficiently impermeable sumps after workovers. This was not our intent, and the new draft has revised wording.

[41] Technical change to include proposed new section on shop-fabricated aboveground tanks.

18 AAC 75.045(e)

ADEC is proposing a change in terminology to more accurately describe the regulated operation, and to clarify that this subsection does not apply to artificial islands.

18 AAC 75.045(f)

ADEC is proposing adding a reference to a new section, 18 AAC 75.066, to cover shop-fabricated tanks.

18 AAC 75.055. Leak detection, monitoring, and operating requirements for crude oil transmission pipelines

(a) A crude oil transmission pipeline must be equipped with a leak detection system capable of promptly detecting a leak, including

(1) if technically feasible, the continuous capability to detect a daily discharge equal to not more than one percent of daily throughput;

(2) flow verification through an accounting method, at least once every 24 hours; and

(3) for a remote pipeline not otherwise directly accessible, weekly aerial surveillance, unless precluded by safety or weather conditions.

(b) The owner or operator of a crude oil transmission pipeline shall ensure that the incoming flow of oil can be completely stopped within one hour after detection of a discharge.

18 AAC 75.055(c) is amended, to read:

(c) If oil storage tanks are present at the crude oil transmission pipeline facility, the owner or operator shall meet the requirements of 18 AAC 75.065**, 18 AAC 75.066,**[42] and 18 AAC 75.075.

(d) For piping connected to or associated with the main crude oil transmission pipeline the owner or operator shall meet the requirements of 18 AAC 75.080.

18 AAC 75.055(e), (f), and (g) are proposed, to read:

(e) The owner or operator of a crude oil transmission pipeline employing a computational pipeline monitoring (CPM) system for leak detection shall install, test, inspect and maintain the CPM system in accordance with recommended practices and schedules in API Publication 1130, Second Edition, November 2002, Computational Pipeline Monitoring for Liquid Pipelines including, at a minimum:

(1) initial system testing to verify design performance and establish baseline for interval testing;

(2) testing every five years or more frequently following significant changes to the CPM application or to the crude oil transmission pipeline configuration to confirm system effectiveness; and

(3) incorporation of CPM training into the operator's prevention training program required under 18 AAC 75.020(a).

(f) Documentation and record-keeping. The owner or operator of the crude oil transmission pipeline shall maintain testing and inspection records related to the leak

[42] To include proposed new section for shop-fabricated tanks

detection system as recommended in API Publication 1130, Second Edition, November 2002, Computational Pipeline Monitoring for Liquid Pipelines, including at a minimum:

(1) documentation of the test purpose, test parameters, and methodology for the initial system tests and for re-tests;

(2) maintain detailed records for three test intervals in accordance with API 1130, Second Edition, November 2002, Section 6.2.6, including analysis of the results of the tests and any recommended modifications and corrective actions taken as a result of testing;

(3) documentation of leak detection system operation during any actual crude oil leak for the life of the leak detection system; and

(4) copies of records and documentation required by this paragraph shall be provided to the department upon request.

(g) For purposes of this section, "daily throughput" means the total volume amount of crude oil flowing through a crude oil transmission pipeline segment in any 24 hour period.

Rationale & Discussion

General Comments

Comments were received from several groups indicating that the State should establish regulatory requirements for leak detection system installation and implementation, inspection, maintenance and repair. Comments included recommendations for establishing training standards for leak detection system operators and standards for documentation and record keeping as part of the overall testing and maintenance program for leak detection systems.

ADEC agrees that minimal standards for leak detection system implementation, testing, inspection and maintenance will support the effectiveness of leak detection systems on crude oil transmission pipelines in the State of Alaska. Likewise, minimum requirements for operator training and record keeping related specifically to leak detection systems established to meet the standards established in 18 AAC 75.055(a) provide a clear means for the State to verify leak detection system performance for regulated crude oil transmission pipelines.

One commenter requested that ADEC should adopt regulations that will ensure the safe and reliable functioning of crude oil transmission pipeline (COTP) valves. Their recommendation included requiring minimum inspection frequency, that valves are maintained in "good working order at all times" and that repairs or other maintenance activities identified during inspections be completed "immediately".

For most of the COTP valves regulated by ADEC, valve operation, maintenance, and inspection requirements are established by the USDOT. However, there are crude oil transmission pipelines regulated by ADEC that fall off the USDOT regulatory framework for a number of reasons, primarily because of their low flow pressure.

ADEC does not intend to duplicate regulations, and including regulations for all COTP valves regarding valve maintenance would have that effect. During the initial development of 18 AAC

75 Article 1 in 1991, ADEC responded to public comments about adding valve requirements (installation standards, maintenance and inspection standards) by stating that "These requirements are covered by the U. S. DOT." Earlier responses in the same document discussed the intention, reiterated in this document, to not duplicate federal regulations, but to fill gaps where necessary. (Responsiveness Summary, Public Comments on the July 8, 1991 Public Review Draft of Revised Oil Pollution Control Regulations, dated October 10, 1991) ADEC is not considering additional regulation of crude oil transmission pipeline valves at this point.

Federal Preemption

Some pipeline operators commented that the scope of state regulation regarding crude oil transmission pipelines conflicts with federal preemption statutes under 49 USC 60104(c). This issue has been raised before, most recently in 1996[43]. The department stands by the opinion issued in 1997, namely that crude oil transmission pipelines within the state fall under dual jurisdiction for purposes of environmental protection.[44]

Similarly, several pipeline operators made the observation that common carrier pipelines are already heavily regulated under USDOT regulations at 49 CFR 190 through 195 and 199. The department agrees that the common carrier pipelines within Alaska are regulated by USDOT under 49 CFR 190 through 195 and 199, but also notes that the federal regulations are minimum national standards which may not be sufficient for the specific and unique geographic and environmental conditions in Alaska, and that more stringent regulation is justified in certain areas.

18 AAC 75.055(a)

ADEC had many informative discussions with pipeline operators on the subject of pipeline leak detection and the potential for a more restrictive leak detection standard. Many operators felt that going to a lower detection limit (0.5% of daily throughput was previously proposed) was an exponential increase that was not practically possible. Upon further review of the issue, ADEC agrees.

Pipeline operators hold that each pipeline has unique operating and physical characteristics which dictate the effective best achievable leak detection limit. Pushing the leak detection limit lower will necessarily induce a reduction in confidence in the system due to increased number of false alarms. Too many false alarms could actually reduce the effectiveness of the prevention measure because real spills would become lost in the noise.

An accurate synopsis of the performance of a leak detection system would include detection threshold, detection time, and a confidence factor in the detection.

During previous discussions two commenters questioned whether currently best available technology and actual leak detection system performance has exceeded ADEC's regulatory performance standard of detecting a leak equal to 1% of daily throughput. One commenter stated that leak detection standards of .35% to .5% are "consistently met," although they did not indicate which pipelines operated with this standard of leak detection. A second commenter also

[43] Alyeska Pipeline Service Company White Paper "Federal Pipeline Safety Act Preemption of Article 1 of 18 AAC 75", dated October 28, 1996

[44] ADEC, letter from Tom Chapple, IPP Program Manager, to Jim Sweeney, Alyeska Pipeline Service Company, dated April 8, 1997

stated that they believed leak detection systems currently available are capable of detecting leaks of .5% of daily throughput, and since the technology is available, they believe ADEC should revise their performance standard accordingly. One commenter stated that the leak detection standards were sufficient as written, and they did not recommend any changes. Further, they stated that due to wide variation of consistency in flow rates within North Slope crude oil transmission pipelines, reaching a reliable .5% leak detection rate was not uniformly possible.

ADEC agrees that leak detection technology has greatly improved since 18 AAC 75.055 became effective in 1992. In particular, Computational Pipeline Monitoring (CPM) systems have become capable of detecting smaller leaks over time due to enhancements in both software and support systems. Several CPM systems were highlighted at ADEC's 2004 Best Available Technology (BAT) Conference. Therefore ADEC has included CPM in our discussion draft in proposed new sections 18 AAC 75.055(e) through (f).

Three commenters recommended that the State modify its regulations in some form to incorporate or apply federal regulations (49 CFR 195) to crude oil transmission pipelines in Alaska. Most noted that the U. S. Department of Transportation (USDOT) enforces 49 CFR 195 for most crude oil transmission pipelines in the state, but they wanted to see various elements of the federal standards incorporated into State regulation.

In 1991 during the State's process to develop the current oil spill prevention and response regulations, comments recommending incorporation or adoption of federal regulations were provided. At that time ADEC elected not to duplicate USDOT requirements, and it remains the position of ADEC that State regulations for oil spill prevention and response will not duplicate other State or Federal agency regulations. State regulations are intended to compliment rather than duplicate other agency requirements.

A survey of state, federal, and provincial leak detection standards is shown in Table 1 for comparison purposes.

Table 1 Selected State, Federal, & Provincial Pipeline Leak Detection Standards

Regulation	***Text***	***Notes***
Alaska 18 AAC 75.055(a)	(a) A crude oil transmission pipeline must be equipped with a leak detection system capable of promptly detecting a leak, including (1) if technically feasible, the continuous capability to detect a daily discharge equal to not more than one percent of daily throughput; (2) flow verification through an accounting method, at least once every 24 hours; and (3) for a remote pipeline not otherwise directly accessible, weekly aerial surveillance, unless precluded by safety or weather conditions.	Current regulation
California Title 2, Article 5.5, Para. 2569	(a) Operators may meet the requirements of providing a leak detection system or systems by any of the following: (1) Instrumentation with the capability of detecting a transfer pipeline leak equal to two percent (2%) of the maximum design flow rate within five minutes; (2) Completely containing the entire circumference of the pipeline provided that a leak can be detected within fifteen minutes;	Applies to marine terminal pipelines only.
Washington WAC 173-180A-100	(8) Facilities shall have the capability of detecting a transfer pipeline leak equal to eight percent of the maximum design flow rate within fifteen minutes for transfer pipelines connected to tank vessels. Leak detection capability shall be determined by the facility using best engineering judgment. Deficiencies with leak detection systems such as false alarms must be addressed and accounted for by the facility. Facilities may meet these requirements by: (a) Visual inspection provided the entire pipeline is visible and inspected every fifteen minutes; or (b) Instrumentation; or (c) Completely containing the entire circumference of the pipeline provided that a leak can be detected within fifteen minutes; or (d) Conducting an acceptable hydrotest of the pipeline immediately before the oil transfer with visual surveillance of the exposed pipeline every fifteen minutes; or (e) A combination of the above strategies; or (f) A method approved by the department which meets the standard identified in this section. Leak detection system operation and operator response must be described in the facility operations manual.	"Transfer pipeline" is a buried or aboveground pipeline used to carry oil between a tank vessel or transmission pipeline and the first valve inside secondary containment at the facility. A transfer pipeline does not include process pipelines, pipelines carrying ballast or bilge water, transmission pipelines, tank vessel or storage tanks.
Washington WAC 480-75-300	(1) Companies must rapidly locate leaks from their pipeline. Companies must provide leak detection for under flow and no flow conditions. (2) Leak detection systems must be capable of detecting an eight percent of maximum flow leak within fifteen minutes or less. (3) Companies must have a leak detection procedure and a procedure for responding to alarms. The operator must maintain leak detection maintenance and alarm records.	Applicable to transmission pipelines.

Oil Pollution Prevention Regulations

Regulation	***Text***	***Notes***
USDOT 49 CFR 195.134	This section applies to each hazardous liquid pipeline transporting liquid in single phase (without gas in the liquid). On such systems, each new computational pipeline monitoring (CPM) leak detection system and each replaced component of an existing CPM system must comply with section 4.2 of API 1130 in its design and with any other design criteria addressed in API 1130 for components of the CPM leak detection system.	
USDOT 49 CFR 195.444	Each computational pipeline monitoring (CPM) leak detection system installed on a hazardous liquid pipeline transporting liquid in single phase (without gas in the liquid) must comply with API 1130 in operating, maintaining, testing, record keeping, and dispatcher training of the system.	
USDOT 49 CFR 195.452(i)(3)	(3) Leak detection. An operator must have a means to detect leaks on its pipeline system. An operator must evaluate the capability of its leak detection means and modify, as necessary, to protect the high consequence area. An operator's evaluation must, at least, consider, the following factors--length and size of the pipeline, type of product carried, the pipeline's proximity to the high consequence area, the swiftness of leak detection, location of nearest response personnel, leak history, and risk assessment results.	Additionally, 49 CFR 195.444 requires that computational pipeline monitoring (CPM), if used, must comply with API standard 1130.
Canadian National Energy Board Onshore Pipeline Regulations, 1999	A company shall develop and implement a pipeline control system that (a) comprises the facilities and procedures used to control and monitor the operation of the pipeline; (b) records historical pipeline operation data, messages and alarms for recall; and (c) includes a leak detection system that, for oil pipelines, meets the requirements of CSA Z662 and reflects the level of complexity of the pipeline, the pipeline operation and the products transported.	CSA Z662 does not mandate a specific leak detection level, but provides guidance similar to API 1130. CSA Z662 Appendix E gives minimum sampling rates, which are generally indicative of detection time.
Pipeline Regulations (Nova Scotia), N.S. Reg. 66/98	40. Pipeline control system (1) A company shall have a pipeline control system that comprises the facilities and procedures used to control and monitor the operations of the pipeline. (2) The pipeline control system referred to in subsection (1) shall (a) record historical pipeline operations data, messages, and alarms for recall; and (b) include a leak detection system that for oil pipelines that meets the requirements of CSA Z662, reflecting the level of complexity of the pipeline, the pipeline operations, and the products transported.	
Pipelines Regulations, 2000, R.R.S. c. P-12.1 Reg. 1 (Saskatchewan)	(3) The minimum requirements for leak detection procedures on hydrocarbon liquid pipelines other than multi-phase pipelines must be in accordance with Appendix E of the most recent version of CSA Standard Z662, Oil and Gas Pipeline Systems.	

18 AAC 75.055(e)-(f)

The current industry standard for installing, maintaining, and operating computational pipeline monitoring (CPM) leak detection systems is found in API Publication 1130, Second Edition, November 2002, Computational Pipeline Monitoring for Liquid Pipelines. ADEC intends to require the owner or operator of a crude oil transmission pipeline with a CPM leak detection system to install, maintain, and operate the system in accordance with the schedules and practices outlined in API 1130. However, because API 1130 is referenced by U. S. DOT in 49 CFR 195 and because it should be applied according to the needs of each individual pipeline, ADEC has extracted minimum requirements from API 1130 for each regulated pipeline. These requirements are found in 18 AAC 75.055(e) and (f) and establish minimum standards for initial system testing, regular interval testing, incorporation of CPM training into the operator's overall prevention training program, and minimal standards for documentation and record keeping. It is not ADEC's intention to duplicate 49 CFR 195 by establishing these standards; rather ADEC intends to establish overall requirements for a crude oil transmission pipeline owner/operator to adhere to the standards in API 1130 while minimizing the need for interpretation for basic elements of the standard.

18 AAC 75.055(g)

A definition of "daily throughput" is intended to clarify 18 AAC 75.055(a)(1).

18 AAC 75.065. Aboveground oil storage tank requirements

18 AAC 75.065(a) is amended to read:

(a) The owner or operator of an oil terminal, crude oil pipeline, exploration, or production facility shall maintain and inspect **aboveground**[45] oil storage and surge tanks consistent with the requirements of API Standard 653, **Third** [FIRST] Edition, **December 2001, and Addendum 1, September 2003** [1991, AND SUPPLEMENT 1, JANUARY 1992], or API Recommended Practice 12R1, **Fifth** [FOURTH] Edition, **August 1997** [1991], as appropriate, unless a more stringent requirement is set out in this section. **Internal inspection intervals shall not be based upon risk-based inspection or similar service as specified in Section 6.4.3 of API Standard 653, Third Edition, December 2001, and Addendum 1, September 2003.**

18 AAC 75.065(b) is amended to read:

(b) The owner or operator shall inspect **aboveground** oil storage tanks for structural integrity at least every ten years unless a shorter or longer inspection interval is prescribed by API Standard 653 **Third Edition, December 2001 and Addendum 1, September 2003,** [, FIRST EDITION, 1991, AND SUPPLEMENT 1, JANUARY 1992,] or API RP 12R1 **Fifth Edition, August 1997** [, FOURTH EDITION, 1991]. The department will, in its discretion, require a more frequent **inspection** schedule

(1) for **aboveground oil storage** tanks older than 30 years;

(2) for riveted or bolted **aboveground oil storage** tanks;

(3) for **aboveground oil storage** tanks with demonstrated **structural,**[46] corrosion or foundation problems; or

(4) after a significant seismic event.

18 AAC 75.065(c) is amended to read:

(c) An **onshore**[47] elevated [OR A PORTABLE][48] **aboveground oil storage** tank **whose configuration prevents internal inspection**[49] is not required to undergo an internal inspection if an external integrity inspection, performed in accordance with API Standard 653, **Third** [FIRST] Edition, **December 2001** [1991], and **Addendum 1, September 2003 [**SUPPLEMENT 1, JANUARY 1992], or API RP 12R1, **Fifth Edition, August 1997 [**FOURTH EDITION, 1991], is substituted and that inspection includes **an** [A THOROUGH] inspection and a nondestructive integrity test of the **aboveground oil storage** tank, including the tank bottom.

[45] "aboveground" was added to clarify what tanks are covered by this section and to differentiate from the underground storage tank requirements of 18 AAC 78
[46] "structural" problems would be those identified by an API 653 or similar inspection as significant
[47] "onshore" added to exempt tanks constructed as integral structural members of offshore platforms
[48] Portable (shop-fabricated) oil storage tanks are moved to new section 18 AAC 75.066.
[49] This language was initially suggested as a way to handle elevated tanks in mounted on grids in permafrost areas.

18 AAC 75.065(d) is amended to read:

(d) **Records and documentation required by this section shall be maintained** **[**A RECORD OF INSPECTION RESULTS AND CORRECTIVE ACTIONS TAKEN AFTER 5/14/92 MUST BE KEPT] for the service life of the **aboveground oil storage** tank and must be **provided** [AVAILABLE] to the department for inspection and copying upon request **with the exception of inspections required as specified in API 653, Subsection 6.3.1, Third Edition, December 2001, and Addendum 1, September 2003 which shall be maintained for five years.**

18 AAC 75.065(e) is amended to read:

(e) The owner or operator shall notify the department [IF AN OIL STORAGE TANK]

> **(1) as soon as practical[50] before an aboveground oil storage tank** undergoes major repair or major alteration, as defined in API Standard 653, **Third** [FIRST] Edition, **December 2001** [1991], and **Addendum 1, September 2003, Section 12.3.1.2** [SUPPLEMENT 1, JANUARY 1992, SECTION 10.3.1.2]; **and**
>
> **(2) before an aboveground oil storage tank is returned to service.**

(f) **Aboveground oil [**OIL] storage tanks served by internal steam heating systems must be designed to control leakage through defective heating coils. Condensate lines must be monitored, passed through an oil separating device, or passed through a retention system.

18 AAC 75.065(g) is amended to read:

(g) [IF AN INTERNAL] **Internal** lining **systems** [SYSTEM IS] **installed after July 1, 2007 and** used to control corrosion or to meet the requirements of (i) of this section [,IT] must be installed in accordance with API **Recommended Practice 652, Second Edition, December 1997** [STANDARD 652, FIRST EDITION, 1991].

18 AAC 75.065(h) and (i) are amended to read:

(h) **An** [A NEW] installation **placed in service between May 14, 1992 and July 1, 2007** must meet the following requirements:

> (1) **aboveground oil storage[51]** tanks must be constructed and installed in compliance with API Standard 650, 1988 edition, API Standard 12, D (Ninth Edition, 1989), F (Tenth Edition, 1989) and P (First Edition, 1986), or another standard approved by the department;
>
> (2) **aboveground** oil storage tanks may not be of riveted or bolted construction;

[50] This is intended to allow some leeway in notification for emergency repairs. For normal scheduled major repair or alteration ADEC would expect advance notification and consultation sufficient to identify potential regulatory problems.
[51] Added for consistency.

(3) cathodic protection or another approved corrosion control system must be installed**,** to protect the tank bottom from external corrosion where local soil conditions warrant; [AND]

(4) each **aboveground oil storage**[52] tank must be equipped with a leak detection system that an observer from outside the tank can use to detect leaks in the bottom of the tank, such as secondary catchment under the tank bottom with a leak detection sump, a sensitive gauging system, or other leak detection system approved by the department; and.

(5) after July 1, 2007, the operation and maintenance of the cathodic protection system must be in accordance with Section 11 of NACE 0193-2001, and the cathodic protection survey must be performed by a qualified/certified cathodic protection tester or corrosion expert.

(i) An [EXISTING] installation **placed in service before May 14, 1992** is subject to the following:

(1) each **aboveground oil storage**[53] tank must be equipped with **one or more of the following:**

(A) a leak detection system that an observer from outside the tank can use to detect leaks in the bottom of the tank, such as secondary catchment under the tank bottom with a leak detection sump, a sensitive gauging system, or another leak detection system approved by the department;

(B) cathodic protection in accordance with API **Recommended Practice**[54] [STANDARD] 651, First Edition, 1991;

(C) a thick film liner in accordance with API **Recommended Practice**[55] [STANDARD] 652, First Edition, 1991; or

(D) another leak detection or spill prevention system approved by the department; and

(2) repealed 5/26/2004;

(3) after July 1, 2007, the operation and maintenance of the cathodic protection survey must be consistent with Section 11 of NACE RP0193-2001, and the cathodic protection survey must be performed by a qualified/certified cathodic protection tester or corrosion expert.

[52] Added for consistency.
[53] Ditto.
[54] Technical correction.
[55] Ditto.

18 AAC 75.065(j) is amended to read:

(j) In addition to the applicable requirements of 18 AAC 75.025, the owner or operator shall ensure that one or more of the following means of preventing overfilling is provided:

(1) high liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer;

(2) high liquid level automatic pump shutoff devices set to stop flow at a predetermined tank content level;

(3) a means of immediately determining the liquid level of each bulk storage tank, provided that the liquid level is closely monitored during a transfer; or

(4) a system approved by the department which will immediately **notify** [NOTICE] the operator of high liquid levels.

(k) Overfill protection devices must be tested before each transfer operation or monthly, whichever is less frequent. If monthly testing would necessitate interrupting the operation of a system subject to continuous flow, the owner or operator may substitute monthly inspection and annual testing for the monthly testing of overfill protection devices.

18 AAC 75.065(l) through (p) are proposed, to read:

(l) An installation placed in service after July 1, 2007 must meet the following requirements:

(1) aboveground oil storage[56] tanks must be constructed and installed in compliance with API Standard 650, November 1998 Edition, Addendum 1, January 2000, Addendum 2, November 2001, Addendum 3, September 2003, API Specification 12D, Tenth Edition, November 1994, API Specification 12F, Eleventh Edition, November 1994, or another standard approved by the department;

(2) oil storage tanks may not be of riveted or bolted construction;

(3) cathodic protection systems shall be in accordance with NACE Standard 0193-2001 or another approved corrosion control system and shall be installed to protect the tank bottom from external corrosion unless deemed not necessary by an evaluation conducted by a corrosion expert in accordance with API Recommended Practice 651, Second Edition, December, 1997, Chapter 5;

(4) cathodic protection systems shall be

(A) designed by a corrosion expert;

(B) installed under the supervision of a corrosion expert; and

[56] Ditto.

(C) surveyed by a qualified/certified cathodic protection tester or corrosion expert[57];

(5) each aboveground oil storage tank must be equipped with a leak detection system that an observer from outside the tank can use to detect leaks in the bottom of the tank in accordance with API 650, Appendix I or other leak detection system approved by the department;

(6) each aboveground oil storage tank shall be equipped with overfill prevention devices meeting the requirements of paragraphs (j)(1) and (j)(2).

(n) Cathodic protection systems installed after July 1, 2007 shall meet the applicable requirements of paragraph (l)(3)-(4) of this section.

(o) All normal and emergency relief venting shall be designed, installed, and maintained in working order in accordance with

(1) Section 4 and Appendices B and C of API Specification 12 F for aboveground oil storage tanks constructed to API Specification 12F;

(2) API Standard 2000, 5th Edition, April 1998, for aboveground oil storage tanks constructed to API Standard 650;

(3) Section 7 of API Standard 620, including references to normal and emergency relief venting requirements in API Standard 2000 for oil storage tanks constructed to API 620; or

(4) another appropriate nationally recognized standard approved by the department.

Rationale & Discussion

18 AAC 75.065(a)

Several commenters requested that 18 AAC 75.065(a) allow risk-based inspection or similar service as a means of determining appropriate inspection intervals for oil storage tanks. ADEC disagrees. Section 6.4.3 of API Standard 653 is a recent addition to the standard, and the department believes that the section, as currently written, does not provide a valid basis for determining inspection intervals consistent with ADEC's statutory goals.

API 653 originally set a maximum interval of twenty years between internal inspections, but the standard was revised in 1998 (2nd Edition, Addendum 3) to allow determination of the internal inspection interval using risk-based inspection (RBI).

ADEC does not believe that the use of Section 6.4.3 is appropriate in determining internal inspection intervals, for the following reasons:

[57] This refers to the annual corrosion survey required by the NACE standard. Bimonthly rectifier readings are done by facility personnel in accordance with NACE standard. The terms "corrosion expert" and "cathodic protection tester" are defined in the NACE standard.

1) The provisions of 6.4.3 are not written in a manner which would make them suitable for use as a regulatory document. Many of the provisions are optional and non-binding; "should" and "can" are used where "shall" would be more appropriate.

2) No professional certification for personnel conducting RBI is required under 6.4.3. The only requirements are as follows: "It is essential that all RBI assessments be conducted by trained, qualified individuals knowledgeable in RBI methodology and knowledgeable and experienced in tank foundation design, construction, and corrosion." The lack of specific requirements makes this section effectively unenforceable. Note that RBI is not strictly defined in API 653, either in Section 6.4.3 or in Section 3 (Definitions).

3) Section 6.4.3 does not reference any industry standards or recommended practices relating to RBI methodology. Even API's own applicable publications are not mentioned, e. g. API RP 579, Fitness-For-Service Assessment, API RP 580, Risk-Based Inspection, and API Publication 581, Risk-Based Inspection Base Resource Document.

4) RBI is not mentioned anywhere in API Standard 653 except for Section 6.4.3. This short section thus stands alone, and as such is clearly inadequate for the implementation of a complex inspection regime like RBI.

ADEC does not feel that Section 6.4.3 offers a suitable regulatory framework for the application of RBI principles to the determination of internal inspection intervals. ADEC does not object to RBI in principle; only to the framework provided by 6.4.3. Owners and operators of regulated facilities have the option of developing their own tank inspection protocol, which may include RBI elements, and applying to ADEC for a waiver of 18 AAC 75.065(a).

Along the same lines, some commenters questioned the wisdom or ability of the department to adopt national standards with restrictions or reservations. It is within the department’s purview and mandate to comprehensively review any standard referenced in regulation as to its appropriateness for Alaska.

ADEC is also considering adoption of the National Association of Corrosion Engineers (NACE) RP 0193-2001 standard for cathodic protection systems for tanks placed in service after July 1, 2007.

18 AAC 75.065(b)

Several operators requested changes to paragraph (b), ranging from changing (b)(1) from “older than 30 years” to “built before 19XX” to wholesale repeal of the provisions of the paragraph. In general, the department has determined that the discretion to apply a more stringent inspection schedule to specific tanks based upon specific factors is necessary.

The regulation, as currently written, sets three cases of inspection interval:

> (1) a default interval of 10 years for tanks that don’t meet cases (2) or (3),
>
> (2) an interval determined by API Standard 653 or RP12R1 inspection criteria for tanks that are inspected under those inspection criteria, and
>
> (3) an inspection interval of less than ten years, set by the department, for specific tanks that the department has deemed in its discretion to be at a higher risk of failure, such as older tanks, riveted or bolted tanks, tanks with demonstrated corrosion or foundation problems, or tanks that have been subjected to large earthquakes.

The department does not intend to change this paragraph.

18 AAC 75.065(c)

The term “onshore” has been added to differentiate between tanks onboard offshore platforms and elevated tanks in locations such as the North Slope. The term “portable” has been removed since portable tanks are proposed to be covered under the new draft section 18 AAC 75.066.

18 AAC 75.065(e)

Many comments were received about a proposal under 18 AAC 75.065(e) to require thirty days notification before a tank undergoes major repair or major alteration. The impetus behind that time frame was to allow the department time to review unconventional or complex repair or alteration methods which might impact a tanks ability to comply with the regulations in 18 AAC 75 Article 1. Thirty days was universally viewed as an excessive amount of time and not possible in many instances, such as emergency repairs. As one operator stated, “If an oil storage tank needs repair it should be done as soon as possible, otherwise the risk of a spill may be increased. Due to the nature of oil and gas exploration and development, a thirty-day shut down of operations while waiting for repair of an oil storage tank to begin would be too costly for an operator or a drilling company to incur. Notification of the DEC when these operations occur is not unreasonable but the thirty-day requirement would be onerous.” The department agrees, and the proposed language has been changed.

18 AAC 75.065(j)

One regulated operator commented that mechanical and electronic equipment designed for overfill protection are good tools but they can potentially fail, while visual observation has proven to be more reliable for overfill protection when transferring fluids. ADEC disagrees, noting that the department’s spill database indicates that spills from regulated tanks due to overfilling typically have the failure of visual observation as the primary cause of the spill. The department notes that sole reliance on a single method of overfill prevention is imprudent on the part of the regulated operator, and that multiple methods are needed to ensure safe fuel transfers.

18 AAC 75.065(l)

One regulated operator raised the issue of tanks onboard offshore platforms and compliance with 18 AAC 75.065(l). Their concern was that tanks installed on offshore platforms are designed and constructed as integral structural members and as such, do not meet any tank design standard in the industry. These tanks typically have more mechanical integrity than onshore storage tanks due to the increased thickness of the shells, the increased structural loading requirements and the additional inspection requirements during fabrication due to the size, complexity and thickness of the welds holding them together. The operator requested ADEC to consider including an exemption for these types of tanks. ADEC believes that the caveat included in the regulatory language regarding “another standard approved by the department” is sufficient to cover this scenario.

One regulated operator commented that API Specification 12D, listed in 18 AAC 75.065(l)(1) as a proposed construction and installation standard for installations placed in service after July 1, 2007, references NACE RP-03072, which is in conflict with API RP 652, which is listed in 18

AAC 75.065(g) and 18 AAC 75.065(i)(1)(C) and references NACE RP-0184-91. The opinion of the department is that there is no conflict, noting that

- 18 AAC 75.065(l)(1) lists API Specification 12D as a proposed regulatory option for new installations placed in service after July 1, 2007, with NACE RP-03072 referenced within API Spec. 12D as a recommended minimum requirement for installation of a coal tar epoxy lining if that type of lining is selected as the lining method;
- 18 AAC 75.065(i)(1)(C) lists API RP 652 as a regulatory option only available for existing installations placed in service prior to May 14, 1992; API 652 references NACE RP-0184-91 for repair of tank bottom linings, not installation;
- NACE RP-03072 was withdrawn by NACE in July 1994 and was replaced in its entirety by NACE RP-0184-91; and
- 18 AAC 75.065(g) lists API RP 652 a regulatory option to meet the corrosion control requirements of 18 AAC 75.065(i), and we are proposing updating the reference in 18 AAC 75.065(g) from API RP 652, First Edition, 1991, to the Second Edition, 1997, which references NACE RP-0184-91.

One regulated operator recommended deleting the reference to API 651 in 18 AAC 75.065(l)(3) and replacing it with NACE Standard 0193-2001, noting that Section 3 of the NACE standard refers to "Preliminary Evaluation and Determination of the Need for Cathodic Protection". The department notes that API 651 is intended to provide guidance in evaluating whether cathodic protection is required and, if required, guidance in design and installation of the appropriate cathodic protection system. NACE 0193-2001 Section 3.1 indicates that the section is only applicable for a preliminary design evaluation of cathodic protection systems where an evaluation has already been made to install a cathodic protection system, not for evaluation of the need for a cathodic protection system.

18 AAC 75.065(o)

One regulated operator stated that API Standard 2000 is not applicable to all tank installations, and that "good engineering practice" be allowed as a substitute. The department notes that most tanks constructed to federal requirements (e.g., 49 CFR 195.132 for tanks associated with pipelines) must be constructed to nationally recognized standards which either directly or indirectly reference API Standard 2000 for normal and emergency relief venting, and that API Standard 2000 is consistent with the code requirements of NFPA 30. To clarify the requirement, we have proposed expanded wording of the subsection to explicitly call out the appropriate nationally recognized standards for the majority of the tanks regulated under 18 AAC 75.065.

A new section 18 AAC 75.066 is proposed, to read:

18 AAC 75.066. Aboveground shop-fabricated oil storage tanks

(a) Unless a more stringent requirement is set out in this section, aboveground shop-fabricated oil storage tanks placed in service after July 1, 2007, shall be constructed in accordance with

(1) Underwriters Laboratories standard UL 142, Eighth Edition, July 2002;

(2) API Specification 12B;

(3) API Specification 12F;

(4) STI F911-93;

(5) STI F921

(6) ASME B96.1;

(7) UL 2085; or

(8) another equivalent nationally recognized standard approved by the department[58].

(b) All aboveground shop-fabricated tanks not meeting the requirements of this section shall be replaced by July 1, 2015.[59]

(c) The owner or operator of an oil terminal, crude oil pipeline, exploration, or production facility shall maintain and inspect aboveground shop-fabricated oil storage tanks in accordance with the requirements of API Standard 653, Third Edition, December 2001, and Addendum 1, September 2003, or another equivalent standard approved by the department[60, 61], as appropriate, unless a more stringent requirement is set out in this section.

(d) An aboveground shop-fabricated oil storage tank whose configuration prevents internal inspection[62] is not required to undergo an internal inspection if an external integrity

[58] The intent is to allow the inclusion of other nationally recognized standards for certain special-service tanks that are not covered by the standards listed. An example would be shop-fabricated breakout tanks regulated under 49 CFR195.132(b). Such tanks are required to be built to API Specification 12F. It is not meant to allow operator specified standards for tanks whose service would normally fall under the umbrella of UL 142 or a similar nationally recognized standard.

[59] The compliance due date was moved into its own paragraph and more clearly defined as applying to shop-fabricated ASTs only.

[60] Originally the intention was to utilize the Steel Tank Institute Standard STI SP001-03. That standard is undergoing revision by STI at this time and will be reviewed by ADEC after revisions are completed.

[61] The intent is to allow inspections under API 653 for rural facilities that consist of both field-constructed and shop-fabricated tanks. Allowing a single inspection standard for both groups of tanks is meant as a cost-saving measure.

[62] This language was initially suggested as a way to handle elevated tanks mounted on grids in permafrost areas.

inspection is substituted and that inspection includes a nondestructive integrity test of the oil storage tank, including the tank bottom.

(e) In addition to the applicable requirements of 18 AAC 75.025, aboveground shop-fabricated oil storage tanks placed in service after July 1, 2007 shall be equipped with the following means of preventing discharges:

(1) high liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer;

(2) one or more of the following:

(A) high liquid level automatic pump shutoff devices set to stop flow at a predetermined tank content level;

(B) a means of immediately determining the liquid level of each bulk storage tank, provided that the liquid level is closely monitored during a transfer; or

(C) a system approved by the department which will immediately notify the operator of high liquid levels; and

(3) fixed overfill spill containment systems at each tank fill connection designed to prevent a discharge when a transfer hose or pipe is detached from the tank fill pipe.

(f) Overfill protection devices must be tested before each transfer operation or monthly, whichever is less frequent. If monthly testing would necessitate interrupting the operation of a system subject to continuous flow, the owner or operator may substitute monthly inspection and annual testing for the monthly testing of overfill protection devices.

(g) All normal and emergency relief venting shall be designed, installed, and maintained in working order in accordance with

(1) API Standard 2000, 5th Edition, April 1998;

(2) Underwriters Laboratories standard UL 142, Eighth Edition, July 2002; or

(4) another appropriate nationally recognized standard approved by the department.

(h) Vaulted aboveground oil storage tanks[63] shall

(1) be designed and constructed consistent with a nationally recognized standard or by a registered professional engineer;[64]

[63] "Vaulted aboveground oil storage tank" is defined in Article 9.

[64] "Nationally recognized standard" would include UL 2245 for below grade vaults storing flammable liquids or NFPA 30A for flammable liquid storage at motor fuel dispensing stations. The "designed by a registered professional engineer" follows language in Uniform Fire Code, 2000 edition (7902.1.10).

(2) have discrete secondary containment vault systems constructed of seamless, poured and sealed or lined concrete, welded carbon or stainless metal, or other impermeable material as defined in 18 AAC 75.990(51) able to contain 100% of the volume of the tank plus any necessary allowance for precipitation; and

(3) have sufficient personnel access to allow full physical inspection of all sides of the tank.

(i) Self-diked aboveground oil storage tanks[65] shall

(1) be designed and constructed in accordance with a recognized national standard[66] approved by the department;

(2) have access that allows visual inspection for corrosion control or damage to the outer shell of the storage tank and the inner surface of the integral secondary containment area to facilitate non-destructive testing in accordance with 18 AAC 75.066(c);

(3) have catchments that positively hold any fuel overflow due to tank overfill or divert it into the diked tank integral secondary containment area;

(4) be equipped with systems for freeing water or spilled fuel from the integral dike and for regular maintenance in accordance with 18 AAC 75.075(c) and (d);

(5) be equipped with integral dikes with leak detection in accordance with 18 AAC 75.075(h) for tanks placed in service after July 1, 2007 or 18 AAC 75.075(i) for tanks placed in service prior to that date;

(6) have integral dike and primary tank areas equipped with normal and emergency venting in accordance with 18 AAC 77.066(g); and

(7) have tank supports, base plates, and anchoring systems designed to meet or exceed the appropriate seismic zone requirements in accordance with Uniform Building Code, 1997 Edition[67].

(j) Double-walled aboveground oil storage tanks[68] shall

(1) be designed and constructed in accordance with a recognized national standard[69] approved by the department;

[65] "Self-diked aboveground oil storage tank" is defined in Article 9.
[66] This would generally be UL 142, although other standards (such as STI F911) may be acceptable.
[67] Most, but not all, of Alaska is seismic zone 3 or 4. Most recent building and seismic codes use the same basic seismic zone numbering scheme, but with minor variations between codes. It is not the department's aim to enter into geophysical engineering, but rather to ensure that the tank installation is sufficiently strengthened against seismic damage.
[68] "Double-walled aboveground oil storage tank" is defined in Article 9.
[69] "Nationally recognized standard" includes, by way of example, UL 2085, STI F921, or STI F941.

(2) be equipped with operating interstitial monitoring systems to detect oil leaks and water accumulation;

(3) be equipped with overfill protection in accordance with 18 AAC 75.066(e);

(4) be equipped with systems for freeing water or spilled fuel from the interstitial space and regular maintenance in accordance with 18 AAC 75.075(c);

(5) be equipped with normal and emergency venting in accordance with 18 AAC 75.066(g); and

(6) have tank supports, base plates, and anchoring systems designed to meet or exceed the appropriate seismic zone requirements in accordance with Uniform Building Code, 1997 Edition.

Rationale & Discussion

Due to the potential confusion that would result from lumping disharmonious requirements specific to site-built and shop-fabricated oil storage tanks in the same section, a new section is proposed to deal solely with shop-fabricated aboveground oil storage tanks.

18 AAC 75.066(a)

ADEC proposed adopting UL 142 as a baseline design and construction standard for regulated shop-fabricated tanks of less than 50,000 gallon capacity in the previous discussion draft. The Underwriters Laboratories UL142 design and construction standard was initially developed in 1922, and has been widely accepted by both industry and government agencies as the appropriate standard for over fifty years. ADEC notes that tanks built to the UL 2080 or UL 2085 standards also meet the requirements of UL 142, as do tanks built to Steel Tank Institute standards F911, F921, or F941.

After further discussion and review, ADEC proposes to explicitly call out several other acceptable standards which are applicable to various operations. In some cases federal regulation calls for a specific design and construction standard or specification for tanks in particular service, such as the requirement in 49 CFR 195.132(b) for shop-fabricated breakout tanks to be constructed to API Specification 12F.

18 AAC 75.066(b)

It remains ADEC's position that shop-fabricated tanks not built to a nationally recognized design and construction standard be replaced.

18 AAC 75.066(c)

The previous discussion draft included a provision for tank inspection using the Steel Tank Institute (STI SP001) inspection standard. Several rural regulated entities requested that API 653 inspections be allowed, as the cost of bringing in both an API 653 inspector for their large tanks and a STI inspector for their smaller tanks would be cost prohibitive. ADEC has revised the

wording to list API 653 or another equivalent standard approved by the department as accepted inspection standards.

ADEC is still considering adoption of the Steel Tank Institute (STI SP001) inspection standard in the near future. STI SP001 was originally developed at the request of the U.S. EPA and is currently undergoing revision. When the revision process is complete we will review the standard to determine its applicability.

18 AAC 75.066(e)

One regulated operator commented that mechanical and electronic equipment designed for overfill protection are good tools but they can potentially fail, while visual observation has proven to be more reliable for overfill protection when transferring fluids. ADEC disagrees, noting that the department's spill database indicates that spills from regulated tanks due to overfilling typically have the failure of visual observation as the primary cause of the spill. The department notes that sole reliance on a single method of overfill prevention is imprudent on the part of the regulated operator, and that multiple methods are needed to ensure safe fuel transfers.

The department further notes that it is the onus of the regulated operator to ensure that any rental tanks located on the facility are in compliance.

18 AAC 75.066(i)

There has been some discussion regarding the proposed requirement for self-diked tanks to have catchments that divert fuel overfill into the integral secondary containment. The department notes that in May 1994 the U.S. Army Corps of Engineers, Alaska District issued a design policy[70] for aboveground storage tanks that clearly show how to plumb an overfill system into secondary containment in accordance with federal and state requirements.

[70] May 1994 Memorandum from Charles Semmler, Chief Project Management Section, Elmendorf AFB/PACAF

18 AAC 75.075. Secondary containment requirements for aboveground oil storage and surge tanks

18 AAC 75.075(a) is amended to read:

(a) Onshore **aboveground**[71] oil storage tanks must be located within a secondary containment area that has the capacity to hold the volume of the largest tank within the containment area, plus enough additional capacity to allow for local precipitation. Minimum secondary containment system requirements include

(1) berms, dikes, or retaining walls that are constructed to prevent the release of spilled oil from within the containment area;

(2) with the exception of the area under a tank, components constructed of, or lined with, materials that are

(A) adequately resistant to damage by the products stored to maintain sufficient impermeability;

(B) resistant to damage from prevailing weather conditions;

(C) sufficiently impermeable;

(D) resistant to operational damage, and

(3) **unless documenting reasons for non-inspection**, checking for the presence of oil leaks or spills

(A) daily, **except during unsafe weather conditions,** at a manned facility; or

(B) each time the facility is visited, but at least monthly, at an unmanned facility.

18 AAC 75.075(b) is amended to read:

(b) In locations where physically feasible, offshore **exploration and** production **facility** [PLATFORM] oil storage tank areas must incorporate a secondary containment method to prevent oil spills from entering the water.

18 AAC 75.075(c) is amended to read:

(c) Secondary containment systems must be maintained free of debris, **vegetation**, or other materials or conditions that might interfere with the effectiveness of the system **or inspection of tanks and piping**, including excessive accumulated **water**[72] [RAINWATER].

[71] Technical correction to match section heading and to differentiate from 18 AAC 78

[72] "excessive accumulated water" includes rainwater, snow, and ice in quantities that compromise the capacity of the secondary containment or interfere with inspections of tanks and piping

18 AAC 75.075(d) is amended to read:

(d) Drainage of water accumulations from secondary containment areas that discharge directly to the land or waters of the state must be controlled by locally operated, positive close failsafe valves or other positive means to prevent a discharge. Valves must be kept closed and locked when not in use. The owner or operator shall inspect accumulated water before discharging it from a secondary containment area to ensure that no oil will be discharged and shall keep a written record of each drainage operation **and whether a sheen was present or not**[73]. If no sheen is present, water accumulated may be discharged without a state wastewater permit under 18 AAC 72. Oil-contaminated water accumulations may be discharged from secondary containment without a state wastewater permit under 18 AAC 72 if the receiving environment is not a sensitive receiving environment and if it is treated through an oil/water separating device that reduces the total concentration of hydrocarbons [TO BELOW 15 PPM]. The oil separating device must be equipped with effluent monitors and alarms that **notify** [NOTICE] the operator if the device fails.

18 AAC 75.075(e) is amended to read:

(e) **An** [A NEW] installation **placed in service after May 14, 1992** is subject to the following:

(1) impermeable liners or double bottoms that are chemically resistant to damage by the product being stored in the tank must be installed under all tanks, except for tanks containing viscous products exceeding 400 SUS (Saybolt Universal System) at storage temperatures; and

(2) drains and other penetrations through secondary containment areas must be minimized consistent with facility operational requirements.

18 AAC 75.075(f) is amended to read:

(f) At an [EXISTING] installation **placed in service before May 14, 1992**, in the event of a known or suspected discharge, the department will, in its discretion, require installation of monitoring wells to detect oil or other hazardous substances in the groundwater if the local geology and groundwater conditions allow installation of monitoring wells, and if monitoring wells will not substantially increase the risk of contaminating groundwater.

18 AAC 75.075(g) is amended to read:

(g) Rail tank car and tank truck loading areas and permanent unloading areas[74] must

(1) have a secondary containment system designed to contain the maximum capacity of any single compartment of the tank car or tank truck, including containment curbing and a trenching system or drains with drainage to a collection tank or device designed to handle a discharge;

[73] Null reports are required to verify the inspection took place
[74] "Permanent unloading areas" is defined in Article 9.

(2) be paved, surfaced, or lined with sufficiently impermeable materials;

(3) be maintained free of debris or other materials or conditions that might interfere with the effectiveness of the system, including excessive accumulated rainwater [AND]**;**

(4) have warning lights, warning signs, or a physical barrier system to prevent premature vehicular movement**;**[.] **and**

(5) be visually inspected before any transfer operation or at least monthly.

18 AAC 75.075(h) through (i) are proposed, to read:

(h) Shop-fabricated aboveground oil storage tanks of a vaulted, self-diked, or double-walled design meeting the requirements of 18 AAC 75.066(d), (e), or (f) are not required to be placed within bermed, lined, secondary containment areas if they are equipped with catchments that positively hold any fuel overflow due to tank overfill or divert it into a integral secondary containment area.

(i) In this section, "failsafe" means designed such that the equipment defaults to a safe condition in the event of an equipment failure.

Rationale & Discussion

18 AAC 75.075(a)

Two operators questioned the meaning of the term "resistant to operational damage" in 18 AAC 75.075(a)(2)(D). The department means that the material should safely withstand normal operational conditions without loss of impermeability. The variety of materials and normal operating conditions across the breadth of the regulated community precludes further detailed description.

Several operators requested a review of the current inspection schedule in 18 AAC 75.075(a)(3)(C). The current regulations are set with a default of daily inspection for manned facilities. For unmanned facilities, where daily inspection is not an option, the inspection interval should be as close to daily as practicable, but no less than monthly. This is a reasonable compromise given the conditions.

18 AAC 75.075(b)

One operator noted that the integral structural members used to hold oil and other fluids on offshore platforms are typically under the platforms and that secondary containment cannot effectively be added without complete redesign of the platform's understructure. The department agrees that existing offshore platforms may have specific locations where secondary containment is not physically feasible. The department also notes that this is an existing regulation, not a draft proposed regulation.

18 AAC 75.075(c)

Many operators questioned our inclusion of ice in the discussion paper draft. Our intent is that excessive accumulations of ice have been observed in several secondary containment areas to the extent that the volume of the secondary containment has been compromised. The term "rainwater" has been changed to "water" to clarify that quantities of water of any phase or form which compromise the secondary containment or prevent inspection of tanks and piping within secondary containment is not allowed.

18 AAC 75.075(d)

The wording of this paragraph is proposed to be modified to include a requirement for null reports of sheen. The intent is to verify that inspections of drainage are being done correctly.

An additional proposed change to this paragraph is the removal of the requirement that an oil/water separating device must reduce the total concentration of hydrocarbons below 15 ppm. That performance standard is no longer consistent with the state wastewater discharge requirements under 18 AAC 72. The department notes that while a numerical performance standard is proposed for deletion, other state (18 AAC 72) and federal (40 CFR 112) requirements still apply to the discharge of accumulated water from secondary containment.

18 AAC 75.075(g)

There has been confusion in the past about what is a "permanent unloading area". That term is now defined in Article 9. Additionally, we are suggested a new requirement for visual inspection to ensure the area is functional.

One regulated operator suggested an exemption for secondary containment at loading areas for asphalt. We agree that spilled asphalt at a loading area poses little environmental risk, but have determined that the waiver process in 18 AAC 75.015 is the appropriate method of handling this exception.

18 AAC 75.075(h)

We are considering a regulatory change to recognize that tanks with integral secondary containment effectively meet our current secondary containment capacity requirements and should be exempt from additional secondary containment requirements.

18 AAC 75.075(i)

A proposed definition of "failsafe" as it is intended to be used in 18 AAC 75.075(d) is included.

18 AAC 75.080. Facility piping requirements for oil terminal, crude oil transmission pipeline, exploration, and production facilities

(a) All facility oil piping associated with an oil terminal, crude oil transmission pipeline, exploration, or production facility must meet the requirements of this section.

18 AAC 75.080(b) is amended to read:

(b) **Metallic** [BURIED STEEL] piping containing oil must be maintained in accordance with a corrosion control program, [APPROVED BY THE DEPARTMENT] and,

(1) for **a** [A NEW] **buried** installation **placed in service between May 14, 1992 and July 1, 2007,** must be

(A) protected from corrosion by installing protective wrapping or coating and cathodic protection appropriate for local soil conditions; and

(B) of all welded construction with no clamped, threaded, or similar connections for lines larger than a one inch nominal pipe size; and

(2) **Repealed.** [FOR AN EXISTING INSTALLATION, MUST

(A) UNDERGO A CORROSION SURVEY;

(B) BE CAREFULLY EXAMINED FOR DETERIORATION ANY TIME A SECTION OF BURIED LINE IS EXPOSED FOR ANY REASON;

(C) UNDERGO AN ADDITIONAL EXAMINATION AND CORRECTIVE ACTION TO REPAIR THE DAMAGED PIPE AND CONTROL FUTURE CORROSION IF CORROSION DAMAGE IS FOUND; AND

(D) BE REPLACED WITH PIPING THAT MEETS THE REQUIREMENTS OF (1) OF THIS SUBSECTION, IF FEASIBLE, WHEN SIGNIFICANT REPAIRS OR REPLACEMENTS ARE MADE]

(3) all buried installations must be

(A) electrically inspected by a corrosion expert for active corrosion at least once every 3 calendar years, but with intervals not exceeding 39 months, unless it is cathodically protected;

(B) cathodically protected, in areas in which active corrosion is found, in accordance with (5) of this subsection;

(C) carefully examined for damaged coating or corroded piping in accordance with Section 9.2.6 of American Petroleum Institute Piping Inspection Code, Inspection, Repair, Alteration, and Rerating of In-service Piping Systems, API 570, Second Edition, October 1998, Addendum 1,

February 2000, Addendum 2, December 2001, and Addendum 3, August 2003 any time a segment of buried line is exposed for any reason. If active corrosion is found, actions for control of future corrosion must be implemented; and

(D) be replaced with piping that meets the requirements of (j) of this section, when significant repairs or replacements are made;

(4) the operation and maintenance of a cathodic protection system must be consistent with Section 10 of NACE International, *Standard Recommended Practice-Control of External Corrosion on Underground or Submerged Metallic Piping Systems*, 2002, RP0169-2002, unless a more stringent requirement is set out in this section;

(A) A cathodic protection survey must be performed by a qualified/certified cathodic protection tester or a corrosion expert; and

(B) test lead wires must be maintained in a condition that enables electrical measurements to determine the effectiveness of a cathodic protection system;

(5) cathodic protection systems installed after July 1, 2007, must be

(A) consistent with NACE International Standard RP0169-2002;

(B) designed by a corrosion expert; and

(C) installed under the supervision of a corrosion expert;

(6) aboveground facility piping must be protected from atmospheric corrosion by the application of a protective coating or by the use of corrosion-resistant alloys unless the operator demonstrates by test, investigation, or experience appropriate to the environment of the piping segment that the anticipated extent of corrosion will

(A) only be a light surface oxide; or

(B) not affect the safe operation of the piping before the next scheduled API 570 inspection;

(7) facility piping located

(A) outside a sufficiently impermeable area onboard a marine structure or

(B) located at a soil-to-air interface

must be protected against atmospheric corrosion by the application of a protective coating or by the use of corrosion-resistant alloys.

18 AAC 75.080(c) is amended to read:

(c) Buried or insulated transfer piping and hoses that are located outside of secondary containment areas and that are used to transfer oil to or from docks or vessels must be leak tested at least annually, at or above the normal operating pressures, or must be subjected to another verification method approved by the department. The testing medium used must be in accordance with API RP 1110, **Fourth** [SECOND] Edition, **March 1997** [1981], or another applicable published safety standard. The owner or operator shall keep records of the results of these tests. Piping and hoses must be stenciled or tagged with the date of the last test and the allowable operating pressure. An oil discharge resulting from testing is not exempted from legal action under applicable state law.

(d) All aboveground transfer piping that is used to transfer oil to or from docks or vessels must be visually checked before and during each transfer or monthly, whichever is less frequent.

18 AAC 75.080(e) is amended to read:

(e) **Facility piping**[PIPES] removed from service for more than one year must be **free of accumulated oil**[75] [DRAINED], identified as to origin, marked **on the exterior** with the words "Out of Service" **and the date taken out of service, secured in a manner to prevent unauthorized use, and blank flanged or otherwise isolated from the system [**, AND CAPPED OR BLANK FLANGED]. **The owner or operator shall notify the department when piping is removed from service in accordance with this paragraph**.

(f) Aboveground piping and valves must be visually checked for leaks or damage during routine operations or at least monthly.

18 AAC 75.080(g) is amended to read:

(g) Piping supports must be designed to be seismically stable and composed of materials to minimize corrosion and [PREVENT] **fretting**[76] [CHAFING].

(h) Appropriate measures must be taken to protect aboveground piping from damage by vehicles.

18 AAC 75.080(i) through (k) are proposed, to read:

(i) At a minimum, all facility piping must be maintained and inspected consistent with the requirements of API 570, Second Edition, October 1998, and Addendum 1, February 2000, Addendum 2, December 2001, and Addendum 3, August 2003, or an equivalent program approved by the department unless a more stringent requirement is set out in this section;

(j) An installation placed in service after July 1, 2007 shall have

(1) all buried piping protected from corrosion by installing protective wrapping or coating;

[75] This could be accomplished by pigging, for example
[76] "fretting" is defined in Article 9

(2) all buried piping cathodically protected in accordance with (b)(5) of this section;

(3) facility piping of all welded construction with no clamped, threaded, or similar connections for lines larger than two inch nominal pipe size; and

(4) facility piping designed in accordance with American Society of Mechanical Engineers Code for Pressure Piping, ASME B31.3, *Process Piping*, 2004 Edition, or B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids*, 2002 Edition, as applicable;

(k) In this section,

(1) "active corrosion" means continuing corrosion which, unless controlled, could result in a spill;

(2) "buried" means covered or in contact with soil;

Rationale & Discussion

General

ADEC is considering a number of revisions to the facility piping requirements designed to address several long-standing issues regarding facility inspections and performance standards for facility piping and cathodic protection. The current regulations do not reference any inspection standards for facility piping, causing ambiguity and confusion regarding the proper application of the facility piping regulations to regulated facilities. We are considering the adoption of three common industry standards; one each for design and construction, inspection, and cathodic protection. ADEC believes that regulatory adoption of these three standards would resolve many of the existing ambiguities and help set clear realistic minimum standards for compliance.

First, we are considering adoption of American Society of Mechanical Engineers (ASME) pressure piping codes B31.3 and B31.4 as an appropriate standard baseline for the design and construction of new facility piping. The ASME B31.3 process piping code and B31.4 liquid transportation systems code provide a minimum set of rules concerning the design, materials, fabrication, testing, and examination practices for facility piping. These codes cover pipe, flanges, bolting, gaskets, valves, relief devices, and associated fittings, including hangars and supports. The regulation adopting these standards would become effective for new construction placed in service after July 1, 2007.

Second, we are considering adoption of the American Petroleum Institute (API) 570 inspection standard for facility piping inspection, repair, and maintenance. This standard covers the inspection, repair, alteration, and re-rating of in-service piping systems, and is already in use by much of the regulated industry for inspection of metallic piping systems used for the transport of petroleum products. Adoption by regulation would ensure that regulated facilities and ADEC inspectors are both inspecting to the same standard. The regulation adopting this inspection standard would become effective for piping upon adoption of any proposed regulations.

The API 570 standard was originally developed in the early 1990s to provide an inspection standard for piping constructed to the ASME B31.3 and it also complements existing tank inspection standards already in regulation (the API 653 standard).

Finally, we are considering incorporation of the National Association of Corrosion Engineers (NACE) RP 0169 corrosion control standard for cathodic protection of buried piping, in order to address the problem of spills caused by corrosion. This standard, if adopted, would become effective one year after adoption of new regulations in order to allow the regulated community time to come into compliance.

18 AAC 75.080(b)(3)

One regulated operator requested that we define “electrically inspected” and whether this would be the same as a cathodic protection survey (electrical survey, pipe-to-soil potentials, etc).

The department intends that a piping segment is “electrically inspected” when an adequate number of measurements of close or/and remote pipe-to-electrolyte potentials have been taken by a corrosion expert to determine whether external corrosion control is needed. The department believes that corrosion experts should be able to perform this task based on experiences and/or guidelines given in NACE 0169 - Section 3: Determination of Need for External Corrosion Control. The terms "close" and "remote" also have specific meaning in the corrosion world.

18 AAC 75.080(b)(3)(A) is proposed to require that unprotected piping (that is, piping with no cathodic protection in place) to be electrically inspected (to see if corrosion control is needed) while 18 AAC 75.080(b)(4) points to NACE 0169 which requires annual survey of a cathodic protection system (for piping that has a cathodic protection system installed) to make sure that piping is getting enough protective (electrical) current. Therefore, the requirements in 18 AAC 75.080(b)(3)(A) and (b)(4) are different.

One regulated operator noted that we are proposing a requirement that test lead wires be maintained in proper condition (18 AAC 75.080(b)(5)) and proposed that the requirement is unnecessary, since NACE RP0193-2001 Section 10 already addresses test lead wire maintenance. ADEC’s response is that NACE RP0193-2001 Section 10 provides recommendations for maintenance, while we believe that test lead wire maintenance, particularly in the environmental conditions prevalent in Alaska, is important enough to be a stringent requirement.

Another regulated operator noted that cathodic protection systems are not applicable to piping with an air gap (e.g., covered pipe in a road crossing). ADEC notes that 18 AAC 75.080(b) covers corrosion control and does not necessarily mandate cathodic protection. The fact that cathodic protection is not applicable in a given situation does not relieve the operator of the other requirements of 18 AAC 75.080(b).

18 AAC 75.080(b)(7)

One regulated operator noted that the original draft proposed wording seemed to imply that all offshore piping must be coated in such a way as to protect against atmospheric corrosion, and several operators noted that the regulations did not provide for stainless steel or other corrosion-

resistant piping materials. The text has been revised for clarity and to include provision for corrosion-resistant materials.

18 AAC 75.080(e)

The current regulations state that pipes removed from service must be "drained", a subjective term open to interpretation. To clarify the department's intent, we are proposing the more precise term "free of accumulated oil" to indicate that the intent is that there is no oil spill potential in the out of service line. We are also clarifying the markings required and providing some flexibility in meeting the requirement by allowing "isolation from the system" instead of limiting compliance to capping or blind flanging. A notification requirement is also included.

18 AAC 75.080(i)

Several industry operators stated that their in-house integrity management programs, while not exactly consistent with API 570, meet or exceed the requirements of the standard and that allowance should be made for operator programs that are equivalent to API 570. It is not the department's intention to require a duplicative integrity management program. Our goal is to ensure that an adequate integrity management program is in place and being followed. Therefore we have added language to allow for API 570 or an equivalent program approved by the department.

Two operators of smaller facilities voiced concern that requiring API 570 for small remote facilities would have an adverse financial impact on the operators. The department contends that, while implementation of API 570 does involve a cost, the relative lack of complexity and size of the smaller facilities would indicate that the cost would be reasonable when compared to the larger potential costs of an oil spill.

18 AAC 75.080(j)

One operator suggested that new construction piping should meet API standard 1104. ADEC is soliciting additional comments regarding applicability of this standard.

A new section, 18 AAC 75.082, is proposed to read:

18 AAC 75.082. Requirements for gathering and flow lines at production facilities

(a) Applicability. All gathering and flow lines associated with a production facility must meet the requirements of this section.

(b) Design and construction standards. Gathering and flow lines initially placed in service after July 1, 2007 shall be designed and constructed in accordance with ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, or another appropriate nationally-recognized standard approved by the department, unless a more stringent requirement is set forth in this section.

(c) Operations and maintenance of gathering and flow lines. Gathering and flow lines shall meet the following requirements.

(1) Corrosion control. Gathering and flow lines shall be included in a corrosion control program consistent with ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, Chapter VIII, that includes, at a minimum, the following items:

(A) External corrosion control of buried or submerged gathering and flow lines shall be consistent with NACE International, *Standard Recommended Practice-Control of External Corrosion on Underground or Submerged Metallic Piping System*s, 2002, RP0169-2002, unless a more stringent requirement is set out in this section.

(B) External corrosion control of aboveground gathering and flow lines shall include the following:

(i) Lines exposed to the atmosphere shall be protected from external corrosion by the application of a protective coating, or by the use of corrosion-resistant alloys, unless the operator can demonstrate that the anticipated extent of corrosion is not detrimental to serviceability, and

(ii) Lines exposed to the atmosphere shall be inspected for corrosion at regular intervals.

(C) Internal corrosion control. Operators shall institute programs designed to minimize internal corrosion, including, as appropriate, one or more of the following:

(i) removal of foreign material by scraping or pigging;

(ii) treatment of residual water or dehydration;

(iii) injection of environmentally acceptable inhibitors, biocides, or other chemical agents;

(iv) removal of dissolved gases by chemical or mechanical means;

(v) gas blanketing; or

(vi) continuous internal coating or lining.

(2) Preventative Maintenance and Leak Detection. At a minimum, gathering and flow lines shall either

(A) be included in a preventative maintenance program which meets the requirements of (d), or

(B) be provided with either a leak detection system or systems which meet the requirements of (e).

(d) Preventative Maintenance Program. Operators may meet the requirements by having in place a preventative maintenance program that ensures the continued operational reliability of any gathering and flow line system component affecting quality, safety, and pollution prevention. A preventative maintenance program must:

(1) be consistent with all applicable requirements and guidelines prescribed in American Petroleum Institute Piping Inspection Code, Inspection, Repair, Alteration, and Rerating of In-service Piping Systems, API 570, Second Edition, October 1998, Addendum 1, February 2000, Addendum 2, December 2001, and Addendum 3, August 2003; and

(2) for buried or submerged gathering and flow lines:

(A) include an inspection program for emergency shutoff and isolation valves that control the flow of oil which shall, at a minimum, include that the stems of all such valves be stroked at least once a year;

(3) for aboveground gathering and flow lines:

(A) include regular visual inspection of the exterior of the pipe for corrosion,

(B) pipewall thickness measurement inspections in accordance with API 570, and

(C) an inspection program for emergency shutoff and isolation valves that control the flow of oil which shall, at a minimum, include that the stems of all such valves be stroked at least once a year;

(4) include procedures to review proposed changes in operations to evaluate potential impacts on pipe integrity; and

(5) include documentation to validate the effectiveness of the preventative maintenance program, including

(A) the procedures for carrying out the program in conformance with API 570;

(B) dates of inspections and tests;

(C) inspections and test data evaluation including analysis, pipewall thickness measurements and remaining life calculations;

(D) internal audit procedures of the program, including descriptions of controls and corrections for non-conformities;

(E) repairs and alterations of gathering and flow lines; and

(F) any other information pertinent to the integrity of the gathering and flow lines.

(e) Leak Detection System or Systems. Operators may meet the requirements of providing a leak detection system or systems by any of the following:

(1) instrumentation with the capability of reliably detecting a gathering or flow line leak equal to two percent of the maximum design flow rate within five minutes;

(2) completely containing the entire circumference of the gathering or flow line provided that a leak equal to two percent of the maximum design flow rate can be reliably detected within fifteen minutes; or

(3) successful completion of an annual pressure test at 125% maximum operating pressure for four continuous hours without leaking and, unless precluded by adverse weather conditions, daily visual observation of the gathering or flow line provided that a leak equal to two percent of the maximum design flow rate can be reliably detected within two hours.

(f) Line Markers. Line markers shall be installed and maintained over each onshore gathering and flow line at each road crossing and in sufficient number along the remainder of the pipe to identify and, for buried pipe, properly locate each regulated gathering and flow line.[77]

(g) Gathering and flow lines removed from service for more than one year must be free of accumulated oil and isolated from the system. The owner or operator shall notify the department when gathering and flow lines are removed from service in accordance with this paragraph.

Rationale & Discussion

General

Gathering and flow lines in Alaska are generally regarded by ADEC as consisting of pipe carrying oil or multi-phase petroleum products between a well and a processing unit or common carrier or sales pipeline regulated under 18 AAC 75 as a "crude oil transmission pipeline"[78].

Alaska Statute 46.04.900(19) defines a "production facility" as specifically including "gathering and flow lines" for purposes of oil pollution control. 18 AAC 75 Article 1 regulations regarding production facilities are generally located in 18 AAC 75.045 "Operating Requirements for Exploration and Production Facilities".

The current version of 18 AAC 75.045 is predominantly directed towards offshore platforms. The only reference to pipe is in 18 AAC 75.045(g) which states that "Piping associated with an exploration or production facility must meet the applicable requirements of 18 AAC 75.080

[77] The intention is that gathering and flow lines be sufficiently identified for safety consistent with ASME B31.4, Chapter VII, section 451.3

[78] "transmission pipeline" is defined in 18 AAC 75.990(134) as "a pipeline through which crude oil moves in transportation, including line pipe, valves, and other appurtenances connected to line pipe, pumping units, and fabricated assemblies associated with pumping units; "transmission pipeline" does not include gathering lines, flow lines, or facility piping".

[Facility Piping Requirements for Oil Terminal, Crude Oil Transmission Pipeline, Exploration, and Production Facilities]."

18 AAC 75.080 applies to "facility oil piping", a term which is not currently defined in regulation or statute, although this draft contains a proposed definition of the term. Based upon a review of the relevant statutes and regulations, ADEC is of the opinion that 18 AAC 75.080 does not effectively address gathering and flow lines.

Based upon a review of spill data and federal, state, and other national regulations, ADEC is proposed draft regulations covering the following areas:

- Minimum design & construction standards – including protective standards for design and construction based upon industry consensus standards;
- Minimum operation & maintenance standards - Including performance-based corrosion control and discharge prevention standards, which may be best accomplished through a program similar to the federal integrity management regulations already in place for federally regulated gathering lines and other pipelines regulated under 49 CFR 195;[79] and
- Compliance verification & documentation requirements – Some form of verifiability that operators are meeting the standards.

Please refer to the discussion at the beginning of this document for additional background material.

18 AAC 75.082(a)

ADEC proposes an applicability subsection to clearly delineate what piping is covered by the proposed section.

18 AAC 75.082(b)

ADEC is proposing an industry consensus standard, ASME B31.4, as a baseline standard for design and construction of gathering and flow lines. ADEC assumes that ASME B31.4 will be the default standard and that the vast majority of operators will follow that standard. The phrasing "or another appropriate nationally-recognized standard approved by the department" is intended to cover rare, specific conditions not covered by ASME B31.4, and is not intended as an alternative to the ASME standard.

18 AAC 75.082(c)

A review of historical gathering and flow line spill data clearly indicates that corrosion is the major contributing factor in spills. Therefore, ADEC is proposing minimum corrosion control program standards in an effort to reduce the frequency and severity of gathering and flow line spills.

ADEC is also proposing two spill prevention options in addition to a corrosion control program. Operators would have the option of including gathering and flow lines in a preventative maintenance program designed to ensure continued operational reliability and safety, or provide a leak detection system for the lines.

[79] A starting point for this item could be API 1160 – Managing System Integrity for Hazardous Liquid Pipelines.

18 AAC 75.082(d)

ADEC is proposing a preventative maintenance program as one option for reducing spills from gathering and flow lines. The intention of the department is that the preventative maintenance program would be a comprehensive program consistent with the API 570 piping standard.

18 AAC 75.082(e)

As an alternative to a preventative maintenance program, ADEC is proposing the option of a leak detection system for gathering and flow lines. The proposed leak detection requirements include three options to meet the requirement.

18 AAC 75.082(f)

For purposes of safety, ADEC is proposing line markers for gathering and flow lines, particularly for buried lines. ADEC notes that the proposed wording is consistent with industry practice and ASME B31.3.

18 AAC 75.082(g)

To reduce the frequency and severity of spills from out of service gathering and flow lines, ADEC is proposing that lines removed from service be free of oil and isolated from the system.

18 AAC 75.090 is repealed:

18 AAC 75.090. Recommended practices

Repealed.

[TO MEET THE REQUIREMENTS OF 18 AAC 75.005 - 18 AAC 75.080, THE OWNER OR OPERATOR IS ENCOURAGED TO FOLLOW APPLICABLE RECOMMENDED PRACTICES AND OPERATING GUIDELINES, INCLUDING THE FOLLOWING:

(1) AMERICAN PETROLEUM INSTITUTE (API) CHAPTER 6.6, MANUAL OF PETROLEUM MEASUREMENT STANDARDS, METERING ASSEMBLIES, PIPELINE METERING SYSTEMS, FIRST EDITION, 1981, REAFFIRMED AUGUST 1987 (ANSI/API MPMS 5.6-1981);

(2) API PUBLICATION 1615, INSTALLATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS, FOURTH EDITION, CAUTIONARY STATEMENT, MARCH, 1989;

(3) API PUBLICATION 2008, SAFE OPERATION OF INLAND BULK PLANTS (1984);

(4) API PUBLICATION 2200-83, REPAIRING CRUDE OIL, LIQUIFIED NATURAL GAS, AND PRODUCT PIPELINES (1983);

(5) API RECOMMENDED PRACTICE 2A, RECOMMENDED PRACTICE FOR PLANNING, DESIGNING AND CONSTRUCTING FIXED OFFSHORE PLATFORMS;

(6) API RECOMMENDED PRACTICE 2A-LFRD, DRAFT RECOMMENDED PRACTICE FOR PLANNING, DESIGNING AND CONSTRUCTION FIXED OFFSHORE PLATFORMS - LOAD AND RESISTANCE FACTOR DESIGN, FIRST EDITION, DECEMBER 15, 1989;

(7) API RECOMMENDED PRACTICE 2K, RECOMMENDED PRACTICE FOR CARE AND USE OF MARINE DRILLING RISERS, SECOND EDITION, JANUARY 1982;

(8) API RECOMMENDED PRACTICE 2Q, RECOMMENDED PRACTICE FOR DESIGN AND OPERATION OF MARINE DRILLING RISER SYSTEMS, SECOND EDITION, APRIL 1984;

(9) API RECOMMENDED PRACTICE 2R, RECOMMENDED PRACTICE FOR DESIGN, RATING AND TESTING OF MARINE DRILLING RISER COUPLINGS, FIRST EDITION, MAY 1984;

(10) API RECOMMENDED PRACTICE T-2, RECOMMENDED PRACTICE FOR QUALIFICATION PROGRAMS FOR OFFSHORE PRODUCTION PERSONNEL WHO WORK WITH ANTI-POLLUTION SAFETY DEVICES, REVISED EDITION, OCTOBER 1975;

(11) API RECOMMENDED PRACTICE T-3, RECOMMENDED PRACTICE FOR TRAINING AND QUALIFICATION OF PERSONNEL IN WELL CONTROL EQUIPMENT AND TECHNIQUES FOR DRILLING ON OFFSHORE LOCATIONS, JULY 1976;

(12) API RECOMMENDED PRACTICE T-6, RECOMMENDED PRACTICE FOR TRAINING AND QUALIFICATION OF PERSONNEL IN WELL CONTROL EQUIPMENT AND TECHNIQUES FOR COMPLETION AND WORKOVER OPERATIONS ON OFFSHORE LOCATIONS, FIRST EDITION, OCTOBER 1986;

(13) API RECOMMENDED PRACTICE 6G, RECOMMENDED PRACTICE ON THROUGH FLOWLINE (TFL) PUMP DOWN SYSTEMS, THIRD EDITION, JANUARY 1982;

(14) API RECOMMENDED PRACTICE 12R1 (RP12R1), RECOMMENDED PRACTICE FOR SETTING, MAINTENANCE, INSPECTION, OPERATION AND REPAIR OF TANKS IN PRODUCTION SERVICE, FOURTH EDITION, 1991;

(15) API RECOMMENDED PRACTICE 14B, RECOMMENDED PRACTICE FOR DESIGN, INSTALLATION, REPAIR AND OPERATION OF SUBSURFACE SAFETY VALVE SYSTEMS, THIRD EDITION, JANUARY 1, 1990;

(16) API RECOMMENDED PRACTICE 14C, RECOMMENDED PRACTICE FOR ANALYSIS, DESIGN, INSTALLATION AND TESTING OF BASIC SURFACE SAFETY SYSTEMS ON OFFSHORE PRODUCTION PLATFORMS, FOURTH EDITION, SEPTEMBER 1986, ERRATA NOVEMBER 1986;

(17) API RECOMMENDED PRACTICE 14E, RECOMMENDED PRACTICE FOR DESIGN AND INSTALLATION OF OFFSHORE PRODUCTION PLATFORM PIPING SYSTEMS, FOURTH EDITION, APRIL 1984;

(18) API RECOMMENDED PRACTICE 14G, RECOMMENDED PRACTICE FOR FIRE PREVENTION AND CONTROL ON OPEN TYPE OFFSHORE PRODUCTION PLATFORMS, SECOND EDITION, 1986;

(19) API RECOMMENDED PRACTICE 14H, RECOMMENDED PRACTICE FOR USE OF SURFACE SAFETY VALVES AND UNDERWATER SAFETY VALVES OFFSHORE, SECOND EDITION, APRIL 1984 AND SUPPLEMENT 1 TO THE SECOND EDITION FOR RP 14H, JUNE 1986;

(20) API RECOMMENDED PRACTICE 16E, RECOMMENDED PRACTICE FOR DESIGN OF CONTROL SYSTEMS FOR DRILLING WELL CONTROL EQUIPMENT, FIRST EDITION, OCTOBER 1, 1990;

(21) API RECOMMENDED PRACTICE 17A-87, RECOMMENDED PRACTICE FOR DESIGN AND OPERATION OF SUBSEA PRODUCTION SYSTEMS, FIRST EDITION, SEPTEMBER 1, 1987;

(22) API RECOMMENDED PRACTICE 53, RECOMMENDED PRACTICES FOR BLOWOUT PREVENTION EQUIPMENT SYSTEMS FOR DRILLING WELLS, SECOND EDITION, MAY 1984;

(23) API RECOMMENDED PRACTICE 521,GUIDE FOR PRESSURE-RELIEVING AND DEPRESSURING SYSTEMS, SECOND EDITION, SEPTEMBER 1982;

(24) API RECOMMENDED PRACTICE 652, LINING OF ABOVEGROUND PETROLEUM STORAGE TANK BOTTOMS, FIRST EDITION, 1991;

(25) API RECOMMENDED PRACTICE 750-90, MANAGEMENT OF PROCESS HAZARDS, FIRST ERRATUM, FEBRUARY 1990;

(26) API RECOMMENDED PRACTICE 1102, RECOMMENDED PRACTICE FOR LIQUID PETROLEUM PIPELINES CROSSING RAILROADS AND HIGHWAYS, FIFTH EDITION, NOVEMBER 1981 AND ERRATA;

(27) API RECOMMENDED PRACTICE 1110, RECOMMENDED PRACTICE FOR THE PRESSURE TESTING OF LIQUID PETROLEUM PIPELINES, SECOND EDITION, DECEMBER 1981;

(28) API RECOMMENDED PRACTICE 1111, RECOMMENDED PRACTICE FOR DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE OF OFFSHORE HYDROCARBON PIPELINES, FIRST EDITION, 1976;

(29) API RECOMMENDED PRACTICE 2003, PROTECTION AGAINST IGNITIONS ARISING OUT OF STATIC, LIGHTNING, AND STRAY CURRENTS, FOURTH EDITION, MARCH 1982;

(30) API RECOMMENDED PRACTICE FOR CATHODIC PROTECTION OF UNDERGROUND PETROLEUM STORAGE TANKS AND PIPING SYSTEMS, SECOND EDITION (1987) AND SUPPLEMENT 2, MARCH 1989;

(31) API SPECIFICATION 5L, SPECIFICATION FOR LINE PIPE, THIRTY-EIGHTH EDITION, MAY 1, 1990;

(32) API SPECIFICATION 6A, SPECIFICATION FOR WELLHEAD AND CHRISTMAS TREE EQUIPMENT, SIXTEENTH EDITION, OCTOBER 1, 1989;

(33) API SPECIFICATION 6D, SPECIFICATION FOR PIPELINE VALVES (GATE, PLUG, BALL, AND CHECK VALVES), TWENTIETH EDITION, 1991;

(34) API SPECIFICATION 10, SPECIFICATION FOR MATERIALS AND TESTING FOR WELL CEMENTS, FIFTH EDITION, 1990;

(35) API SPECIFICATION 12B, SPECIFICATION FOR BOLTED TANKS FOR STORAGE OF PRODUCTION LIQUIDS, THIRTEENTH EDITION, 1990;

(36) API SPECIFICATION 12D, SPECIFICATION FOR FIELD WELDED TANKS FOR STORAGE OF PRODUCT LIQUIDS, NINTH EDITION, JANUARY 1982, SUPPLEMENT 1, MARCH 1983, SUPPLEMENT 2, MAY 1985;

(37) API SPECIFICATION 12F, SPECIFICATION FOR SHOP WELDED TANKS FOR STORAGE OF PRODUCTION LIQUIDS, TENTH EDITION, JUNE 1, 1989;

(38) API SPECIFICATION 12P, SPECIFICATION FOR FIBERGLASS REINFORCED TANKS, FIRST EDITION, 1986;

(39) API SPECIFICATION 14D, SPECIFICATION FOR WELLHEAD SURFACE SAFETY VALVES AND UNDERWATER SAFETY VALVES FOR OFFSHORE SERVICE, SEVENTH EDITION, JANUARY 1988 AND SUPPLEMENT, AUGUST 1989;

(40) API STANDARD 510, PRESSURE VESSEL INSPECTION CODE: MAINTENANCE, INSPECTION, RATING, REPAIR AND ALTERATION, SIXTH EDITION, JUNE 1989, ERRATUM SEPTEMBER 1989;

(41) API STANDARD 526, FLANGED STEEL SAFETY RELIEF-VALVES, THIRD EDITION, FEBRUARY 1984;

(42) API STANDARD 620, DESIGN AND CONSTRUCTION OF LARGE WELDED, LOW-PRESSURE STORAGE TANKS, EIGHTH EDITION, JUNE 1990;

(43) API STANDARD 650, WELDED STEEL TANKS FOR OIL STORAGE, EIGHTH EDITION, NOVEMBER 1988, REVISED 1990;

(44) API STANDARD 653, TANK INSPECTION, REPAIR, ALTERATION, AND RECONSTRUCTION, FIRST EDITION, 1991, AND SUPPLEMENT 1, JANUARY 1992;

(45) API STANDARD 1104, WELDING OF PIPELINES AND RELATED FACILITIES, SEVENTEENTH EDITION, SEPTEMBER 1988 AND ERRATA, JUNE 1989;

(46) API STANDARD 2000, VENTING ATMOSPHERIC AND LOW PRESSURE STORAGE TANKS, THIRD EDITION, REVISED 1987;

(47) AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), ASME SPPE 1-88, QUALITY ASSURANCE AND CERTIFICATION OF SAFETY AND POLLUTION PREVENTION EQUIPMENT USED IN OFFSHORE OIL AND GAS OPERATIONS, ADDENDA SPPE 1A-1988, ADDENDA SPPE 1B-1989, ADDENDA SPPE 1D-1990, SPECIAL NOTICE, OCTOBER 1990;

(48) ASME BOILER AND PRESSURE VESSEL CODE, SECTION VIII, "PRESSURE VESSELS DIVISION 1" (1989);

(49) ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX, "QUALIFICATION STANDARD FOR WELDING AND BRAZING PROCEDURES WELDERS, BRAZERS AND WELDING AND BRAZING OPERATORS" (1989);

(50) AMERICAN NATIONAL STANDARDS INSTITUTE/AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ANSI/ASME), ANSI/ASME BOILER AND PRESSURE VESSEL CODE, SECTION I, POWER BOILERS INCLUDING APPENDICES (1989);

(51) ANSI/ASME BOILER AND PRESSURE VESSEL CODE, SECTION HEATING BOILERS INCLUDING NON-MANDATORY APPENDICES A, B, C, D, E, F, H, I, AND J AND THE GUIDE TO MANUFACTURERS DATA REPORT FORMS (1989);

(52) ANSI/ASME BOILER AND PRESSURE VESSEL CODE SECTION VIII, PRESSURE VESSEL DIVISIONS 1 AND 2, INCLUDING NONMANDATORY APPENDICES (1989);

(53) ANSI B31.1, PRESSURE PIPING CODE, POWER PIPING, AND ADDENDA B31.1A (1989);

(54) ANSI B31.3, CHEMICAL PLANT AND PETROLEUM REFINERY PIPING (1990);

(55) ANSI B31.4, "LIQUID TRANSPORTATION SYSTEMS FOR HYDROCARBONS, LIQUID PETROLEUM GAS, ANHYDROUS AMMONIA AND ALCOHOLS" (ASME) (1989);

(56) ANSI B36.10M, WELDED AND SEAMLESS WROUGHT STEEL PIPE (1985);

(57) AMERICAN CONCRETE INSTITUTE (ACI), ACI STANDARD 201.2R- 77(82), GUIDE TO DURABLE CONCRETE, SIXTH PRINTING (1982);

(58) ACI STANDARD 222R-89, CORROSION OF METALS IN CONCRETE (1989);

(59) ACI STANDARD 224R-89, CONTROL OF CRACKING IN CONCRETE STRUCTURES (1989);

(60) ACI STANDARD 318-89/318R-89, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND COMMENTARY (1989);

(61) ACI STANDARD 350R-89, ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES ACI 515R.1R GUIDE TO THE USE OF WATERPROOFING, DAMPPROOFING, PROTECTIVE AND DECORATIVE BARRIER SYSTEMS FOR CONCRETE (1989);

(62) ACI STANDARD 357-R-84, GUIDE FOR THE DESIGN AND CONSTRUCTION OF FIXED OFFSHORE CONCRETE STRUCTURES (1989);

(63) ACI STANDARD 357.1R-85, STATE-OF-THE ART REPORT ON OFFSHORE CONCRETE STRUCTURES FOR THE ARCTIC (1985);

(64) ASTM SPECIFICATION A333333M, "STANDARD SPECIFICATION FOR SEAMLESS AND WELDED STEEL PIPE FOR LOW-TEMPERATURE SERVICE" (1988), REVISED A-88;

(65) ASTM SPECIFICATION A381, "STANDARD SPECIFICATION FOR METAL-ARC-WELDED STEEL PIPE FOR USE WITH HIGH PRESSURE TRANSMISSION SYSTEMS" (1989);

(66) ASTM SPECIFICATION A671, "STANDARD SPECIFICATION FOR ELECTRIC-FUSION-WELDED STEEL PIPE FOR ATMOSPHERIC AND LOWER TEMPERATURES" (1989), REVISION A, 1989;

(67) ASTM SPECIFICATION A672, "STANDARD SPECIFICATION FOR ELECTRIC-FUSION-WELDED STEEL PIPE FOR HIGH PRESSURE SERVICE AT MODERATE TEMPERATURES" (1989), REVISION B, 1989;

(68) ASTM SPECIFICATION A69 1 REV A, STANDARD SPECIFICATION FOR CARBON AND ALLOY STEEL PIPE, ELECTRIC-FUSION WELDED FOR HIGH PRESSURE SERVICE AT HIGH TEMPERATURES (1989);

(69) MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY (MSS), MSS SP-75, SPECIFICATION FOR HIGH-TEST WROUGHT WELDING FITTINGS (1988);

(70) MMS OCS ORDER NO. 2, DRILLING OPERATIONS, SECTION 5, BLOWOUT-PREVENTER (BOP) EQUIPMENT REQUIREMENTS (1988);

(71) NATIONAL ASSOCIATION OF CORROSION ENGINEERS (NACE), NACE RP0175-75, CONTROL OF INTERNAL CORROSION IN STEEL PIPELINES AND PIPING SYSTEMS (1975);

(72) NACE RP 0275-75, APPLICATION OF ORGANIC COATINGS TO THE EXTERNAL SURFACE OF STEEL PIPE FOR UNDERGROUND SERVICE;

(73) NACE RP 0276-76, EXTRUDED ASPHALT MASTIC TYPE PROTECTIVE COATINGS FOR UNDERGROUND PIPELINES (1976);

(74) NACE RP 0286-86, THE ELECTRICAL ISOLATION OF CATHODICALLY PROTECTED PIPELINES (1986);

(75) NACE RP 06-75 CONTROL OF EXTERNAL CORROSION ON OFFSHORE STEEL PIPELINES (1988);

(76) NACE RP 01-69 RECOMMENDED PRACTICE FOR CONTROL OF EXTERNAL CORROSION ON UNDERGROUND OR SUBMERGED METALLIC PIPING SYSTEMS, REVISED 1983;

(77) NACE RP 02-85, CONTROL OF EXTERNAL CORROSION ON METALLIC BURIED, PARTIALLY BURIED OR SUBMERGED LIQUID STORAGE SYSTEMS (1985);

(78) NATIONAL ASSOCIATION OF PIPE COATING APPLICATORS (NAPCA), NAPCA 3-67-87, EXTERNAL APPLICATION PROCEDURES OF HOT APPLIED COAL TAR AND ASPHALT ENAMEL COATINGS TO STEEL PIPE (SPECIFICATIONS AND PLANT COATING GUIDE, 1983);

(79) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), NFPA 30-90, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE (1990);

(80) NFPA 77-88, RECOMMENDED PRACTICE ON STATIC ELECTRICITY (1988);

(81) NFPA 78-89, LIGHTENING PROTECTION CODE (1989);

(82) NFPA CHAPTER 6, BULK PLANTS AND TERMINALS (FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE HANDBOOK, THIRD EDITION, (1990));

(83) PETROLEUM EQUIPMENT INSTITUTE (PEI) RP-100-90, RECOMMENDED PRACTICE FOR INSTALLATION OF UNDERGROUND LIQUID STORAGE SYSTEMS (1990);

(84) STEEL STRUCTURAL PAINTING COUNCIL (SSPC), SSPC CHAPTER 16.1-82, COATINGS FOR PIPELINES AND OTHER UNDERGROUND STRUCTURES (GOOD PAINTING PRACTICE), VOLUME 1, SECOND EDITION, 1982;

(85) STEEL TANK INSTITUTE, STI-P3 SPECIFICATION SYSTEM AND MANUAL FOR EXTERNAL CORROSION PROTECTION OF UNDERGROUND STEEL STORAGE TANKS (1987);

(86) UNDERWRITERS LABORATORIES STANDARD 58, STEEL UNDERGROUND TANKS FOR FLAMMABLE AND COMBUSTIBLE LIQUIDS, EIGHTH EDITION, AUGUST 3, 1990;

(87) UNDERWRITERS LABORATORIES STANDARD 174689, EXTERNAL CORROSION PROTECTION SYSTEMS FOR UNDERGROUND STORAGE TANKS, FIRST EDITION, NOVEMBER 7, 1990.]

Rationale & Discussion

Some commenters questioned whether 18 AAC 75.090, Recommended Practices, should be retained, noting that the section is advisory in nature and that most of the referenced standards and practices are outdated. ADEC agrees, and is considering deletion of this section. Where third-party standards and practices are incorporated into other sections, those standards are now updated and explicitly called out.

18 AAC 75, Article 4 – Oil Discharge Prevention and Contingency Plan and Nontank Vessel Plans

18 AAC 75.425. Oil discharge prevention and contingency plan contents.

(a) An oil discharge prevention and contingency plan submitted for approval under 18 AAC 75.400 – 18 AAC 75.495 must be in a form that is usable as a working plan for oil discharge prevention, control, containment, cleanup, and disposal. A plan must contain enough information, analyses, supporting data, and documentation to demonstrate the plan holder's ability to meet the requirements of AS 46.04.030 and 18 AAC 75.400 - 18 AAC 75.495.

(b) The plan for a facility comprised of multiple operations as described at 18 AAC 75.442, must describe, for each category of operation at the facility, the appropriate response measures to meet the applicable portion of the response planning standard.

18 AAC 75.425(c) is amended to read:

(c) The submitted plan must be accompanied by a cover page or promulgation letter that includes

(1) the name of the plan holder, and the covered vessel, barge, railroad, facility, or operation, followed by the words "Oil Discharge Prevention and Contingency Plan";

(2) the date of the plan; and

(3) a statement, signed by a person with appropriate authority, committing the **oil discharge prevention and response**[80] resources necessary to implement the plan.

18 AAC 75.425(d) is amended to read:

(d) The plan must

(1) include the official plan title;

(2) consist of the **five** [FOUR] parts and contain the information described in **(e)(1)-(e)(5)** [(e)(1)-(e)(4)] of this section;

(3) contain a complete table of contents and lists of any tables or figures, with corresponding page numbers; and

(4) be presented in the order shown in (e) of this section, or include a cross-reference table that directs the reader to the appropriate information.

(e) The information in the plan must include

[…]

[80] Added for clarification

18 AAC 75.425(e)(2) is amended to read:

(2) Part 2 - Prevention Plan: [UNDER THE PROVISIONS OF 18 AAC 75.005 - 18 AAC 75.090, THE] **The** prevention plan must include a detailed description of all oil discharge prevention measures and policies employed at the facility, vessel, or operation, with reference to the **specific oil discharge** risks involved. **The prevention plan must describe how the applicant meets all the applicable requirements of 18 AAC 75.005 - .085.**[81] The prevention plan may be submitted as a separate volume, and must include, at a minimum, the following information:

(A) **Discharge prevention programs –** a description and schedule of regular **oil discharge**[82] [POLLUTION] prevention**,** inspection, and maintenance programs in place at the facility or operation**, including**

(i) oil discharge prevention training programs required by 18 AAC 75.020(a);

(ii) substance abuse and medical monitoring programs required by 18 AAC 75.007(e);

(iii) security and surveillance programs required by 18 AAC 75.007(f);

(B) **Discharge history –** a history of all known **oil** discharges greater than 55 gallons that have occurred at the facility, **including the source, cause, amount, and corrective actions taken,** with an analysis of the relationship, if any, between their frequency, cause, and size, and a description of actions to be taken to prevent or mitigate similar discharges in the future;

(C) **Potential discharge analysis –** an analysis of potential oil discharges, including size, frequency, cause, duration, and location, and a description of actions taken to prevent a potential discharge;

(D) **Specific conditions -** a description of any conditions specific to the facility or operation that might increase the risk of a discharge, including physical or navigation hazards, traffic patterns, or other site-specific factors, and any measures that have been taken to reduce the risk of a discharge attributable to these conditions**, including a summary of operating procedures designed to mitigate the risk of a discharge;**

(E) **Discharge Detection** - a description of the existing and proposed means of discharge detection, including surveillance schedules, leak detection, observation wells, monitoring systems, and spill-detection instrumentation; if electronic or mechanical instrumentation is employed, detailed specifications, including threshold detection, sensitivities, and limitations of equipment must be provided;

[81] Added to clarify the connection between this paragraph and 18 AAC 75 Article 1
[82] Wording change to make it consist with AS 46.04.030 and 18 AAC 75 Article 1

18 AAC 75.425(e)(2)(F) is repealed, with the text relocated to a new subparagraph 18 AAC 75.425(e)(5):

(F) **Repealed.** [A DETAILED BASIS FOR THE CALCULATION OF EXCEPTIONS, IF ANY, TO BE APPLIED TO THE RESPONSE PLANNING STANDARDS SET OUT IN 18 AAC 75.430 - 18 AAC 75.438;]

18 AAC 75.425(e)(2)(G) is amended to read:

(G) **Waivers** - For an operation subject to a waiver, alternate compliance schedule, or existing condition of plan approval under **18 AAC 75.005 – 18 AAC 75.085** [18 AAC 75.005 –18 AAC 75.090] or 18 AAC 75.400 - 18 AAC 75.496, documentation of

(i) each waiver, alternate compliance schedule, or existing condition of plan approval; and

(ii) the approval of each waiver, alternate compliance schedule, or existing condition of plan approval;

18 AAC 75.425(e)(3) is amended to read:

(3) Part 3 - Supplemental Information: The supplemental information section must provide background and verification information, including

(A) facility description and operational overview - a general description of the oil storage, transfer, exploration, or production activities of the operation, including

(i) the number, type, and oil storage capacity of each container covered under the plan and its installation date, design, construction, and general condition;

(ii) the type and amount of oil stored in each container;

(iii) for vessels, a general chart showing routes normally used for the transportation of oil products within state waters, and the frequency of use for each route;

(iv) for a railroad, a map showing the location of each main line, siding, and yard area;

(v) for vessels, plans or diagrams that identify cargo, bunker, and ballast tanks, all tank capacities, cargo piping, ballast piping, winches, emergency towing equipment, power plants, manifold pipe size, containment structures and equipment, and a description of the method of containing a discharge from fuel oil tank vent overflow and fill pipes;

(vi) a **general** description of the [NORMAL] procedures for the loading or transfer of oil from or to a pipeline, facility, tank vessel, oil barge, railroad tank car, or storage tank;

(vii) for a production facility, a description of the flow and gathering lines and processing facilities;

(viii) for vessels, a description of the methods for retention and disposal of oily wastes and bilge slops;

(ix) for a railroad, a description of railroad tank cars and locomotives normally in service, including type, number and capacity, general piping diagrams, location of valves, and tank volumes; and

(x) any other information required by the department to evaluate the response capability of a vessel, including an approved loading manual that meets the requirements of 46 C.F.R. 45.105, amended through October 1, 1990;

(B) receiving environment - for a land-based facility or operation:

(i) the potential routes of travel of oil discharged from the facility or operation to open water in the form of a drainage diagram or map, showing gradients and potential containment sites and features, including identification and explanation of all measures that will be taken to prevent a discharge from entering open water; and

(ii) based on the information in (i) of this subparagraph, an estimate of what percentage of the applicable response planning standard volume set out at 18 AAC 75.430 - 18 AAC 75.436, or 18 AAC 75.442 for the facility or operation will reach open water;

[…]

(I) training - a detailed description of the training programs for discharge response personnel;

[…]

18 AAC 75.425(e)(4) is amended to read:

(4) Part 4 - Best Available Technology Review: Unless application of a state requirement would be preempted by federal law, the plan must provide for the use of the best available technology consistent with the applicable criteria in 18 AAC 75.445(k). In addition, the plan must

(A) identify technologies applicable to the applicant's operation that are not subject to response planning or performance standards specified in 18 AAC 75.445(k) (1) and (2); these technologies include, at a minimum,

[…]

(ii) for a terminal, a crude oil transmission pipeline, or an exploration and production contingency plan: cathodic protection or another approved corrosion control system if required by 18 AAC 75.065(h)(3) **or (5), 18 AAC 75.065(i)(3), 18 AAC 75.065(l)(3) or (4)**[83]; a leak detection system for each tank if required by 18 AAC 75.065(h)(4) **or 18 AAC 75.065(l)(5)**; any other prevention or control system approved by the department under 18 AAC 75.065(i)(1)(D); a means of immediately determining the liquid level of bulk storage tanks as specified in 18 AAC 75.065(j)(3) and (4) **or 18 AAC 75.066(e)**[84]; maintenance practices for buried **metallic**[85] [STEEL] piping containing oil as required by 18 AAC 75.080(b); protective wrapping or coating and cathodic protection if required by 18 AAC 75.080(b)(1)(A) **or (j)(1) or 18 AAC 75.082(c)(1)(B)**[86]; and corrosion surveys required by **18 AAC 75.080(b)(3)(A) or (b)(4)** [18 AAC 75.080(b) (2)(A)];

(iii) for a tank vessel contingency plan: measures to assure prompt detection of an oil discharge as required by 18 AAC 75.027(d); operation of a tank vessel under escort in a manner that permits an escort vessel to be available immediately to provide the intended assistance to the tank vessel as required by 18 AAC 75.027(e); tow lines as required by 18 AAC 75.027(f); and escort vessels;

(iv) for a crude oil transmission pipeline contingency plan: leak detection, monitoring, and operating requirements for crude oil pipelines that include prompt leak detection as required by 18 AAC 75.055(a) **and (e)**[87] ;

(v) for a barge contingency plan: measures to assure prompt detection of an oil discharge as required by 18 AAC 75.037(d) and means to recover a barge that breaks free of its towing vessel as required by 18 AAC 75.037(f); and

(vi) for a railroad tank car contingency plan, measures to assure prompt detection of a tank car leak, spill prevention and containment devices for locomotive fueling systems, spill collection and recovery devices at locomotive fueling and tank car filling locations, track-mounted railroad

[83] Additional regulatory references added to match proposed changes
[84] Additional regulatory reference to match proposed new section
[85] Changed to match proposed change in 18 AAC 75.080(b)
[86] Additional regulatory references added to match changes in 18 AAC 75.080 and proposed new section 18 AAC 75.082
[87] This change is required due to suggested changes in 18 AAC 75.055.

tank car defect detector systems, and avalanche detection and mitigation systems;

A new paragraph, 18 AAC 75.425(e)(5), is proposed to read:

(5) Part 5 - Response Planning Standard: A calculation of the applicable response planning standards set out in 18 AAC 75.430 – 18 AAC 75.440 and 18 AAC 75.442, including a detailed basis for the calculation of reductions, if any, to be applied to the response planning standards.

Rationale & Discussion

18 AAC 75.425(c)(3)

ADEC is considering adding language to 18 AAC 75.425(c)(3) to emphasize the importance of prevention. The revision amplifies and clarifies c-plan holder's responsibility to commit and maintain resources necessary to prevent oil discharges.

18 AAC 75.425(e)(2)

One commenter stated that spill prevention should be performance-based, rather than a documentation exercise. The department agrees that spill prevention should be performance-based, but that verification of performance is by necessity documentation-based.

18 AAC 75.425(e)(2), the Prevention Plan portion of the c-plan regulations, requires that the plan holder verify that appropriate measures are in place to reduce the risk or size of an oil spill at the regulated operation, including demonstration of compliance with the applicable requirements of 18 AAC 75, Article 1 (18 AAC 75.005 -- 18 AAC 75.090). The ADEC believes there has been a general misunderstanding of the interplay between Article 1 and Article 4, along with a general lack of correlation between the two articles. Accordingly, we propose a number of revisions to 18 AAC 75.425(e)(2) to ensure consistency in wording and requirements between Article 1 and Article 4.

One commenter requested that the regulations allow incorporation of prevention plans developed for other purposes by reference. Within certain limits, this is a reasonable request. The referenced documentation must meet the specific requirement that it is being submitted for, and the documentation is subject to the public review c-plan approval process.

18 AAC 75.425(e)(2)(C)

Two operators had issue with 18 AAC 75.425(e)(2)(C) and the additional wording requiring details of past spills. The department notes that the new wording is taken verbatim from the current regulations in Article 1.

18 AAC 75.425(e)(5)

ADEC is also considering adding a new regulation, 18 AAC 75.425(e)(5), requiring that the calculation of the applicable response planning standard (RPS), and a detailed justification of any

prevention reductions to the RPS, be included in the c-plan. This proposed new regulation would clarify current plan review practice.

Several commenters have indicated that the “detailed basis for the calculation of exceptions” wording in the original 18 AAC 75.425(e)(2)(F) was ambiguous and requested a clear method for calculation of the response planning standard. ADEC notes that 18 AAC 75.430(b) and (c) are fairly clear regarding the method of calculating the response planning standard and how to apply any reductions to the response planning standard.

18 AAC 75.445. Approval criteria for oil discharge prevention and contingency plans

18 AAC 75.445(j) is amended to read:

(j) **Training.** In addition to maintaining continuous compliance with other applicable state and federal training requirements, the plan holder shall demonstrate that

> **(1)** designated oil spill response personnel are trained and kept current in the specifics of plan implementation, including deployment of containment boom, operation of skimmers and lightering equipment, and organization and mobilization of personnel and resources**;**
>
> **(2) personnel are trained and kept current in methods of preventing oil discharges as required by 18 AAC 75.020; and**
>
> **(3)** [THE PLAN HOLDER SHALL ENSURE THAT] proof of **such** training is maintained for **five**[88] [THREE] years and is made available to the department upon request.

[DESIGNATED OIL SPILL RESPONSE PERSONNEL ARE TRAINED AND KEPT CURRENT IN THE SPECIFICS OF PLAN IMPLEMENTATION, INCLUDING DEPLOYMENT OF CONTAINMENT BOOM, OPERATION OF SKIMMERS AND LIGHTERING EQUIPMENT, AND ORGANIZATION AND MOBILIZATION OF PERSONNEL AND RESOURCES. THE PLAN HOLDER SHALL ENSURE THAT PROOF OF TRAINING IS MAINTAINED FOR THREE YEARS AND IS MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.]

18 AAC 75.445 is amended by adding a new subsection (m) to read:

(m) Prevention Plan. The prevention plan required by 18 AAC 75.425(e)(2) must describe all oil discharge prevention programs in place at the facility or operation. The plan shall demonstrate that the applicant meets all the applicable requirements of 18 AAC 75.005 - 18 AAC 75.085 and 18 AAC 75.425(e)(2).

18 AAC 75.445 is amended by adding a new subsection (n) to read:

(n) Response Planning Standard. The response planning standard required by 18 AAC 75.425(e)(5) must provide a mathematical calculation of the applicable response planning standards set out in 18 AAC 75.430 – 18 AAC 75.440 and 18 AAC 75.442, and include a detailed calculation and justification of any reductions to the response planning standard.

Rationale & Discussion

The prevention plan approval requirements have been added to provide regulatory guidance on what constitutes an acceptable prevention plan in 18 AAC 75.425(e)(2).

[88] Changed to match the 5-year c-plan cycle.

18 AAC 75.445(j)

We are considering draft changes to the approval criteria of 18 AAC 75.445(j), making oil spill prevention training as required by the proposed section 18 AAC 75.020 a criteria for approval of a c-plan. This correlates with the requirements of the prevention plan portion of the c-plan (18 AAC 75.425(e)(2)). This will strengthen the training documentation requirements in order to verify training and to enforce plan holder responsibility for training.

ADEC is also proposing a technical change requiring maintenance of the training records for five years instead of three years, to match the change in c-plan approvals from three to five years.

18 AAC 75.445(m)

We are considering adding a new section, 18 AAC 75.445(m), listing the approval criteria for the prevention plan portion of a c-plan. This is intended to clarify the approval criteria for c-plan applicants.

18 AAC 75.445(n)

We are considering adding a new section, 18 AAC 75.445(n), covering the response planning standard and calculation of reductions. This is intended to clarify the approval criteria for c-plan applicants.

18 AAC 75.475. Notification of Nonreadiness

(a) All spill response and other equipment identified in the approved oil discharge prevention and contingency plan to meet the response planning standards set out at 18 AAC 75.430 - 18 AAC 75.442 must be maintained in operational condition. Any equipment found not to be operating properly must be repaired or replaced immediately.

(b) Except for a transfer approved under 18 AAC 75.470, if a significant change occurs in, or is made to, any component of a plan that would diminish the plan holder's response capability, the plan holder shall, within 24 hours, notify the department in writing and provide a schedule for a prompt return to operational status. A facsimile delivered to the appropriate regional office will be considered written notice for purposes of this subsection. If the department finds that, as a result of the change, the plan holder is no longer able to execute the plan, it will take appropriate action under 18 AAC 75.490.

(c) Notwithstanding (a) and (b) of this section, removal or inactivation of any major response item for maintenance or repair must be approved by the department before removal or inactivation. A request under this subsection must be submitted at least 10 days before the scheduled action or as soon as possible for an unanticipated repair. The request must state what substitute or temporary measures will be taken to provide equivalent response capability, reduce the time out of service, or otherwise ensure that equivalent response capability is maintained.

18 AAC 75.475 is amended by adding a new paragraph to read:

(d) A plan holder shall notify the department in writing within 24 hours if a significant change occurs in, or is made to,

(1) a leak detection system required by 18 AAC 75.055, or

(2) a secondary containment system required by 18 AAC 75.075.

Rationale & Discussion

In keeping with an increase in emphasis on oil spill prevention, the notification of nonreadiness requirements have been expanded to include major spill prevention items which could affect the size of a potential discharge. Loss of a functional leak detection system, for crude oil transmission pipelines, or secondary containment, for oil storage tanks, could greatly affect the severity and magnitude of a spill. Additional preventative measures, such as additional aerial surveillance of pipelines, may be warranted until the systems can be repaired.

18 AAC 75, Article 9 - General Provisions

18 AAC 75.990 is amended as follows:

18 AAC 75.990. Definitions

[…]

(39) **Repealed.** ["EXISTING INSTALLATION" MEANS STORAGE AND SURGE TANKS, SECONDARY CONTAINMENT, PIPING AND ANY OTHER OPERATIONAL APPURTENANCES CONSTRUCTED AND INSTALLED BEFORE MAY 14, 1992, EXISTING STORAGE AND SURGE TANKS THAT HAVE BEEN RECONSTRUCTED, AS DEFINED IN API STANDARD 653, FIRST EDITION, 1991, AND SUPPLEMENT 1, JANUARY 1992, ARE CONSIDERED A NEW INSTALLATION FOR THE PURPOSES OF THIS CHAPTER];

[…]

(68) **Repealed.** ["NEW INSTALLATION" MEANS STORAGE AND SURGE TANKS, SECONDARY CONTAINMENT, PIPING AND ANY OTHER OPERATIONAL APPURTENANCES CONSTRUCTED, INSTALLED, OR PLACED INTO SERVICE AFTER MAY 14, 1992, INCLUDING RECONSTRUCTED STORAGE AND SURGE TANKS, AS DEFINED IN API STANDARD 653, FIRST EDITION, 1991, AND SUPPLEMENT 1, JANUARY 1992];

[…]

(75) "oil storage tank," for the purposes of 18 AAC 75.065**, 18 AAC 75.066**[89]**,** and 18 AAC 75.075, means a container, including storage and surge tank, that is used to store bulk quantities of oil and that has a capacity greater than 10,000 gallons; "oil storage tank" does not include a process pressure vessel**, catch tank,** or underground storage tank;

[…]

(XXX) "allision" means when a vessel comes into contact with a fixed object, including but not limited to piers, rocks, platforms or other objects, whether manmade or naturally occurring, with sufficient force to incur damage to the vessel;[90]

(XXX) "cathodic protection" means a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell through the application of either galvanic anodes or impressed current;

(XXX) "corrosion" means the deterioration of metal from the loss of positive charged metal ions from the metal surface into an electrolyte;

(XXX) "corrosion expert" means a person who

[89] Added to match the proposed new section 18 AAC 75.066 for shop-fabricated aboveground tanks.
[90] "allision" is a well-understood nautical term, but may not be accurately understood by landlubbers.

(A) by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired through a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried metal piping and metal tanks, and

(B) is accredited or certified as being qualified by NACE International as a corrosion specialist, cathodic protection specialist, or is a registered engineer with education and experience in corrosion control of buried metal piping systems and metal tanks;

(XXX) "combustible liquid" means liquids which have a flash point greater than 60.5 degrees C (141 degrees F);

(XXX) "double-walled aboveground oil storage tank" means an aboveground oil storage tank with a surrounding containment tank fully enclosing a sealed interstitial space of a capacity less than 100% of the storage tank capacity and preventing visual inspection of the inner tank;

(XXX) "facility oil piping" means piping and associated fittings, including all valves, elbows, joints, flanges, pumps, and flexible connectors, originating from or terminating at an oil storage tank regulated under 18 AAC 75.065 or 18 AAC 75.066 or an exploration or production well, and located within the boundaries of an oil terminal, crude oil transmission pipeline, exploration or production facility, up to the:

(A) Union of the piping with a fuel dispensing system;

(B) Marine header;

(C) Fill cap or fill valve;

(D) Forwarding pump used to transfer oil between facilities, between adjacent pump stations, or between a pressure pump station and a terminal or breakout tank;

(E) First flange or connection within the loading rack containment area;

(F) First choke or valve inside a manifold building at a well pad, or if a manifold building is not present, the first choke or valve inside a gathering center or flow station; or

(G) First valve or flange inside a processing unit boundary;

(XXX) "flash point" means the lowest temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid;

(XXX) "fretting" means wearing away or corroding in a manner which compromises pipe integrity;[91]

(XXX) "gathering and flow lines" means means piping[92] and associated fittings, including all valves, elbows, joints, flanges, pumps, and flexible connectors, containing liquid oil[93] located at a production facility[94] that is installed or used for the purpose of transporting oil between a well and the interconnection point with a pipeline facility[95] and including all piping between interconnections, including flow lines, multi-phase, and process piping, except

(A) facility oil piping; or[96]

(B) a transmission pipeline;[97]

(XXX) "installation" means oil storage and surge tanks and associated operational appurtenances, including secondary containment systems, integral piping, overfill protection devices, and associated leak detection equipment;

(XXX) "marine structure" includes any installation permanently or temporarily attached to the seabed, and includes, by way of example, mobile offshore drilling units, prefabricated offshore platforms, and artificial islands;

(XXX) "permanent unloading areas" means unloading areas routinely used for transfer operations, excluding areas used for short-term emergency response, seasonal usage, or short-term temporary usage to meet unusual operational demands;[98]

(XXX) "pipe" or "piping" means any hollow cylinder or tube used to convey oil;

(XXX) "placed in service" means the date of commencement of operational use, either

(A) after initial construction or installation, or

(B) after the date of return to service after reconstruction as defined by API Standard 653, 3rd Edition, December 2001, Addendum 1, September 2003, or

(C) after the date of return to service after being removed from service in accordance with 18 AAC 75.080(e);

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[91] "Fretting describes corrosion occurring at contact areas between materials under load subjected to vibration and slip…..Fretting is also called *friction oxidation, wear oxidation, chafing, and false brinelling*…" From "Corrosion Engineering" by Mars G. Fontana, 3rd Edition, 1986, p 105

[92] defined in 18 AAC 75.990(XXX) (new definition proposed as part of current regulatory review project)

[93] defined in AS 46.04.900(12)

[94] defined in AS 46.04.900(19)

[95] defined in AS 46.04.900(18)

[96] defined in 18 AAC 75.990(XXX) (new definition proposed as part of current regulatory review project)

[97] defined in 18 AAC 75.990(134)

[98] More discussion of what constitutes "permanent unloading areas" can be found in ADEC Guidance No. IPP 2004-01, revised August 5, 2004

(XXX) "qualified cathodic protection tester" means a person who is accredited or certified as being qualified as, at a minimum, CP1-CP Tester by NACE international.

(XXX) "self-diked aboveground oil storage tank" means a aboveground storage tank with integral secondary containment of minimum capacity of at least 100% of the capacity of the tank.

(XXX) "shop-fabricated aboveground oil storage tank" means an oil storage tank that is constructed at a tank manufacturer's plant and transported to a facility for installation.

(XXX) "vaulted aboveground oil storage tank" means a storage tank that is placed within a discrete secondary containment vault system at or below grade.

Rationale & Discussion

Clarity of terminology is essential when discussing regulatory compliance. The many people involved in the c-plan development, review, and approval process come from a wide variety of backgrounds and expectations. Concise, clear, and consistent understanding of regulatory terms is essential for an effective, broad-based discussion. In order to reduce the potential for misunderstanding or misapplication of ADEC's intent, several regulatory definitions are proposed.

Several terms currently in use in the regulations are unclear to the regulated community, including "technically feasible", "resistant to operational damage", "permanent unloading areas" "drained", and several other terms that are open to subjective interpretation. Where possible, we have attempted to provide clear definitions of terms. This has not been possible in all cases, however.

ADEC is also considering new definitions of "facility oil piping" and "gathering and flow lines" in order to clearly delineate the scope of piping regulated by 18 AAC 75.080 and the proposed new section 18 AAC 75.082.