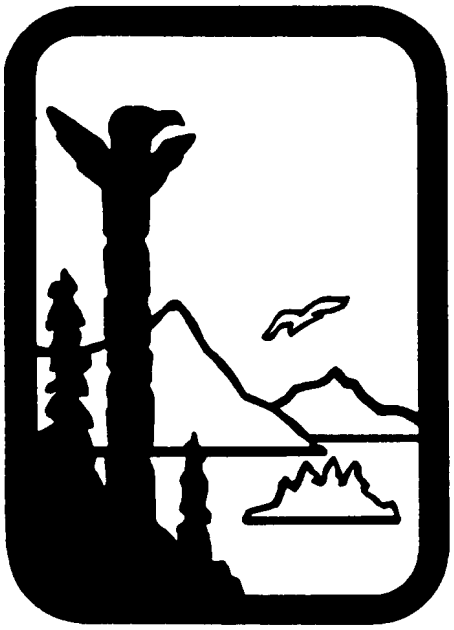
Department of Environmental Conservation
Division of Spill Prevention & Response



Oil Pollution Prevention Regulations
Discussion, Summary Response to Comments, & Proposed Regulatory Language
June 8, 2006

Frank Murkowski
Governor

Kurt Fredriksson
Commissioner

Introduction

The Alaska Department of Environmental Conservation (ADEC) is revising oil spill prevention regulations relating to all regulated operators. These regulations are generally found within 18 AAC 75 Article 1 and are linked to the prevention plan requirements located at 18 AAC 75.425(e)(2).

The revised regulations are the result of an extensive informal and formal process, starting with a July 2004 letter to all oil discharge prevention and contingency plan holders requesting input on potential regulatory changes. ADEC then published a discussion paper on potential regulation changes on April 1, 2005 requesting public comment, receiving informal comments from the following groups:

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

These comments, along with further discussions, both within ADEC and informally with various stakeholders, were used to improve the discussion paper's regulatory concepts.

Because of the significant changes that were made as a result of the informal comment process, ADEC released a second informal discussion paper in September 2005 for additional comment. Informal comments were received from the following groups:

- Aircraft Service International Group
- Jim Berry
- Cascadia Wildlands Project
- ConocoPhillips
- Cook Inlet RCAC
- Kerr McGee
- M-I SWACO
- North Slope Borough
- Steel Tank Institute
- Unocal
- Alyeska Pipeline
- BPXA
- Chevron
- Cook Inlet Keeper
- Delta Western
- LCMF, LLC
- Nanuq, Inc.
- Prince William Sound RCAC
- Tesoro

The analyses of these extensive comments were then incorporated into proposed regulations, which underwent a 30-day formal public notice period from February 1 through March 3, 2006. Formal comments were received from the following groups:

- Alyeska Pipeline
- ConocoPhillips
- Cook Inlet RCAC
- BPXA
- Cook Inlet Keeper
- North Slope Borough

- Petro Marine Services
- Prince William Sound RCAC
- Tesoro

The final result is a significant revision to the current regulations. The rationale and intent of ADEC's changes are described after each regulatory section later in this document, but certain key general concepts are discussed below.

Significant Changes & Regulatory Issues Addressed in this Rulemaking

The following is a brief discussion of the significant changes proposed in this document.

Adoption of National Industry Consensus Standards

The existing regulations listed 87 industry standards and recommended practices, the majority of them out of date and without clear indication in the regulations regarding their applicability. We have reduced the number of standards down to 19, and specifically cite them in regulation in the appropriate context.

Our purpose is to define baseline minimum performance standards which will effectively reduce or mitigate the threat of an unintended oil discharge in accordance with our statutory authority and responsibility. We intend to use these standards as reference materials during our normal, routine facility inspection program.

In several instances we are proposing the adoption of industry standards into regulation with exceptions. Where we have proposed excepting certain provisions of a standard, such as the similar service inspection process in American Petroleum Institute (API) Standard 653 for inspection of oil storage tanks, we have done so after determining that the excepted provisions are inadequate or inappropriate to the task at hand. Where we have specifically called out provisions of a standard, we do so to specifically call out that item as a requirement, regardless of the wording of the standard or recommended practice.

During the discussions leading up to this document, several groups 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[1]:

> "… 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.

[1] 64 FR 15926, April 2, 1999

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.

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)."

Oil Spill Prevention Training and Recordkeeping Requirements

ADEC notes that human factors were the major cause of 26% of all reported spills between 1995 and 2002[2]. As a result, ADEC is creating a new section, 18 AAC 75.020, specifically covering oil discharge prevention training and recordkeeping. The new section attempts to clarify the training required and sets recordkeeping requirements.

The current regulations at 18 AAC 75.007(d) require that

> "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."[3]

This is unnecessarily ambiguous and overreaching. We have developed clearer, task-based training requirements, along with acknowledgement in regulation of the widespread use of computer databases to track training.

ADEC has essentially kept 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. The new language in 18 AAC 75.020(c) indicates how the department would verify compliance.

[2] "Statewide Summary of Oil & Hazardous Substance Spill Data", November 2003, ADEC.
[3] 18 AAC 75.007(d)

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 or exceed state requirements.

ADEC has written paragraph (b) 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 would be an exercise in futility. The level of training needed varies greatly among the regulated operators and is most effectively determined by the operator on an individual basis, and more prescriptive regulations would not increase the level of prevention. "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. Other federal and state regulations also address training, and portions of the programs required by 33 CFR Part 154, 40 CFR Part 112, or 49 CFR Part 195 may be applicable to this proposed requirement. The working assumption will be that federal training objectives will be sufficient to meet the intent of this requirement. For example, onshore facilities required to train "oil-handling personnel" in accordance with 40 CFR 112.7(f) would likely meet the requirements of this section.

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

We are including shipboard records and computerized databases as a means of verifying compliance, although noting that 18 AAC 75.020(e) requires that the computer records be kept in a retrievable form for a default period of five years, corresponding to the c-plan approval period, unless specified otherwise. This is intended to include paper files, DVD-ROM, CD-ROM, archival computer backup tapes, or other form of archival, non-volatile computer data storage format, but not including floppy disks or other non-permanent data storage media.

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.

Pre-Booming of Oily Ballast Water Transfers

ADEC is proposing expanding the requirement for pre-booming to include oily ballast water. We are also proposing additional wording to clarify the regulatory intent of the requirement.

In developing the proposed changes, ADEC compared requests for additional regulations requiring preventative booming to similar regulations in other states (see Table 1, below).

Table 1 Selected State Pre-Booming Requirements

State	Vessels Affected	Products Pre-Boomed
Alaska	Tank barges and tank vessels unless technically infeasible	Crude and persistent oils.
California	State Lands Commission (SLC) All tank barges and tank vessels at "marine terminals" and non-tank vessels	All persistent oils. 4 foot stand-off*

State	Vessels Affected	Products Pre-Boomed
	over 250 barrels. High velocity >1.5 knots can opt out but must be able to boom in 30 minutes.	
California	Office of Spill Prevention and Response (OSPR) All vessels engaged in oil transfers except marine terminal transfers and non-tank vessels under 250 barrel capacity	Persistent and grades #1 and #2 oils. 4 foot stand-off*
Connecticut	Tank ship and barges vessels except when unsafe.	All oil or petroleum liquids. Stand-off is sufficient to catch and contain oil
Florida	Vessels that can hold more than 10,000 gallons heavy oil. Facility must provide boom.	All heavy oils regardless of purpose. Stand-off to collect as much as possible
Maine	Tank vessels and barges.	All oils except those transferred for fuel. 50 foot stand-off
New Jersey	All facilities subject to Coast Guard regulations and vessels transferring to other vessels at that facility. Uses facility applicability to require protective booming.	All cargo, waste oils, and hazardous substances. No oils used as fuel, lubricant, flash point in excess of 100deg F. 15 foot stand-off
Washington	Department of Ecology is developing proposed rules for pre-booming. Proposed rules will cover transfers to commercial vessels from fixed and mobile facilities	Proposed rules will cover all oils, but pre-booming would be dependent upon environmental and facility factors
** Stand off refers to the distance away from the hull of the vessel the boom must be affixed in order to ensure effective containment.*		

During earlier discussions one commenter requested that pre-booming apply to all transfers of petroleum products. This concept is similar to what was proposed in our April 1st draft, where we proposed pre-booming of combustible products (flammable products were deliberately exempted due to safety concerns). ADEC believes that the additional cost, wear and tear on equipment, and time required for pre-booming around non-persistent products provides little net benefit compared to the current requirements. AS 46.03.024 requires that the department gives special attention to public comments concerning the cost of compliance when developing regulations. ADEC notes that the Washington State Department of Ecology is considering pre-

booming rules, and they anticipate an additional cost to industry of $1,000 - $3,000 per transfer, and believes that costs in Alaska would likely be higher.[4]

ADEC is also proposing a wording change to clarify the requirement of 18 AAC 75.025(g), movement of the text of 18 AAC 75.080(d) to 18 AAC 75.025(h), and the addition of a definition in 18 AAC 75.025(i) to clarify that transfers covered by this section do not include internal fuel transfers aboard vessels.

Oil Transfer Equipment for Laden Oil Tank Vessels and Oil Barges

ADEC has added text to 18 AAC 75.027(a) and 18 AAC 75.037(a) to provide a clear performance standard that must be met for compliance with the regulation. We also added wording to clarify 18 AAC 75.027(d) and 18 AAC 75.037(d). For purposes of these sections, "oil transfer equipment" is intended to include pumps, hoses, connectors, fenders, line, and all ancillary equipment required to perform the transfer. The overall intention is to provide a performance standard to determine what "sufficient oil transfer equipment" is.

Offshore Oil Exploration & Production Facilities

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, particularly offshore ice and gravel islands and temporary bottom-founded drill structures. ADEC has included several revisions to this section to properly include North Slope offshore operations. We have revised the language to include "marine structure used for drilling", included a definition of "marine structure" (incorporated in Article 9), and incorporated by reference the latest edition of 30 CFR 250, Subchapter I.

ADEC has added a new requirement that wellhead sumps be designed and installed as sufficiently impermeable, as defined in 18 AAC 75.990(124).

Regulation of Flow lines Associated with Oil Production Facilities

There has been strong support over several years for ADEC to modify or expand its regulatory scope to include gathering lines, flow lines, subsea multi-phase pipelines, and refined product lines. ADEC conducted a careful review and analysis of these comments and the underlying assumptions, and agreed that regulatory oversight of multi-phase flow pipelines that are generally referred to as flow lines was warranted.

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 flow lines,
- Lack of other federal or state oversight of flow lines, and

[4] Based upon Department of Ecology information, booming a transfer operation costs in the range of $1,000 - $3,000 per transfer, depending upon location and assuming 2,000 feet of boom. Oil and Fuel Transfer Over Waters of the State of Washington – A Report to the Legislature, Washington State Department of Ecology, Olympia WA, publication 05-08-005

- Documented requests for specific regulatory oversight of 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 flow lines, totaling roughly 500,000 gallons of oil or multi-phase mixtures discharged, and roughly 25 spills from flow lines in Cook Inlet during the same time period. Spills from unregulated 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 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."[5]

Specifically excluded from federal regulation are: gathering lines in rural areas, lines less than one mile long, and gathering lines located offshore.[6] Additionally, the Pipeline Safety Act of 1992 excludes gathering lines less than 6 inch diameter from regulation. It should be noted that most 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[7], but federal regulatory oversight has been slow or nonexistent.[8] The U.S. Department of Energy is just beginning to survey the makeup of gathering lines nationwide and current state regulatory oversight mechanisms.[9] 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 flow lines common in Alaska.

The common use of 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 flow lines 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. BP Exploration Alaska (BPXA) has stated that they "do not operate "gathering lines" as this term is defined in 49 CFR Part 192 and 195".[10] BPXA does operate 6 or 7 low stress (<20% Specified Minimum Yield Strength (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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[5] 49 CFR 195.2
[6] 49 CFR 195.1(b)
[7] Pipeline Safety Act of 1992 (P.L. 102-508, Oct. 24, 1992), Section 208(b)
[8] See, for example, GAO reports GAO/RCED-00-128 of May 2000 and GAO-02-785 of August 2002
[9] Telephone conversation with Elizabeth Hocking, Argonne National Laboratory, August 3, 2005
[10] Letter from Garry Meek, BP, to Stacey Gerard, USDOT, dated January 16, 2004, in reference to Docket No. RSPA-03-15864

In 2003 the United States Department of Transportation Research and Special Programs Administration (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[11]; and
- 12 pipelines known as "transportation lines" that ranged from 2 to 24 inches in diameter[12].

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.[13]

It should also be noted that the current trend for new offshore production is to send multi-phase oil product via flow lines from offshore facilities to an onshore processing unit. Examples include the currently proposed Oooguruk Development (Pioneer) and Nikaitchuq (Kerr-McGee) 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.

Current state oversight of flowlines is nearly nonexistent. In general, state oversight of pipelines is within the regulatory purview of the Regulatory Commission of Alaska, the Alaska Oil & Gas Conservation Commission, Alaska Departments of Environmental Conservation and Natural Resources, and the Joint Pipeline Office.

The Regulatory Commission of Alaska (RCA) regulates pipelines as comprising the "total system of pipe", which might be inferred to include gathering and flow lines, under rights of way lease stipulations pursuant to AS 38.35. The RCA's primary focus, however, is rate control and regulation of the buyer-seller interface. The RCA has no authority in statute or regulation specifically addressing gathering and flow lines.

The Alaska Oil & Gas Conservation Commission (AOGCC) has a statutory mandate to maximize economic benefit to the state. Oil spills are regulated by AOGCC as wasteful practices. Their main focus is downhole, gathering and flow lines are considered incidental to well regulation. AOGCC has no authority in statute or regulation specifically addressing gathering and flow lines.

The Alaska Department of Natural Resources (ADNR) regulates oil exploration and production on state lands as the landowner, through lease stipulations and management practices. They do not regulate oil exploration and production on federal lands, tribal lands, or private property. Regulation is primarily through permits and leases. Infield lines (ADNR's term for gathering and flow lines) are minimally regulated. Based on AS 38.05.035(e), boilerplate in the standard permit merely notes that "all pipelines, including flow and gathering lines, must be designed and

[11] These flow lines are most likely the multi-phase pipelines that form the corpus of gathering line spill sources.
[12] 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 currently regulated by USDOT because they are operated as "low stress" pipelines.
[13] USDOT/RSPA memo from Frederick Joyner dated August 14, 2003

constructed to provide adequate protection from water currents, storm and ice scouring, subfreezing conditions, and other hazards as determined on a case-by-case basis".[14]

The Joint Pipeline Office (JPO) doesn't regulate gathering and flow lines. "Field gathering lines" are exempt from JPO regulation under 11 AAC 80.005 and 11 AAC 80.045.

As part of the North Slope Charter agreement between the state, BP Exploration Alaska (BPXA), and ConocoPhillips Alaska (CPA), BPXA and CPA have committed to corrosion monitoring of non-common carrier North Slope pipelines operated by BPXA and CPA (Section II.A.6). This includes gathering and flow lines as described in this paper. It should be noted that the North Slope Charter agreement only covers operations by BPXA and CPA, and that the charter agreement expires in 2009.

ADEC has received numerous comments from many public interest organizations over the course of several years requesting that the department specifically address the regulation of gathering flow lines, most recently by Cook Inlet RCAC[15], North Slope Borough[16], and Prince William Sound RCAC[17].

During meetings with the Alaska Oil & Gas Conservation Commission (AOGCC)[18] and other state agencies on the issue of gathering and flow lines, AOGCC indicated concern about the lack of regulatory oversight of these pipelines, particularly in light of the aging infrastructure, and that requests had been received from other groups for regulations pertaining to flow lines. AOGCC and the Alaska Department of Natural Resources (ADNR) both support ADEC's proposed regulation of flow lines.

There are no commonly-accepted definitions for gathering lines and flow lines. For purposes of these regulations, ADEC has proposed a regulatory definition of flow lines as consisting of pipe carrying multi-phase oil or 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"[19]. This includes lines that are generally referred to as flow lines as well as many lines commonly referred to as gathering lines. In general, the rest of the single-phase crude oil gathering lines in Alaska are already regulated by ADEC as crude oil transmission pipelines.

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

[14] See, by way of example, "North Slope Areawide 2002 Competitive Oil and Gas Lease Sale – Mitigation Measures and Lessee Advisories"

[15] Letter of June 15, 2005, requesting regulation of subsea gathering lines

[16] Letter of June 20, 2005, incorporating previous comments made in 2003 and 2004 regarding flow lines

[17] Letter of June 30, 2005, requesting improved regulation of gathering lines, process flow lines, and refined product pipelines

[18] Meeting with representatives of AOGCC, RCA, ADNR, ADEC, and JPO, August 01, 2005 in Anchorage, AK, follow-on meeting held August 30, 2005

[19] "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".

exploration or production facility must meet the applicable requirements of 18 AAC 75.080 [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 previously not defined in regulation or statute. Based upon a review of the relevant statutes and regulations, ADEC is of the opinion that 18 AAC 75.080 does not effectively address flow lines. Therefore we have developed a new section of regulations to specifically address flow lines.

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

- Minimum design & construction standards – including protective standards for design and construction based upon industry consensus standards, such as the ASME B31 series;
- Minimum operation & maintenance standards - Including performance-based corrosion control and discharge prevention standards, based upon ASME B31.4 and NACE RP 0169, 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;[20] and
- Compliance verification & documentation requirements – Some form of verifiability that operators are meeting the standards.

The following diagram graphically illustrates how ADEC perceives the division between crude oil transmission pipelines, facility oil piping, and flow lines.

[20] A starting point for compliance could be API 1160 – Managing System Integrity for Hazardous Liquid Pipelines.

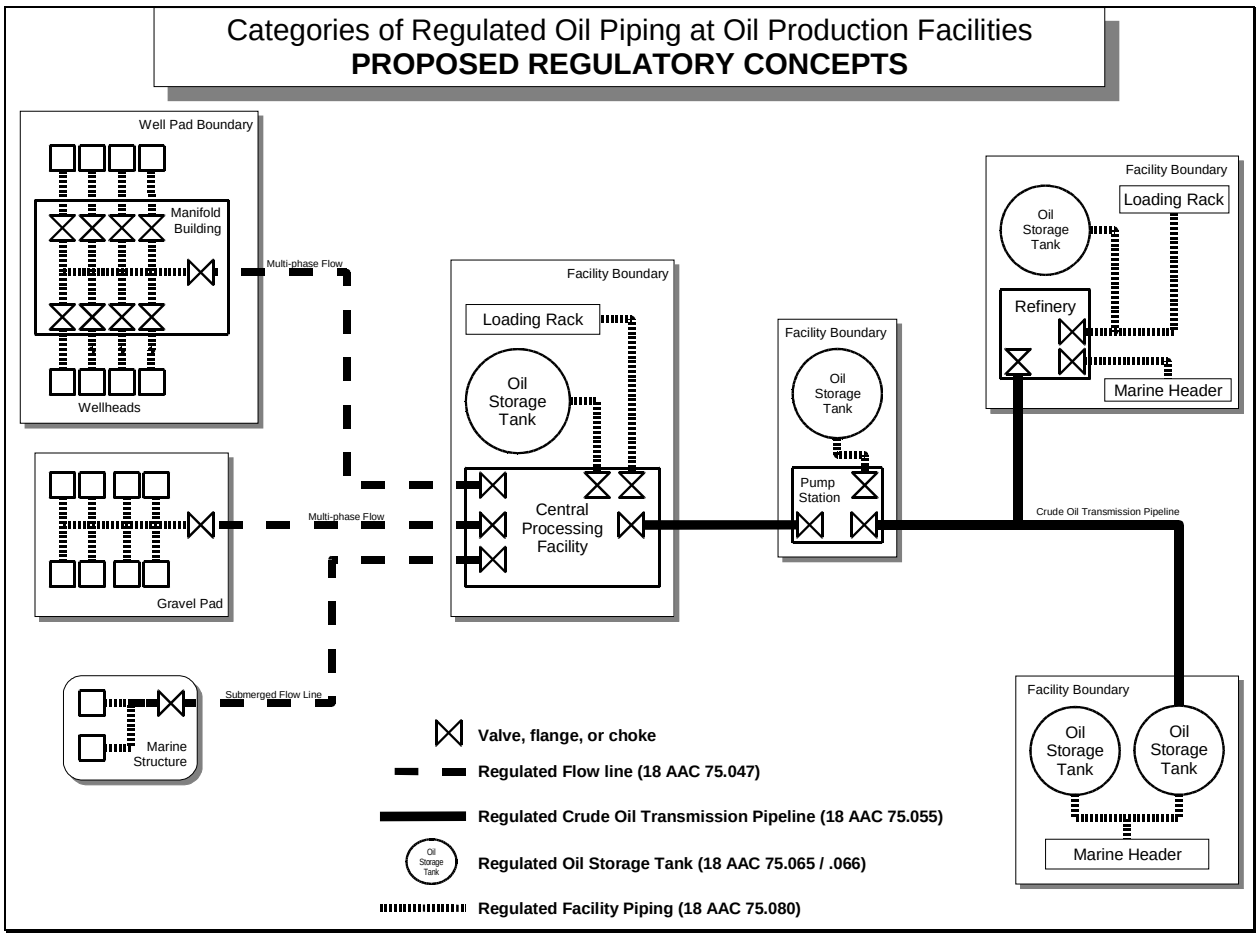

Figure 1, Regulatory Classes of Piping

Revision & Updating Oil Storage Tank Requirements

The current regulations lump all aboveground oil storage tanks together, whether field-constructed or shop-fabricated, and only identifies baseline design and inspection standards for field-constructed tanks. We have updated and subdivided the oil storage tank regulations to recognize the inherent differences between field-constructed and shop-fabricated tanks. 18 AAC 75.065 has been revised to encompass field-constructed tanks, and a new section, 18 AAC 75.066, has been developed to deal with shop-fabricated tanks.

Within the field-constructed tank regulations, we are incorporating NACE International RP 0193 for corrosion control of aboveground storage tank bottoms. Although the current requirements refer to API RP 651, we believe that NACE standards are more pertinent regarding corrosion control issues. Nonetheless, we retain the reference to API RP 651 only for the determination of the need of cathodic protection (CP) by corrosion experts. This is to ensure that there are standardized methodologies for this crucial task.

To ensure adherence to industry practices at all facilities, we have set minimum requirements for operation and maintenance of cathodic protection systems by referencing the applicable sections of NACE RP 0193.

The department has added a new subsection, 18 AAC 75.065(n), requiring that test lead wires, if used as part of a cathodic protection system, must be maintained in a useable condition. An effective cathodic protection system is a major contributor for a tank bottom having a low corrosion rate, which in turn is a major consideration in determining inspection intervals under API Standard 653.

Standards for Shop-Fabricated Aboveground Oil Storage Tanks

Shop-fabricated oil storage tanks have evolved considerably since the current regulations were adopted, and form an increasing percentage of the regulated tanks in Alaska. Because many shop-fabricated oil storage tanks are designed and built to advanced standards that incorporate multiple spill prevention features into the tank, the department has decided that it is appropriate to break these tanks out into their own regulatory section and to recognize the higher level of spill prevention afforded by these tank designs.

ADEC explicitly calls out several acceptable design and construction standards. 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.

We are also including specific design requirements for vaulted, self-diked, and double-walled tank designs, recognizing that these special designs provide a higher level of spill prevention. These design requirements were developed to allow these tanks to be exempt from the secondary containment requirements of 18 AAC 75.075.

ADEC is allowing the use of the Steel Tank Institute (STI SP001) inspection standard as a substitute for API 653 inspections. This inspection standard may provide a cost savings to some operators while still meeting the department's spill prevention objectives.

Secondary Containment Requirements

As noted above, tanks with integral secondary containment meeting the requirements of 18 AAC 75.066(c), (d), or (e) effectively meet our secondary containment capacity requirements and are exempted from additional secondary containment requirements.

An additional change to this section 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.

There has been confusion in the past about what is a "permanent unloading area" as listed in 18 AAC 75.075(g). That term is now defined in Article 9. Additionally, we are including a new requirement for visual inspection to ensure the area is functional.

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

Revision of Facility Piping Regulations

The current regulations for facility piping have a number of long-standing structural problems regarding facility inspections and performance standards for facility oil piping and cathodic protection. To begin with, there is no regulatory definition of what constitutes regulated facility piping. We have defined facility piping in 18 AAC 75 Article 9. The current regulations do not specify or reference any design, construction, inspection, or maintenance standards, and the existing regulations are primarily concerned with buried metallic piping. The new regulations provide standards for design and construction, maintenance (including corrosion control and cathodic protection), and inspection of facility piping. We are also acknowledging the use of non-metallic piping and providing specific requirements for aboveground piping.

Facility Oil Piping Design & Construction

First, we are adopting the American Society of Mechanical Engineers (ASME) pressure piping codes B31.3 and B31.4 as appropriate baseline standards for the design and construction of new facility oil 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 oil piping. These codes cover pipe, flanges, bolting, gaskets, valves, relief devices, and associated fittings, including hangars and supports.

Facility Oil Piping Inspection Standard

Second, we are adopting the American Petroleum Institute (API) 570 inspection standard for facility oil 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 reference would ensure that regulated facilities and ADEC inspectors are both inspecting to the same standard. The API 570 standard was originally developed in the early 1990s to provide an inspection standard for piping constructed to the ASME B31.3 standard and it also complements existing tank inspection standards already in regulation (the API 653 standard incorporated by reference in 18 AAC 75.065).

Facility Oil Piping Corrosion Control

Third, we are incorporating the NACE International RP 0169 corrosion control standard for cathodic protection of buried piping, in order to address the problem of spills caused by corrosion. Referencing NACE RP0169 ensures that standardized corrosion control methodologies will be applied for all facilities. NACE RP0169 has provisions for engineering judgments for site specific conditions. As such, plan holders, with assistance from qualified corrosion control professionals, will be able to implement effective corrosion control programs that are consistent with industry practices.

We have also set minimum qualifications for corrosion control professionals. While routine cathodic protection (CP) surveys may be performed by cathodic protection testers, we are specifically requiring that significant corrosion tasks, such as determining of the need of cathodic protection or designing cathodic protection systems, be performed by corrosion experts. The definition of a “corrosion expert” has been added to Article 9, and is similar to the definitions in 18 AAC 78.995 and 40 CFR 280.12, and is also consistent with the Alaska Board of Engineers

1998 interpretation (SOA/DOA No. 98-17/ DEC RFP ASPS 98-0119) of tasks required under the current regulations 18 AAC 75.065(h)(3), 080(b)(1)(A), and 080(b)(2)(A).

Because of the significant changes, we are repealing the current facility piping section, and readopting it in a more logical and consistent format.

Changes to the C-Plan regulations at 18 AAC 75 Article 4

ADEC is 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.

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 included a number of revisions to 18 AAC 75.425(e)(2) to ensure consistency in wording and requirements between 18 AAC 75 Article 1 and Article 4.

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). We have revised the regulatory language to specifically call out the appropriate sections of Article 1.

ADEC is also 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 new regulation clarifies current plan review practice.

Compliance with these revised contingency plan regulations will be required upon c-plan renewal.

The prevention plan approval requirements in 18 AAC 75.445 have been added to provide regulatory guidance on what constitutes an acceptable prevention plan in 18 AAC 75.425(e)(2).

We have also changed 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)) and will strengthen the training documentation requirements in order to verify training and to enforce plan holder responsibility for training.

ADEC is also including 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.

We are adding two new sections, 18 AAC 75.445(m) listing the approval criteria for the prevention plan portion of a c-plan, and 18 AAC 75.445(n) covering the response planning standard and calculation of reductions. These changes are intended to clarify the approval criteria for c-plan applicants.

In keeping with an increased emphasis on oil spill prevention, the notifications of nonreadiness requirements in 18 AAC 75.475 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.

Regulatory Issues Not Addressed in this Rulemaking

Several issues came up during our discussions are not addressed in this rulemaking.

Tanker Escorts

There is significant public concern that the current Prince William Sound (PWS) crude oil tanker escort system, in its entirety, be adopted into regulation. ADEC does not intend to address this issue in this rulemaking.

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 undertake 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.

The public has also requested adoption of 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. The general conclusion was 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 on this issue until this process is completed.

Crude Oil Transmission Pipelines

The regulations originally proposed included changes to 18 AAC 75.055, including the addition of regulations regarding computational pipeline monitoring (CPM) and the API 1130 standard for operation of CPM systems. Due to ongoing investigations into transmission pipelines, the proposed changes will be transferred to a separate regulations project, starting immediately, that will include additional regulatory analysis based in part upon the investigation into the spill at Gathering Center 2 (GC-2), Western Operating Unit, Prudhoe Bay, Alaska and other additional analysis.

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[21]. 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.[22]

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 therefore more stringent regulation are justified.

Adoption of International Safety Management (ISM) System for Vessels

There have been suggestions that ADEC incorporate the International Safety Management (ISM) code (33 CFR 96) for shipping into state regulations. We consider this an unnecessary duplication of federal regulations.

Along similar lines, suggestions requiring submission of ISM documentation, including American Bureau of Shipping (ABS) audits, as part of the C-Plan application and approval process were rejected. 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 approval process. The ISM certificates are available onboard the vessels for our inspectors to view during inspections.

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

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

18 AAC 75, Article 1 - 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)**.

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:

(d) **Repealed**. __/__/____

18 AAC 75.007(e) is amended to read:

(e) The owner or operator shall **have in place** [INSTITUTE] programs designed to ensure that each drill operator, each person who has navigational, towline, security, or maintenance duties, and any other person **directly** responsible for an activity that might result in a violation of this chapter is free of substance-abuse or medical **condition** [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, as amended through October 1, 2003 and adopted by reference;

(2) for a pipeline, by a program in accordance with 49 CFR Part 199, as amended through September 11, 2001 and adopted by reference; or

(3) for a vessel, by a program in accordance with 46 CFR Part 16, as amended through October 1, 2001 and adopted by reference.

[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.]

18 AAC 75.007(g) and (h) are repealed:

(g) **Repealed. __/__/____**

(h) **Repealed.** __/__/____ (Eff. 5/14/92, Register 122; am 4/4/97, Register 142; am 12/14/2002, Register 164; am__/__/____, Register____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070
AS 46.04.055

Rationale & Discussion

The proposed changes in 18 AAC 75.007 are predominantly technical in nature. 18 AAC 75.007(e) has been updated to reference federal drug and alcohol programs that were not in existence when the regulations were originally drafted, and several paragraphs dealing with training and recordkeeping are proposed for repeal with the text being relocated to a new section developed specifically for those topics.

One commenter questioned whether the change would mandate a drug testing policy. ADEC notes that 18 AAC 75.007(e) already requires a drug-testing program and that the changes limit the scope of the program and provide a clear path to compliance with the program.

One commenter questioned the term "drill operator". Based upon documentation of the original 1992 regulations, we believe that the term "drill operator" is intended to mean the term as it exists in common usage, to include all manner of technical personnel operating oil well drilling equipment at a well site.

18 AAC 75.015(a) is amended to read:

(a) The department may waive a requirements of **18 AAC 75.005 – 18 AAC 75.085** [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]. (Eff. 5/14/92, Register 122; am 5/26/2004, Register 170; am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.055 AS 46.04.070
AS 46.04.030

Rationale & Discussion

The proposed changes are minor technical revisions. Two commenters requested specific guidance regarding the justification necessary to show "equivalent level of protection". One commenter requested that waivers and major amendments should go through a public comment period. ADEC disagrees on both points. Waivers rely on the professional discretion of ADEC staff, and the level of rigor and analysis required varies greatly depending upon the particular waiver proposal. ADEC also notes that major amendments are already open to public review and comment.

18 AAC 75 is amended by adding a new section 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 directly involving inspection, maintenance, or operation of oil storage and transfer equipment regulated under 18 AAC 75.005 - 18 AAC 75.085 are appropriately and regularly trained regarding company and state oil pollution prevention measures that are applicable to each position'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 (b)(1); and

(3) a listing of training objectives 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 retrievable form 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. (Eff. __/__/____, Register____)

Authority: AS 46.03.020

Rationale & Discussion

Several commenters felt that the proposed regulations were overly burdensome or too subjective. The department contends that the proposed regulations are less burdensome than the current regulations, and also less subjective. In response to several comments we have attempted to clarify exactly who would be required to be trained by revising the requirement to be task-based.

One commenter felt that the regulation was not prescriptive enough, and should more closely describe the level or depth of required training. The department contends that the regulations

need a degree of flexibility to accommodate the operation-specific nature of much of the training.

One commenter felt that "certification" is too stringent a requirement for most of the tasks being addressed. The department notes that the "licenses, certifications, or other prerequisites" listed in (b)(2) are intended to reference external requirements that may be applicable, and not to infer that each position must be covered by such prerequisites.

18 AAC 75.025(b) is amended to read:

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

(1) crude oil,

(2) persistent petroleum products, and

(3) oily ballast water.

[CRUDE OIL AND OTHER PERSISTENT PRODUCTS.]

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** 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 is amended by adding new subsections to read:

(h) 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.

(i) For purposes of this section,

(1) "technically unfeasible" means that expected tidal currents and other local environmental conditions preclude the effective configuration and operation of the oil containment boom due to entrainment or splash over, or the physical facility layout precludes the effective configuration of the oil containment boom around the oil tank vessel or oil barge; and

(2) "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.

(Eff. 5/14/92, Register 122; am 10/28/2000, Register 156; am 12/14/2002, Register 164; am__/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070
AS 46.04.055

Rationale & Discussion

One commenter noted that if it was unsafe to deploy containment boom, then it would also be unsafe to conduct a transfer. The department disagrees, noting that water current conditions, for example, may preclude safe deployment of boom by small boat but not preclude the transfer.

One commenter suggested that requiring signage at loading racks indicating that visual inspection in accordance with 18 AAC 75.025(g) is required before filling and before departure would reduce the paperwork burden associated with the regulation. The department agrees in principle, noting that appropriate signage may be one way to ensure compliance. Current requirements are that the tank car or truck be examined. The change clarifies that this should be a visual examination.

One commenter opposed the new subsection (h) requiring visual inspection of marine transfer piping. The department notes that the new subsection is a verbatim transcription of a current regulation in 18 AAC 75.080, relocated to this section as part of the reorganization of the facility piping section.

Earlier commenters requested that the department clarify the term "technically unfeasible". We have done so, adding a definition of the term as it applies to this section.

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 must be sufficient to lighter the volume of the largest cargo tank within 24 hours.**

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**, and, where technically feasible, electronic leak detection systems. (Eff. 5/14/92, Register 122, am__/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Rationale & Discussion

In an earlier discussion document the department proposed a 12 hour standard, which was revised in the proposed regulations to 24 hours. One commenter disagreed, and recommended maintaining the 12 hour standard for Prince William Sound, to be consistent with USCG regulations at 33 CFR 155.1135. The department disagrees with the commenter's argument in favor of the 12 hour standard, noting that the USCG 12 hour requirement is for response time, not lightering capability.

One commenter had concerns regarding spot charters and the comparison to the response planning standard (RPS) amounts in 18 AAC 75.430 - 442. The department contends that these are separate non-linked requirements. The RPS is a planning method to ensure that plan holders have a sufficient of response resources to contain, control, and clean up a spill within a specified time after a spill incident. The lightering requirement of 18 AAC 75.027(a) is a capacity performance standard without a specific start time. ADEC believes that in most instances the requirements of 18 AAC 75.027(a) constitutes the same or less amount of equipment than is required to meet the response planning standard. The department notes that, while the response planning standard for tank vessels is generally based upon containing, controlling, and cleaning up an oil spill within 72 hours after the spill event, the requirement of 18 AAC 75.027(a) is a performance standard mandating a transfer (pumping) capacity equal to or greater than the largest cargo tank within any appropriate 24 hour period.

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.**

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**. (Eff. 5/14/92, Register 122; am__/__/____, Register____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Rationale & Discussion

No substantive comments were received regarding these changes.

18 AAC 75.045(b) is amended to read:

(b) In state waters, a **marine structure used for drilling** [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;**

(2) wellhead sumps for [ONSHORE DRILLING] **exploration and production wells located onshore or on artificial islands or ice islands; and**

(3) for exploration and production wells drilled and completed after July 1, 2008 located onshore or on artificial islands or ice islands, wellhead sumps shall be designed and installed to be sufficiently impermeable.

18 AAC 75.045(e)-(g) are 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 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,** and 18 AAC 75.075.

(g) Piping associated with an exploration or production facility must meet the applicable requirements of 18 AAC 75.080 **and 18 AAC 75.047**. (Eff. 5/14/92, Register 122, am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.060
AS 46.04.070

Rationale & Discussion

One commenter requested that the department develop a five year phase-in requirement to retrofit existing wells, while two commenters requested a change in wording to indicate that the regulation is a design and construction requirement, not a maintenance requirement. The department has determined that to retrofit the existing wellhead sumps is impractical and in

contravention to AS 46.03.024, but to design future wellhead sumps to meet the impermeability standard is well within the capability of today's technology.

18 AAC 75 is amended by adding a new section to read:

18 AAC 75.047. Requirements for flow lines at production facilities (a) Applicability. Unless indicated otherwise within this section, all flow lines associated with a production facility must meet the requirements of this section by July 1, 2007.

(b) Design and construction standards. Unless a more stringent requirement is set forth in this section, the owner or operator shall ensure that the following procedures, codes, and standards, the provisions of which are adopted by reference, are used for flow lines initially placed in service after July 1, 2008:

(1) American Society of Mechanical Engineers (ASME) B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition,

(2) ASME B31.8 *Gas Transmission and Distribution Piping Systems,* 2003 Edition, or

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

(c) Operations and maintenance. The owner or operator shall ensure that the following procedures, codes, and standards, the provisions of which are adopted by reference, are used for the operations and maintenance of flow lines:

(1) corrosion control; flow lines shall be included in a corrosion monitoring and 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 flow lines shall be consistent with National Association of Corrosion Engineers (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 flow lines; Unless the operator demonstrates by test, investigation, or experience appropriate to the environment of the flow line segment, that the anticipated extent of corrosion will not affect the flow line's fitness for service, aboveground flow lines shall be protected from external corrosion

(i) by the application of a protective coating,

(ii) by the use of corrosion-resistant alloys, or

(iii) by another method approved by the department;

(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 inhibitors, biocides, or other chemical agents;

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

(v) gas blanketing;

(vi) continuous internal coating or lining; or

(vii) another method approved by the department; and

(2) preventative Maintenance and Leak Detection; flow lines shall

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

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

(d) Preventative Maintenance Program. Operators may meet the requirements of (c)(2) by having in place a preventative maintenance program that ensures the continued operational reliability of any flow line system component affecting quality, safety, and pollution prevention. For a preventative maintenance program, the owner or operator shall ensure that the following procedures, codes, and standards, the provisions of which are adopted by reference, are used:

(1) for submerged flow lines, a program consistent with ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, Chapters VII through IX;

(2) for buried flow lines, a program consistent with ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, Chapters VII and VIII;

(3) for aboveground flow lines, as appropriate, a program consistent with

(A) the requirements of American Petroleum Institute (API) *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, excluding Section 8, and

(B) ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, Chapters VII and VIII; and

(4) for all flow lines, procedures to review proposed changes in operations to evaluate potential impacts on pipe integrity.

(e) Leak Detection. Operators may meet the requirements of (c)(2) by completely containing the entire circumference of the flow line and providing the interstitial space with a leak detection system approved by the department.

(f) Line Markers. Line markers shall be installed no later than July 1, 2007 and maintained over each onshore flow line at each road crossing and at one mile intervals along the remainder of the pipe to identify and, for buried pipe, properly locate each flow line.

(g) Flow lines removed from service for more than one year and not maintained in accordance with 18 AAC 75.047(c) must be free of accumulated oil and isolated from the system. The owner or operator shall notify the department when flow lines are removed from service in accordance with this paragraph.

(h) Aboveground flow lines must be supported consistent with the requirements of ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, Chapter II, Part 5, Subsection 421, adopted by reference, or another standard approved by the department.

(i) Recordkeeping. Compliance with the requirements of (c) and (d) shall be verified by documentation, including

(1) for a corrosion monitoring and control program under (c)(1), documentation to validate the effectiveness of the corrosion monitoring and control program, including

(A) dates and locations of inspections and tests;

(B) inspections and test data evaluation including analysis of weight loss coupons and electrical resistance probes;

(C) data and analysis of chemical optimization activities;

(D) inspections and test data evaluation including analysis of corrosion inspections;

(E) analysis of corrosion trends that affect the fitness for service of the flow line; and

(F) list and description of repair activities undertaken under a corrosion control program; and

(2) for a preventative maintenance program under (d), documentation to validate the effectiveness of the preventative maintenance program, including

(A) the procedures for carrying out the program in conformance with API 570, Second Edition, October 1998, Addendum 1, February 2000, Addendum 2, December 2001, and Addendum 3, August 2003 or ASME B31.4, 2002 Edition, as appropriate;

(B) dates and locations of inspections and tests;

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

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

(j) In this section,

(1) “buried” means covered or in contact with soil; and

(2) “removed from service” means not in regular use for the service intended and not included in a regular maintenance and inspection program in accordance with this section. (Eff.__/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Editor's Note: 1. The publications adopted by reference in 18 AAC 75.047 may be reviewed at the department's offices in Anchorage, Fairbanks or Juneau, or may be obtained directly from the appropriate publisher. The mailing address, telephone number, facsimile number, and website, if available, for each publisher are as follows:

American Society of Mechanical Engineers (ASME), 22 Law Drive, P.O. Box 2300, Fairfield, New Jersey 07007-2300; phone (800) 843-2763; fax (201) 882-1717; website: http://www.asme.org/;

National Association of Corrosion Engineers (NACE) International, 1440 South Creek Drive, Houston, Texas 77084-4906; phone (800) 797-6223; fax (281) 228-6300; website: http://www.nace.org;

American Petroleum Institute (API), 1220 L Street NW, Washington, DC 20005-4070; phone (202) 682-8000; fax (303) 397-2740; website: http://www.api-ec.api.org

Rationale & Discussion

One commenter requested that ASME B31.3 be included as an applicable design and construction standard for flow lines. The department disagrees, believing that B31.3 is not an appropriate general standard for this class of piping. Another commenter requested that ASME B31.8 be included as an applicable standard. The department agrees, noting that B31.8 is a more stringent standard than B31.4. And one commenter requested that the department consider adopting international codes such as DNV OS-F101. It should be noted that the department will consider codes and standards other than B31.4/B31.8 as special cases under 18 AAC 75.047(b)(3).

One commenter requested that the internal corrosion control required by 18 AAC 75.047(c)(1)(C) be modified to allow for monitoring and removal from service as an alternative to the requirements of (c)(1)(C)(i) through (vi). The department believes that (c)(1)(C)(vii) covers such contingency.

Along a similar line, one commenter suggested adding "monitoring as per ASME B31.4 B-2002 section 462.2" to 18 AAC 75.047(c)(1)(C). The department notes that section 462.2 is in Chapter VIII of B31.4 which is already referenced in the parent paragraph (c)(1).

One commenter requested that both preventative maintenance and leak detection of flow lines be required. The department disagrees, noting that leak detection on flow lines is not as technologically sound as leak detection on single-phase crude oil transmission lines. The leak detection in (e) is intended to handle the special case of submerged or buried pipe-in-pipe where external corrosion control of the flow line is impracticable. ADEC notes that the most commonly used leak detection method for pipelines is computational pipeline monitoring (CPM). Amongst CPM methods, mass balancing algorithms software are widely used. Statistical analysis of mass flow, pressure, and acoustic monitoring are also used in some pipeline systems. All algorithms rely on the ability to translate/model flow characteristics into quantitative information. The performance of each method/algorithm relies on relatively constant product property/composition and pressure. These conditions are not common in multi-phase flow lines. Presently, the only feasible/workable way for flow lines leak detection is

double-walling with casing monitoring. The results from a U.S. Minerals Management Service leak detection study in 2003 stated that:

> "A review of the literature reveals that the subject of multiphase leak detection is in its infancy. While several studies have considered catastrophic leaks, i.e. flowline rupture or blowdown (Norris & Puls, 1993; Norris, 1994; Norris & Hissong, 1994), virtually no experimental work was found for modeling small leaks in multiphase flow".[23]

One commenter requested that (f) be revised to exempt the requirement in locations away from the road system. The department disagrees, noting that the requirement is very similar to both the ASME B31 standards and federal pipeline marking requirements.

One commenter requested that (h) be modified to avoid potential conflicts between ASME B31.4 and other approved codes. The department agrees, and has modified the language to allow alternative flow line support, provided that the supports are in accordance with a standard approved by the department.

One commenter requested language to clarify that industry codes supersede state regulations if there is a conflict. The department disagrees, noting that the language of the regulation clearly infers that state regulations take precedence.

In order to clarify the documentation and recordkeeping requirements of this section, the department has revised the wording of the section, moving the documentation and recordkeeping requirements to a new subsection at 18 AAC 75.047(i).

18 AAC 75.065(a) is amended to read:

18 AAC 75.065. Field-constructed aboveground oil storage tank requirements (a) The owner or operator of an oil terminal, crude oil pipeline, exploration, or production facility shall maintain and inspect **field-constructed aboveground** oil storage and surge tanks consistent with the requirements of API Standard 653, ***Tank Inspection, Repair, Alteration, and Reconstruction*, Third** [FIRST] Edition, **December 2001, and Addendum 1, September 2003** [1991, AND SUPPLEMENT 1, JANUARY 1992], adopted by reference, or API Recommended Practice 12R1, ***Recommended Practice for Setting, Maintenance, Inspection, Operation and Repair of Tanks in Production Service*, Fifth** [FOURTH] Edition, **August 1997** [1991] adopted by reference, as appropriate, unless a more stringent requirement is set out in this section. **Inspection intervals for aboveground oil storage and surge tanks**

(1) may, at the discretion of the department, be reduced

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

(B) for riveted or bolted aboveground oil storage tanks;

(C) for aboveground oil storage tanks with demonstrated structural, corrosion, or foundation problems; or

[23] "Worldwide Assessment of Industry Leak Detection Capabilities for Single & Multiphase Pipelines", Drs. Stuart Scott and Maria Barrufet, MMS/OTRC Cooperative Research Agreement 1435-01-99-CCA-31003 Task Order 18133, August 6, 2003.

(D) after a significant seismic event;

(2) shall not be based upon similar service as specified in Section 6.4.2 of API Standard 653, Third Edition, December 2001, and Addendum 1, September 2003, adopted by reference;

(3) based upon risk-based inspection as specified in Section 6.4.3 of API Standard 653, Third Edition, December 2001, and Addendum 1, September 2003, adopted by reference, shall be submitted to the department for approval and must include

(A) a quantitative risk assessment conducted in accordance with American Petroleum Institute (API) Recommended Practice 580, *Risk-Based Inspection*, First Edition, May 2002, adopted by reference, and signed by a registered engineer; and

(B) an inspection schedule with inspection intervals not to exceed 30 years.

18 AAC 75.065(b) is repealed:

(b) **Repealed**. __/__/____

18 AAC 75.065(c) is amended to read:

(c) An **onshore** elevated [OR A PORTABLE] **aboveground oil storage** tank **whose configuration allows external inspection of more than 50% of the tank bottom** 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] **adopted by reference**, or API RP 12R1, **Fifth Edition, August 1997 [**FOURTH EDITION, 1991] **adopted by reference**, 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.

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, adopted by reference, which shall be maintained for five years.**

18 AAC 75.065(e), (f) and (g) are amended to read:

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

(1) as soon as practical before a field-constructed 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]**, adopted by reference**; **and**

(2) before a field-constructed aboveground oil storage tank is returned to service following major repair or major alteration as defined in API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*, 3rd Edition, December 2001, adopted by reference, Addendum 1, September 2003, adopted by reference.

(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.

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

(1) API Recommended Practice 652, First Edition, 1991, adopted by reference, for internal lining systems installed before July 1, 2008; or

(2), API Recommended Practice 652, *Lining of Aboveground Petroleum Storage Tank Bottoms*, Third Edition, October 2005, adopted by reference, for internal lining systems installed after July 1, 2008.

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, 2008** must meet the following requirements:

(1) **aboveground oil storage** tanks must be constructed and installed in compliance with API Standard 650,***Welded Steel Tanks for Oil Storage*, (8th Edition, 1988)** [1988 EDITION], **adopted by reference,** API **Specification** [STANDARD] 12, D, ***Specification for Field Welded Tanks for Storage of Production Liquids*,** (Ninth Edition, 1989), **adopted by reference,** F**, *Specification for Shop Welded Tanks for Storage of Production Liquids*** (Tenth Edition, 1989)**, adopted by reference,** and P**, *Specification for Fiberglass Reinforced Tanks*,** (First Edition, 1986), **adopted by reference**, or another standard approved by the department;

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

(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** 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 consistent with Section 11 of National Association of Corrosion Engineers (NACE) International, *External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms*, RP0193-2001, adopted by reference, 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** 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** [STANDARD] 651, ***Cathodic Protection of Aboveground Petroleum Storage Tanks*,** First Edition, 1991**, adopted by reference**;

(C) a thick film liner in accordance with API **Recommended Practice** [STANDARD] 652, ***Lining of Aboveground Petroleum Storage Tank Bottoms***, First Edition, 1991**, adopted by reference**; 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 system must be consistent with Section 11 of National Association of Corrosion Engineers (NACE) International, *External Cathodic Protection of On-Grade Carbon Steel Storage Tank Bottoms*, RP0193-2001, adopted by reference, and the cathodic protection survey must be performed by a qualified/certified cathodic protection tester or corrosion expert.

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.

18 AAC 75.065 is amended by adding new subsections to read:

(l) An installation placed in service after July 1, 2008 must meet the following requirements:

(1) aboveground oil storage tanks must be constructed and installed in compliance with

(A) API Standard 650, *Welded Steel Tanks for Oil Storage*, 10th Edition, November 1998, Addendum 1, January 2000, adopted by reference, Addendum 2, November 2001, adopted by reference, Addendum 3, September 2003, adopted by reference;

(B) API Specification 12D, *Specification for Field Welded Tanks for Storage of Product Liquids*, Tenth Edition, November 1994, adopted by reference; or

(C) 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 RP0193-2001, adopted by reference, 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, *Cathodic Protection of Aboveground Petroleum Storage Tanks*, Second Edition, December, 1997, Chapter 5, adopted by reference;

(4) cathodic protection systems shall be

(A) designed by a corrosion expert;

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

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

(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, *Welded Steel Tanks for Oil Storage*, 10th Edition, Appendix I, adopted by reference, or another leak detection system approved by the department;

(6) each aboveground oil storage tank shall be equipped with high liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer.

(m) Cathodic protection systems installed after July 1, 2008 shall meet the applicable requirements of paragraph (l)(3)-(4) of this section.

(n) Cathodic protection test lead wires must be maintained in a condition that enables electrical measurements to determine the effectiveness of a cathodic protection system. (Eff. 5/14/92, Register 122; am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Editor's Note: The publications adopted by reference in 18 AAC 75. 065 may be reviewed at the department's offices in Anchorage, Fairbanks, or Juneau, or may be obtained directly from the appropriate publisher. The mailing address, telephone number, facsimile number, and website, if available, for each publisher are as follows:

American Petroleum Institute (API), 1220 L Street NW, Washington, DC 20005-4070; phone (202) 682-8000; fax (303) 397-2740; website: http://www.api-ec.api.org

National Association of Corrosion Engineers (NACE) International, 1440 South Creek Drive, Houston, Texas 77084-4906; phone (800) 797-6223; fax (281) 228-6300; website: http://www.nace.org;

Rationale & Discussion

Several commenters disagreed with the department's decision to not allow similar service as a method of determining inspection intervals.

The latest version of API 653, Section 6.4, contains provisions for similar service and risk-based inspection (RBI) analysis to determine inspection intervals. ADEC does not believe that the use of Section 6.4.3 offers a suitable regulatory framework for the application of risk-based inspection principles to the determination of internal inspection intervals, for the following reasons:

(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 risk-based inspection 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 risk-based inspection 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) Risk-based inspection 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.

Therefore, we are excepting similar service and requiring a more rigorous determination of risk-based inspection intervals, based upon API RP 580 and an analysis by a registered engineer.

There has been much discussion regarding 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.

Because the issue of inspection intervals is closely tied to the issue of risk-based inspection, we are repealing 18 AAC 75.065(b) and incorporating the language in (a) alongside the proposed risk-based inspection regulation.

External inspection in lieu of internal inspection for elevated and portable tanks, as presently described in 18 AAC 75.065(c), has raised some concerns. The revised regulation restricts the exemption to elevated tanks (portable tanks are no longer exempt) where the majority (>50%) of the tank bottom is visible. Statistically, there is a very high confidence level that an inspection of 50% of the bottom in accordance with API 653, Section 6, accurately represents the general condition of the tank bottom.

The department notes that API 653, Section 6.5 refers to “external inspection in lieu of an internal inspection”. “External inspection” and “internal inspection” are both terms that are carefully defined within Section 6. Section 6.3.2.1 states

> "All tanks shall be given a visual external inspection by an authorized inspector. This inspections *shall be called the external inspection* and must be conducted at least every five years or RCA/4N … whichever is less."

Internal inspections are covered in Section 6.4, with inspection intervals for internal inspection based upon corrosion rate of the tank bottom, not to exceed twenty years, except for tanks that are under a risk-based inspection (RBI) program or elevated tanks that use external inspections in lieu of internal inspections. If external inspection is used in lieu of internal inspections, than the inspection interval cannot exceed five years, versus twenty years for tanks undergoing an internal inspection.

The discussions above are based upon the presumption that corrosion is the primary consideration for determining inspection intervals, and experience proves this to be generally true. Other factors, however, may come into play in special situations. Section 6.5 notes that consideration of other maintenance items may dictate an internal inspection instead of an external inspection for elevated tanks, and Section 6.2 details other inspection frequency considerations.

One commenter requested a mandatory 10 year internal and 5 year external inspection interval for onshore tanks and a 5 year internal and annual external inspection interval for offshore tanks. The department disagrees, noting that reasoning behind the 10 year/5 year request ties the inspection interval to the administrative c-plan review process rather than actual on-site environmental factors. External inspection schedules in accordance with API 653 Section 6.3.2.1 and internal inspection intervals in accordance with API 653 Section 6.4.2 provide a more reasonable and logical method of determining inspection intervals. The commenter's request for more frequent inspections of offshore tanks is based upon an arbitrary assumption that corrosion is greater in offshore environments while ignoring the corrosion-based inspection intervals inherent in the API 653 inspection interval determination.

One commenter suggested requiring the use of API 653 authorized inspectors. ADEC notes that, while the edition of API 653 referenced in the current regulations does not stipulate using API 653 authorized inspectors, the updated edition in the proposed regulations does require API authorized inspectors.

One commenter questioned the phase-in of the new regulations, noting that they would need approximately 24 months to conduct a company-wide assessment, develop inspection and cathodic protection systems, and implement these systems, at considerable cost. ADEC notes that the new regulations will not require any existing tanks to be retrofitted with a cathodic protection system. For existing tanks installed before 1992, cathodic protection is one of four options to protect the tank. For tanks installed between 1992 and 2008 (e.g., under the existing regulations), there should be a cathodic protection system installed by now for existing tanks, and should be part of a new tank installation, if local soil conditions warrant. After 2008 a cathodic protection system will be needed if deemed necessary by a corrosion expert in accordance with Chapter 5 of API RP 651.

One commenter objected to the requirement to notify ADEC before an oil storage tank undergoes major repair or major alteration, basing their argument that tanks would go un-repaired for longer periods of time. The department notes that the requirement to notify us is an existing requirement, and the change to the wording clarifies when to notify the department,

while allowing for unexpected or emergency repairs to be accomplished without departmental delay.

18 AAC 75 is amended by adding a new section to read:

18 AAC 75.066. Shop-fabricated aboveground oil storage tanks (a) Applicability. All shop-fabricated aboveground oil storage tanks:

(1) placed in service on or before July 1, 2008 shall meet the requirements of (f) through (h) of this section;

(2) placed in service after July 1, 2008 shall meet the requirements of this section.

(b) Design and Construction. Unless a more stringent requirement is set out in this section, the owner or operator shall ensure that the following procedures, codes, and standards, the provisions of which are adopted by reference, are used for the design and construction of shop-fabricated aboveground oil storage tanks:

(1) Underwriters Laboratories (UL) Standard 142, *Steel Aboveground Tanks for Flammable and Combustible Liquids*, Eighth Edition, July 2002;

(2) American Petroleum Institute (API) Standard 650, *Welded Steel Tanks for Oil Storage*, November 1998 Edition, Addendum 1, January 2000, Addendum 2, November 2001, Addendum 3, September 2003, Appendix J;

(3) API Specification 12F, *Specification for Shop Welded Tanks for Storage of Production Liquids*, Eleventh Edition, November 1994;

(4) STI F921-03, *Standard for Aboveground Tanks with Integral Secondary Containment*;

(5) UL Standard 2085, *Protected Aboveground Tanks for Flammable and Combustible Liquids*, 1997 Edition; or

(6) another standard certified by a registered engineer and approved by the department.

(c) Vaulted aboveground oil storage tanks shall

(1) 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

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

(d) Self-diked aboveground oil storage tanks shall

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

(2) have 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 or divert it into the diked tank integral secondary containment area;

(3) 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);

(4) be equipped with operating interstitial monitoring systems such that an observer from outside the tank can detect oil leaks from the tank bottom and water accumulation within the secondary containment; and

(e) Double-walled aboveground oil storage tanks shall

(1) be equipped with operating interstitial monitoring systems such that an observer from outside the tank can detect oil leaks and water accumulation;

(2) be equipped with 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;

(3) 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) and (d); and

(f) Maintenance & Inspection. Unless a more stringent requirement is set forth in this section, the owner or operator of an oil terminal, crude oil pipeline, exploration, or production facility shall ensure that the following procedures, codes, and standards, the provisions of which are adopted by reference, are used for the maintenance and inspection of aboveground shop-fabricated oil storage tanks:

(1) Steel Tank Institute (STI) Standard SP001, *Standard for the Inspection of Aboveground Storage Tanks,* 3rd Edition, July 2005;

(2) API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction,* Third Edition, December 2001, and Addendum 1, September 2003; or

(3) another equivalent inspection standard approved by the department.

(g) In addition to the applicable requirements of 18 AAC 75.025, aboveground shop-fabricated oil storage tanks shall be equipped with

(1) one or more of the following means of preventing discharges:

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

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

(C) 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

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

(2) for aboveground shop-fabricated oil storage tanks placed in service after July 1, 2008, 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.

(h) Discharge prevention 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.
(Eff.__/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Editor's Note: The publications adopted by reference in 18 AAC 75.066 may be reviewed at the department's offices in Anchorage, Fairbanks, or Juneau, or may be obtained directly from the appropriate publisher. The mailing address, telephone number, facsimile number, and website, if available, for each publisher are as follows:

Underwriters Laboratories, Inc. (UL), Standards Department, 333 Pfingsten Road, Northbrook, Illinois 60062; phone (708) 272-8800; fax (708) 272-8129; website: http://www.ul.com

Steel Tank Institute (STI), 570 Oakwood Road, Lake Zurich, Illinois 60062; phone (708) 438-8265, extension 4331; fax (708) 438-8766; website: http://www.steeltank.com

American Petroleum Institute (API), 1220 L Street NW, Washington, DC 20005-4070; phone (202) 682-8000; fax (303) 397-2740; website: http://www.api-ec.api.org

Rationale & Discussion

One commenter suggested that portable tanks should be inspected per OSHA standards (29 CFR 1910.119). ADEC notes that this section is delineated as shop-fabricated tanks, which may or may not be designed as portable tanks, and that the 29 CFR 1910.119 standard exempts oil storage tanks not used as line tanks.

One commenter proposed a mandatory replacement date for existing shop-fabricated tanks that do not meet the new regulations. The department finds that setting a mandatory retirement date

for existing tanks would be in contravention of AS 46.03.024, due to the significant cost of such an undertaking.

One commenter suggested renaming section (f) to more accurately describe the contents of the section. The department agrees, and has renamed the section.

18 AAC 75.075(a) is amended to read:

(a) Onshore **aboveground** 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; **and**

(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; **and**

(D) resistant to operational damage. [**,** AND]

(3) **Repealed**. __/__/____

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**, including excessive accumulated water,** that might interfere with the effectiveness of the system [INCLUDING EXCESSIVE ACCUMULATED RAINWATER]. **Facility personnel shall visually check for the presence of oil leaks or spills within secondary containment during routine operations, and, unless precluded by safety or weather conditions, shall conduct documented weekly inspections of secondary containment areas, including checking for**

(1) debris and vegetation,

(2) proper alignment and operation of drain valves,

(3) visible signs of oil leaks or spills, and

(4) defects or failures of the secondary containment system.

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**. 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 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;

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

(3) be maintained free of debris**, vegetation,** or other materials or conditions**, including excessive accumulated water,** 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 is amended by adding new subsections 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(c), (d), or (e) 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. (Eff. 5/14/92, Register 122, am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Rationale & Discussion

In response to several comments, the inspection requirement in 18 AAC 75.075(a) has been replaced by a new, clearer inspection criterion as described in 18 AAC 75.075(c). This places the secondary containment inspection requirements together in one paragraph for clarity, and provides specific direction for meeting the requirement. The new wording meets the intent of the original regulation. The department does not intend for the secondary containment inspection required by (c) to be lengthy or onerous, and expects that most facilities will combine the inspection with normal maintenance or security rounds and document it using a simple checklist.

In response to earlier comments, the term "rainwater" has been changed to "water" and the paragraphs containing the term have been edited 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.

One commenter requested that the inspection requirement of (a)(3) be modified to treat manned and unmanned facilities the same, and that the inspections should be reduced from daily to monthly. The department agrees that manned and unmanned facilities should be treated equally in terms of spill prevention, and has removed the distinction between the two types of facilities.

The department has also reduced the inspection requirement from daily to weekly, and has provided additional guidance regarding what the inspection should entail. Weekly inspections covering the items listed should provide a sufficient level of protection to minimize spills.

One commenter requested that (c) be modified to include "excessive vegetation". The department disagrees. The standard for debris, vegetation, or other conditions is that they are present such that they interfere with the effectiveness of the secondary containment (i.e., vegetation whose roots have compromised the liner material).

18 AAC 75.075(d) has been modified to include a requirement for null reports of sheen. The intent is to verify that inspections of drainage are being done correctly. One commenter objected to the requirement to document all drainages. The department notes that the requirement is similar to U.S. EPA guidance to facilities regarding draining secondary containment areas.

One commenter opposed the current wording of 18 AAC 75.075(b), believing that it provides a lesser standard of spill prevention for offshore facilities compared to onshore facilities. The department disagrees. Offshore facilities vary in type and size, ranging from platforms to artificial islands, not all of which are suitable for secondary containment meeting the requirements of 18 AAC 75.075(a). In many instances site-specific strategies are required. The department notes that 18 AAC 75.045(f) requires that oil storage tanks at offshore facilities meet the requirements of 18 AAC 75.065, .066, and .075 as applicable.

One commenter questioned whether the requirements of (g) applied to only the tank farm facility, or to all points of delivery (such as gas stations or airport refueling points). The requirements of (g) only apply to regulated operations within the boundaries of the facility.

18 AAC 75.080 is repealed and readopted, to read:

18 AAC 75.080. Requirements for Facility Oil Piping (a) Applicability. All facility oil piping associated with an oil terminal, crude oil transmission pipeline, exploration, or production facility must meet the requirements of this section.

(b) Corrosion Control. Metallic facility oil piping containing oil must be maintained in accordance with a corrosion control program.

(c) Design and Construction. Facility oil piping placed in service after July 1, 2008 shall be designed and constructed in accordance with American Society of Mechanical Engineers Code for Pressure Piping, ASME B31.3, *Process Pipin*g, 2004 Edition, adopted by reference, B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquid*s, 2002 Edition, adopted by reference, ASME B31.8, *Gas Transmission and Distribution Piping Systems*, 2003 Edition, adopted by reference, or another standard approved by the department, as appropriate, unless a more stringent requirement is set out in this section.

(d) Buried metallic facility oil piping placed in service between May 14, 1992 and July 1, 2008, must be protected from corrosion by installing protective wrapping or coating and cathodic protection appropriate for local soil conditions and must be of all welded construction with no clamped, threaded, or similar connections for lines larger than a one inch nominal pipe size.

(e) Buried facility oil piping placed in service after July 1, 2008 must be

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

(2) unless constructed of a corrosion-resistant material approved by the department,

(A) protected from corrosion by installing protective wrapping or coating; and

(B) cathodically protected in accordance with (f) of this section.

(f) Cathodic protection systems installed after July 1, 2008, must be

(1) consistent with National Association of Corrosion Engineers (NACE) International, *Standard Recommended Practice-Control of External Corrosion on Underground or Submerged Metallic Piping System*s, 2002, RP0169-2002, adopted by reference;

(2) designed by a corrosion expert; and

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

(g) All buried facility oil piping installations

(1) must, if a piping segment is exposed for any reason, be carefully examined for damaged coating or corroded piping in accordance with Section 9.2.6 of American Petroleum Institute (API) *Piping Inspection Code, Inspection, Repair, Alteration, and Rerating of In-service Piping Systems*, API 570, Second Edition, October 1998, adopted by reference, Addendum 1, February 2000, adopted by reference, Addendum 2, December 2001, adopted by reference, and Addendum 3, August 2003, adopted by reference, and

(A) if active corrosion is found, actions for control of future corrosion must be implemented; and

(B) significant repairs or replacements must meet the requirements of (c) and (e) of this section;

(2) of metallic construction without cathodic protection

(A) must be electrically inspected by a corrosion expert for active corrosion at least once every 3 calendar years, but with intervals not exceeding 39 months; and

(B) in areas in which active corrosion is found, must be cathodically protected in accordance with (d) or (f) of this section, as appropriate;

(h) Aboveground facility oil piping shall be supported consistent with the requirements of ASME B31.3, *Process Pipin*g, 2004 Edition, Subsection 321.

(i) After July 1, 2007, all facility oil piping must be maintained and inspected under a program developed in accordance with the requirements of API *Piping Inspection Code, Inspection, Repair, Alteration, and Rerating of In-service Piping Systems*, API 570, Second Edition, October 1998, adopted by reference, Addendum 1, February 2000, adopted by reference, Addendum 2, December 2001, adopted by reference, and Addendum 3, August 2003, adopted by reference, or another program approved by the department unless a more stringent requirement is set out in this section.

(j) 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 System*s, 2002, RP0169-2002, adopted by reference, unless a more stringent requirement is set out in this section;

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

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

(k) Aboveground facility oil piping located outside a sufficiently impermeable deck onboard a marine structure or at a soil-to-air interface must be protected against external corrosion by the application of a protective coating or by the use of corrosion-resistant materials.

(*l*) Aboveground facility oil piping not specified by (k) must be protected from atmospheric corrosion by the application of a protective coating or by the use of corrosion-resistant material unless the operator demonstrates by test, investigation, or experience appropriate to the environment of the piping segment that the anticipated extent of corrosion will

(1) only be a light surface oxide; or

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

(m) Aboveground piping and valves must be

(1) visually checked for leaks or damage during routine operations or at least monthly, and

(2) appropriately protected from damage by vehicles.

(n) Facility oil piping removed from service for more than one year must be free of accumulated oil, 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. The owner or operator shall notify the department when piping is removed from service in accordance with this paragraph.

(o) 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;

(3) “removed from service” means not in regular use for the service intended and not included in a regular maintenance and inspection program in accordance with (i) of this section. (Eff. 5/14/92, Register 122, am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Editor’s Note: The publications adopted by reference in 18 AAC 75.080 may be reviewed at the department’s offices in Anchorage, Fairbanks, or Juneau, or may be obtained directly from the appropriate publisher. The mailing address, telephone number, facsimile number, and website, if available, for each publisher are as follows:

American Society of Mechanical Engineers (ASME), 22 Law Drive, P.O. Box 2300, Fairfield, New Jersey 07007-2300; phone (800) 843-2763; fax (201) 882-1717; website: http://www.asme.org/;

National Association of Corrosion Engineers (NACE) International, 1440 South Creek Drive, Houston, Texas 77084-4906; phone (800) 797-6223; fax (281) 228-6300; website: http://www.nace.org;

American Petroleum Institute (API), 1220 L Street NW, Washington, DC 20005-4070; phone (202) 682-8000; fax (303) 397-2740; website: http://www.api-ec.api.org

Rationale & Discussion

One commenter requested that facility piping within secondary containment at small tank farms be exempt from the API 570 inspection requirements, based upon the cost of developing an API 570 or equivalent program. The department disagrees. While smaller tank farms transfer smaller quantities of oil through facility piping and have fewer resources to maintain a valid inspection program for facility piping, the cost and scope of such an inspection program is directly related to the size of the facility and the potential for an oil spill.

One commenter stated that the API 570 inspection standard is not appropriate for upstream piping associated with exploration and production, and suggested the use of the operations and maintenance sections of ASME B31.4 or B31.8 as alternatives. The department concurs, noting that the API 570 standard is designed for piping designed to the ASME B31.3 standard. We note that the regulations allow for “another program approved by the department unless a more stringent requirement is set out in this section”.

One commenter questioned whether “protective wrapping or coating” would include paint, assuming that paint is part of a maintenance system. The department’s intent is that paint will not be considered wrapping or coating for buried or soil-to-air interface piping.

One commenter requested a reference standard for the term “electrically inspected”. The applicable references are NACE RP0169 and NACE TM 497, both of which define “electrically inspected. NACE RP0169 is included in the regulations by reference.

One commenter noted that ASME B31 codes allow clamped and threaded connections on buried piping larger than 2” diameter. The department is keeping the current prohibition against clamped, threaded, or similar connections for buried piping larger than 1” nominal pipe size.

One commenter questioned the phase-in of the new regulations, noting that they would need approximately 24 months to conduct a company-wide assessment, develop inspection and cathodic protection systems, and implement these systems, at considerable cost. The department notes that, following the NACE standard, electrical surveys would have to be completed with 39 months after the effective date of the regulation, allowing sufficient time to budget, plan, and carry out the inspections. The other requirements are generally either existing requirements already applicable to facility piping or are only applicable to new piping installations.

One commenter requested that the definition of “buried” be changed to exclude cased piping. The department disagrees. Recent incidents clearly indicated that cased piping needs to be under a corrosion control program. If corrosion control is not possible through cathodic protection then equivalent control measures such as selection of corrosion-resistant alloys or a robust system to detect small leaks is needed.

One commenter questioned what “free of accumulated oil” meant. In piggable lines, that means running a pig through the lines. In lines where the entire contents of the line can be drained by gravity, it means draining by gravity. In other cases, blowing air through the lines or some other method to flush or evacuate standing oil accumulating in low spots in the line is needed. It is unacceptable to have significant quantities of oil pooled or accumulated in a line that is not subject to routine maintenance to prevent an oil spill.

18 AAC 75.090. Recommended practices:

Repealed. __/__/____ (Eff. 5/14/92, Register 122; repealed __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.030 AS 46.04.070

Rationale & Discussion

ADEC notes that this section is advisory in nature and that most of the referenced standards and practices are outdated. Where third-party standards and practices are incorporated into other sections, those standards are now updated and explicitly called out.

No comments were received opposing this change.

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

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** 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.

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 – 18 AAC 75.085.** 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** [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;

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.** __/__/____

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

•••

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;

…

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)**; 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(g)(1)(C) and (D)**; maintenance practices for buried **metallic** [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(d)** [18 AAC 75.080(b)(1)(A)] **or (j)(1) or 18 AAC 75.047(c)(1)(B)**; and corrosion surveys required by **18 AAC 75.080(j)(1)** [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)** ;

18 AAC 75.425(e) is amended by adding a new paragraph 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. (Eff. 5/14/92, Register 122, am 9/25/93, Register 127; am 3/28/96, Register 137; am 4/4/97, Register 142; am 12/14/2002, Register 164; am 5/26/2004, Register 170; am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.035 AS 46.04.070
AS 46.04.030 AS 46.04.055

Rationale & Discussion

One commenter requested the inclusion of spot charter vessel vetting procedures in this paragraph. The department feels that opening up an operator's internal decision policy regarding vessel selection to public review is inappropriate and does not lend itself to clear, consistent enforcement.

One commenter opposed the language regarding historical spill history, noting that sources, causes, and amounts for older spills may not be known, or that the facts of a spill may be in dispute. The department intends that spill data, to the greatest extent known, should be included, particularly a listing of actions taken to prevent recurrence of the spill.

Other commenters requested that winter ice operating procedures and waiver documentation be included in section (e)(2). The department notes that the area-specific winter ice operating procedures referred to are federal navigation requirements, not state oil spill prevention requirements, and that waiver documentation is already required by regulation.

One commenter requested that vessel mooring systems be included in the best available technology (BAT) requirements. The department disagrees. The BAT statute at AS 46.04.030(e) applies to prevention and response technologies, not normal operating equipment.

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** [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 new subsections 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).

(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. (Eff. 5/14/92, Register 122; am 9/25/93, Register 127; am 3/28/96, Register 137; am 4/4/97, Register 142; am 5/26/2004, Register 170; am __/__/____, Register ____)

Authority: AS 46.30.020 AS 46.04.030 AS 46.04.070
AS 46.04.020 AS 46.04.035

Rationale & Discussion

No substantive comments were received regarding these changes.

18 AAC 75.475 is amended by adding a new subsection 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 75.047(e),

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

(3) a secondary containment system required by 18 AAC 75.075,

such that the system no longer meets the applicable performance requirements. (Eff. 5/14/92, Register 122; am 11/27/2002, Register 164; am __/__/____, Register ____)

Authority: AS 46.03.020 AS 46.04.055 AS 46.04.070
AS 46.04.030

Rationale & Discussion

One commenter recommended changing the lead-in to this requirement to read "prior to replacing or making any significant changes to". The department disagrees. The intent of this requirement is to ensure that the department is notified when a disruption or system failure occurs such that the facility's oil spill prevention systems are compromised.

18 AAC 75, Article 9 - General Provisions

18 AAC 75.990 is amended to read:

18 AAC 75.990. Definitions

…

(39) **Repealed. __/__/____** ;

…

(68) **Repealed. __/__/____** ;

…

(75) "oil storage tank," for the purposes of 18 AAC 75.065**, 18 AAC 75.066,** and 18 AAC 75.075, means a container, including a 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 or underground storage tank;

…

(134) "transmission pipeline" means 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 **oil** piping;

…

(165) "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;

(166) "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;

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

(168) "corrosion expert" means a person who

(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;

(169) "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;

(170) "facility oil piping" means piping and associated fittings, including all valves, elbows, joints, flanges, pumps, and flexible connectors,

(A) originating from or terminating at an oil storage tank regulated under 18 AAC 75.065 or 18 AAC 75.066 up to the:

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

(ii) Marine header;

(iii) Fill cap or fill valve;

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

(v) First flange or connection within a tank truck loading, loading rack containment area; or

(B) originating from or terminating at an exploration or production well, up to the:

(i) Choke or valve interconnection with a flowline; or

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

(171) "field-constructed aboveground oil storage tank" means a welded metal aboveground oil storage tank erected on-site where it will be placed in service;

(172) "flowline" means piping and associated fittings, including all valves, elbows, joints, flanges, pumps, and flexible connectors, containing liquid oil located at a production facility that is installed or used for the purpose of transporting oil between a well pad or marine structure used for oil production and the interconnection point with a transmission pipeline and including all piping between interconnections, including multi-phase lines and process piping, except

(A) facility oil piping; and

(B) transmission pipelines;

(173) "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;

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

(175) "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;

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

(177) "placed in service" means commencement of operational use, either after initial construction or installation or

(A) for field-constructed aboveground oil storage tanks, after the date of return to service after reconstruction as defined by API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*, 3rd Edition, December 2001, adopted by reference, Addendum 1, September 2003, adopted by reference, or after the date of return to service after being removed from service in accordance with 18 AAC 75.065(o); or

(B) for facility oil piping, after the date of return to service after being removed from service in accordance with 18 AAC 75.080(n); or

(C) for flow lines, after the date of return to service after being removed from service in accordance with 18 AAC 75.047(g).

(178) "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.

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

(180) "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.

(181) "vaulted aboveground oil storage tank" means an oil storage tank that is placed within a discrete secondary containment vault system at or below grade. (Eff. 5/14/92, Register 122; am 9/25/93, Register 127; am 4/4/97, Register 142; am 4/11/97, Register 142; am 1/22/99, Register 149; am 8/27/2000, Register 155; am 10/28/2000, Register 156; am 11/27/2002, Register 164; am 12/14/2002, Register 164; am 1/30/2003, Register 165; am 8/8/2003, Register 167; am 5/26/2004, Register 170; am __/__/____, Register ____)

Authority:	AS 46.03.020	AS 46.03.755	AS 46.04.055
	AS 46.03.050	AS 46.03.822	AS 46.04.070
	AS 46.03.710	AS 46.04.020	AS 46.08.140
	AS 46.03.740	AS 46.04.030	AS 46.09.010
	AS 46.03.745	AS 46.04.035	AS 46.09.020

Editor's Note: The publications adopted by reference in 18 AAC 75.990 may be reviewed at the department's offices in Anchorage, Fairbanks, or Juneau, or may be obtained directly from the appropriate publisher. The mailing address, telephone number, facsimile number, and website, if available, for each publisher are as follows:

American Petroleum Institute (API), 1220 L Street NW, Washington, DC 20005-4070; phone (202) 682-8000; fax (303) 397-2740; website: http://www.api-ec.api.org

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. 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, including new definitions of "facility oil piping" 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 75.047.

One commenter requested that "gathering lines" and "flow lines" be defined separately, and that they specifically exclude artificial lift piping, gas gathering lines, fuel gas lines, produced water lines, and miscible injectant lines. The department rejects that suggestion as being counter to the intent of the regulations at 18 AAC 75.047.

One commenter disagreed with the term “placed in service”, indicating that “placed” does not mean a specific date. The department contends that the definition is accurate for the purpose it is intended.