Comments on AS 46.04 and 18 AAC 75 Article 4

1.0 PREFATORY MATERIAL

The problem with most regulations' development is that they are backward-looking. They tend to be written in response to the last newsworthy incident, not realistic potential future incidents. The result tends to be a regulatory regime that is piecemeal, uneven, and loaded with gaps in coverage and unintended consequences.

The current ADEC spill response regulations were originally developed for North Slope and Cook Inlet exploration and production. After the T/V Exxon Valdez incident, the regulations were extensively revised, but the revisions were generally slanted towards tanker operations in Prince William Sound and prevention and response to another Exxon Valdez. They continued to address offshore development and production only minimally. For example, 18 AAC 75.045 is predominantly written for land-based exploration and production facilities, and the few offshore requirements in this section were originally written for shallow water jack-up rigs and Cook Inlet production facilities, and are not easily applicable to any future Arctic offshore exploration and production. As another example, 18 AAC 75.425(e)(1)(F) specifies blowout scenarios for exploration and production facilities but assumes the blowout location is on land, not water.

2.0 RESPONSE PLANNING STANDARDS

2.1 72 HOUR RESPONSE TIME

The 72-hour RPS standard in AS 46.04.030(k) and 18 AC 75.432 et seq. was based simply on the weather window at the beginning of the T/V Exxon Valdez response in 1989 and not on any rigorous analysis of oil discharge responses in general. Analysis of a large data set of oil discharge responses by the U.S. Coast Guard R&D Center indicates that a quick initial response (2 hours or less in most situations) is needed to successfully respond to an oil discharge.

The 2-hour initial response time and subsequent tiered response is primarily based upon the spreading rate of oil on water. After 2 hours the oil will have either spread out to a thin film that is not amenable to mechanical recovery, or a large spill will have covered a surface area that will overcome the capability of available resources.

The RPS of AS 46.04.030(k) and 18 AC 75.432 et seq. should be revised to a science-based standard, preferably similar to federal standards.

2.2 RPS VOLUMES

There was also a lack of harmonization in the development of RPS for the various categories, leading to a wide variety of RPS volumes. The legislature effectually threw up their hands and gave up at one point, failing to define an RPS for exploration facilities, production facilities, and pipelines.

Category	RPS Volume	Reference	RPS Response Time	Reference
Oil terminal facility	Largest tank	AS 46.04.030(k)(1) 18 AAC 75.432(b)	72 hours	AS 46.04.030(k)(1) 18 AAC 75.432(a)
Exploration facility	16,500 bbls	18 AAC 75.434(b)	72 hours	AS 46.04.030(k)(2)

Category	RPS Volume	Reference	RPS Response Time	Reference
Production facility	3 x average daily production volume	18 AAC 75.434(e)	72 hours	AS 46.04.030(k)(2)
Crude oil pipelines	Adjusted volume of pipeline	18 AAC 75.436(b)	72 hours	AS 46.04.030(k)(2)
Crude oil tank vessel <500,000 bbls	50,000 bbls	AS 46.04.030(k)(3)(A)	72 hours	AS 46.04.030(k)(3)(A)
Crude oil tank vessel >500,000 bbls	300,000 bbls	AS 46.04.030(k)(3)(B)	72 hours	AS 46.04.030(k)(3)(B)
Non-crude oil tank vessel	15% of cargo capacity	AS 46.04.030(k)(4)	48 hours	AS 46.04.030(k)(4)
Nontank vessel	15% of cargo capacity	AS 46.04.055(c)(1)	48 hours	AS 46.04.055(c)(1)
Railroad tank car	15% of train capacity	AS 46.04.055(c)(2) 18 AAC 75.433	48 hours	AS 46.04.055(c)(2)

AS 46.04.030(e) indicates only RPS ("worst case" or Level 3 incident) planning, but AS 46.04.030(g) requires the response be accomplished in the shortest time possible. If you predicate the response as being effective and efficient, then preparation for smaller spills (which are fundamentally different in character and response from RPS incidents) is required.

2.3 REMOVAL OF PREVENTION CREDITS

Many of the prevention credits in 18 AAC 75.430 – 18 AAC 75.442, which were innovative at the time of writing, are now either industry standard or required by federal regulation and should not be applicable to the RPS calculation. Prevention measure credit should only be given for new or innovative measures that are not required by other regulatory bodies.

2.4 REMOVAL OF THE WELL IGNITION ADJUSTMENT TO RPS

Remove 18 AAC 75.434(g). This was foisted upon the Department as a political carve-out for the Northstar project. It should never have been included and no longer serves any purpose.

3.0 LEAK DETECTION STANDARDS FOR PIPELINES (18 AAC 75 ARTICLE 1)

Current regulations at 18 AAC 75.055(a) lists a 1% leak detection standard, which only addresses one factor in determining the optimum leak detection capability.

The current COTP regulations (18 AAC 75.055) only require leak detection for transmission pipelines, and that regulatory requirement is less than clear and comprehensive in scope. An effective leak detection regulatory standard would recognize that leak detection is mainly dependent upon three codependent constrained variables:

- Detection limit (how small a spill volume is detected),
- Detection time (how fast a spill is detected), and
- Confidence level (how many false alarms are generated).

A valid regulatory leak detection standard would also incorporate one of several industry standards for designing, operating, and maintaining regulated leak detection systems, and also recognize that most leak detection systems use some form of computational pipeline monitoring. 18 AAC 75.055 should be revised along the lines of the Canadian Standards Association (CSA) Standard Z662, Oil and Gas Pipeline Systems or American Petroleum Institute (API) Standards 1130, Computational Pipeline Monitoring for Liquid Pipelines, and 1155, Evaluation Methodology for Software Based Leak Detection Systems.

The current regulations do not address corrosion issues, internal or external, or the design, construction, repair, and upgrade/derating of crude oil transmission pipelines. Personnel training is a significant factor in the effectiveness of a leak detection system and should also be addressed.

The current leak detection performance standards in 18 AAC 75.055(a) do not encourage optimization of a leak detection systems. In fact, tweaking of leak detection systems to meet the 1% detection limit standard of 18 AAC 75.055(a)(1) has lead to sub optimization or degradation of the leak detection capability of some COTPs, including the proliferation of false alarms. Too many false alarms (low confidence level) will lead to personnel ignoring or missing actual leaks.

The Technische Regeln fur Fernleitungen (Technical Rules for Pipelines) – a German standard, not officially published but in wide use, covers design and operation of flammable and environmentally hazardous liquids (TRFL) is focused on the general requirements necessary to detect and locate leaks; it does not go into technical aspects of design or implementation. While not officially adopted as regulation, it is a required compliance document for applicable liquid pipelines in Germany. It is rather unique in that it requires five different leak detection systems/functions:

- Two independent leak detection systems for continuously operating leak detection during steady state operation. One of these systems or an additional one must also be able to detect leaks during transient operation, such as start-up or shut down of the pipeline.
- One leak detection system capable of detecting leaks during no flow or stand still operation.
- One leak detection system for creeping leakages (small spills).
- One leak detection system for fast leak locating (determining location of leak).

In many other parts of the world, pollution prevention requirements for pipelines are negotiated as part of a permit package rather than as regulation. The Baku-Tbilisi-Ceyhan (BTC) pipeline, which transports crude oil 1,094 miles from eastern Azerbaijan through Georgia to western Turkey, has, as part of its permit stipulations, a leak detection requirement of:

- Ability to detect and locate a leak of less than 1% of the pipeline design flow rate within 60 minutes and within 500 meters;
- Minimum false alarms;
- Robust and reliable; and
- Proven technology.

Perhaps ADNR should consider a similar method, whereby leak detection systems become a permit condition.

4.0 C-PLAN APPLICATION TOMBSTONING (18 AAC 75 ARTICLE 4)

The current c-plan approval process is an open-ended time and money sink. Iterative requests for additional information can drag approvals out for up to a year for large, complex, or contentious plan submissions, and having both agency and public plan reviews occur simultaneously does not work.

Currently, federal oil spill response plans are required to meet all applicable regulations either at the time of submission or 60 days prior to submission. Alaska requires that ODPCPs meet state regulations at the time of approval. Given that many ODPCPs are in review for six months or more, they are often forced to be revised multiple times as required reference documents are updated after submission.

I strongly suggest that ADEC match federal requirements and base approval / disapproval of ODPCPs based upon the plan meeting all application regulations at the time of application. If there are supporting documents or requirements that have changed during the review, they changes can be incorporated into the approval along with a timeline to bring the plan up to date.

5.0 C-PLAN SCENARIO PLANNING (18 AAC 75.425/430)

18 AAC 75.425(e)(1)(F) and 18 AAC 75.430(a) are based upon the assumption that the general procedures for responding to a spill of the RPS volume are applicable to any size spill. This assumption is incorrect, and industry preparedness planning standards, U.S. federal legislation, and other national oil spill preparedness and response regulatory regimes have advanced beyond the simple “one size fits all” planning standard. Contingency planning requirements should follow a tiered response concept that recognizes the differences between types and sizes of spills. Federal spill planning requirements three scenarios for three distinct sizes and types of spills; average most probable, maximum most probable, and worst case. Most spill planning requirements in other countries that have been developed within the last twenty years have also adopted a three-tier approach to planning.

6.0 APPLICATION OF SKIMMER DERATING

The original application of the 20% derating in 18 AAC 75 dates back to the early 1990s when Ed Collazzi was developing changes to the regulations at 18 AAC 75 in response to OPA 90. The common consensus standard at the time was USCG NAVIC 7-92, which was pushed out by the USCG to meet the implementation schedule requirements of OPA 90 (that’s why it came out as a NAVIC and not a proposed regulation).

NAVIC 7-92, and the federal regulations that developed out of it (30 CFR 254.44, 33 CFR 155 Appendix B, Section 6, and 40 CFR 122 Appendix E, Section 6) all use a 20% derating factor for weir skimmers This was based upon USCG R&D Center testing of 1960s-era equipment at OHMSETT in the 1970s. It is not, and never was, applicable to high efficiency oleophilic skimmers. I suggest that ADEC adopt a effective daily recovery capacity that more closely approximates the current makeup of response resources in Alaska, perhaps building off of the work done by Genwest for BSEE (EDRC Project, BSEE Order # E12-PD-00012).

On a similar note, the ADEC letter to PRACs and plan holders of 11 September 2009 is overly constrictive and a detriment to spill response planning. If a PRAC justifies to the department that a skimmer system should be rated at a higher recovery rate, that rate should be available to all PRAC clients that meet the operating conditions of the higher rate (i.e., same oil type, same environmental conditions). To limit it to individual plans negates any advantage to the PRAC to provide state of the art skimming systems.

7.0 COMITY BETWEEN USCG OSRO AND ADEC PRAC REGISTRATIONS (18 AAC 75 ARTICLE 5)

The current state primary response action contractor (PRAC) registration system was designed as a de minimus program, and as such it is of little worth to enhance preparedness planning, serving only to provide contractor immunity from suit. There are no inspections of PRAC equipment, no training requirements, and no impetus for PRACs to improve. The federal oil spill response organization (OSRO) program is much more robust, but OSRO certification is not coincident with PRAC registration. Federal OSRO certification should be acceptable to the state on a comity basis. Such a cross-certification is written into AS 46.04.035(b) but has never been implemented by ADEC.

Suggest that USCG OSRO certification should be accepted at face value as meeting ADEC PRAC requirements, since USCG OSRO certification is a more rigorous certification than the ADEC PRAC process. This could be done by revising the application form required under 18 AAC 75.520(b) and 18 AAC 75.521(b).

8.0 OIL DISCHARGES FOR SCIENTIFIC & RESEARCH PURPOSES (18 AAC 75 ARTICLE 8)

18 AAC 75, Article 8 allows the intentional discharge of oil for scientific and research purposes, but current federal law prevents such activities. The spill response needs to be able to spill oil for scientific and research purposes. Currently, Alaska Clean Seas travels to Norway to test their equipment and tactics with real oil in arctic conditions. Small scale testing results in laboratory conditions do not always scale up realistically. The legislature should petition the federal government to allow oil discharges for scientific and research purposes as described in 18 AAC 75, Article 8.