

**NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP)
BUREAU OF CORECTIVE ACTIONS
PETROLEUM FUND WORKSHOP
Thursday, March 10, 2005 – 12:30 p.m.
1001 East Ninth Street, Reno, Nevada**

MINUTES OF WORKSHOP

The workshop began at approximately 12:30 pm. The attendees from Las Vegas and Reno introduced themselves. The Las Vegas workshop took place at the Early Intervention Services building, 3811 West Charleston Blvd., Room #209, Las Vegas, Nevada. The conference was teleconferenced between the two locations and also videotaped. The Las Vegas attendees were:

Rex Heppe, ATC Associates, Inc.
Jim Grant, Forever Resorts
Jeff Stephens, Forever Resorts
Gail Kaiser, Las Vegas Boat Harbor, Inc.
Keith Stewart, Stewart Environmental
Dave Merrill, Seven Crown Resorts
Jon Bell, Broadbent & Assoc.
Sara Piper, NDEP
Dawn Anderson, NDEP
Shannon Harbor, NDEP
Chris Bischoft, Clark County Health Department (CCHD)
Andrea Havens, Converse Consultants
Hayden Bridwell, NDEP

The Reno attendees were:

Scott Keesey, Broadbent & Assoc.
Gil Cerruti, NDEP

Gil Cerruti, Nevada Division of Environmental Protection, began by explaining the purpose of the workshop, which was to obtain comments on the proposed changes to NAC 590 and NAC 459, with an emphasis on NAC 459. He reviewed the importance of stating commentor's name for the record should contact be required after the meeting. A feedback form had been handed out at both locations. The feedback form was to provide an easy system for input or questions that might occur after the workshop. The form may be returned by mail or fax. It is requested that all comments or questions be received no later than June 10, 2005. The reason for this deadline is that the Carson City offices will be moving after that time.

Each individual should have a copy of NAC 590 and NAC 459, along with copies of instructions on where to locate the 2003 International Fire Code (which has been adopted by the State of Nevada and is being adopted as part of the NAC 459 Regulations). Handouts of the document Fixed and Floating Piers was also provided, along with a document providing answers to common questions.

Mr. Cerruti reviewed the history of the proposed changes. In 2003, Senate Bill 58 was passed by the Nevada State Legislature. This Bill enabled the regulations in NRS 459 to be changed to add above ground storage tanks under the classification of regulated tanks. Therefore, NDEP now had the ability to write regulations for above ground storage tanks. Regulations have been drafted which only look at one kind of above ground storage tanks, the marina above ground storage tanks which are near bodies of water like Lake Mead and Lake Tahoe. In order to comply with NRS 459, which was changed to include above ground tanks, modification of Nevada Amended Code (NACs) both 590 and 459 are proposed. In NAC 590 the definition of marina above ground storage tanks is included with certain inspection requirements. In NAC 459, very specific requirements for the operation of the marina above ground storage tanks have been proposed.

I. PROPOSED CHANGES TO NAC 590

- 1) broaden the definition of tanks to include above ground marina storage tanks;**
- 2) include certain requirements for the inspection of Petroleum Fund enrolled above ground storage tanks;**
- 3) set a time limit for Fund reimbursement filings; and,**
- 4) add a requirement to describe in writing the action(s) taken to prevent further releases when a release is discovered.**

Mr. Cerruti reviewed the steps that will occur to codify this law. After this workshop, the comments received will be considered and if appropriate, the comments will be incorporated into the regulations, or the regulations will be modified. Following that, the regulations will be reviewed by the State Environmental Commission (SEC). At that time, another public hearing will occur. Next, the Legislative Council Bureau will review them for form. If the form does not meet the proper criteria, they will be changed or modified. Following that, they are codified, which means they become law. This entire process is expected to occur by September 30, 2005. In July 2005 there will be a meeting of the SEC.

In NAC 590.700, the definition of marina storage tanks has been included. Mr. Cerruti requested that all individuals change their copy of the proposed regulation from “marina storage tanks no more than 30,000 gallons” to “12,000 gallons” to agree with the International Fire Code. This change is one of the changes that have already occurred from input provided by individuals and firms.

Under 590.700 3(a), marine storage tank means a petroleum storage tank with at least 110 but no more than 12,000 gallons used to fuel water vessels, of which more than 90% of the tank is either above ground level or over water, and includes all connected piping except piping associated with the dispenser. That will be the above ground tank system.

Mr. Cerruti reviewed how NAC 590 only applies to petroleum fund enrolled tanks, as opposed to NAC 459 which applies to all tanks. Under NAC 590.740 the inspection requirements for above ground storage tanks systems are expanded, and apply to all enrolled above ground tanks. Many of the above ground tank owners have elected to enroll in the petroleum fund in the State of Nevada, and presently there is a statute that says they must inspect them monthly. Under the new regulations, the inspection requirements are more defined and specify what should be inspected (such as inspection for cracks, etc.) If a marina tank is enrolled in the petroleum fund, it must be monitored and inspected according to NAC 459.

Mr. Cerruti discussed the importance under the proposed regulation of reporting to NDEP, in writing, what action an operator took to prevent further release once a release is discovered.

The final change proposed under NAC 590 relates to section NAC 590.780. The Board will not accept a claim for reimbursement for a cost older than three years after the cost was incurred, unless good cause is demonstrated. In the past, stale invoices, which could be 7-8 year in age, have been submitted. When this occurs, ascertaining the liability to the Petroleum Fund is very difficult. Under this regulation, the claimant must appear before the Board and explain the reason why a claim was not submitted within the required three years. If the Board feels there was good cause for the delay, the claim may be processed. An example of this might be a fire where the claimants records were burned.

Mr. Cerruti next reviewed the goal of the proposed regulation. The regulations were drafted with the intent to assist in preserving the quality of Lake Tahoe, Lake Mead, and other water areas in the State of Nevada. Many inputs were reviewed to create the proposed regulation and included sources from the states of Wisconsin, Michigan, and Arizona. Mr. Cerruti stressed that the real experts are here now present in Las Vegas and that the input provided today was important and would not be taken lightly.

II. PROPOSED CHANGES TO NAC 459

- 1. broaden the definition of tanks to include above ground marina storage tanks;**
- 2. include certain requirements for the location, leak detection and containment, piping, dispensers and operation of above ground marina storage tank systems;**
- 3. dispose of petroleum contaminated soil in an approved manner; and,**
- 4. correct obsolete language.**

Mr. Cerruti reviewed the definitions added to NAC 459. These included, but were not limited to: the marina storage tank applicability, secondary containment, piping, dispensers, and the operation of marina above ground storage tanks. Underground storage tanks are covered by 40 CFR, a federal regulation. There are no federal regulations for above ground tanks. Beginning with the definition of the marina storage tank, NAC 459 contains the same definition reviewed earlier in NAC 590. Also adopted in NAC 459 is the 2003 International Fire Code. This code has already been adopted by the State of Nevada and this change simply incorporates it into NAC 459.

The next item reviewed was marina storage tank applicability NAC 459.9941. The time frame for registration and compliance for above ground marina storage tanks is on or before September 30, 2005. Each year thereafter, the owner must register with the division on a prescribed form and pay a \$50 fee for each marina storage tank compartment. The form for registering these tanks will be mailed to workshop participants and others in the early part of August. This \$50 registration fee covers registration of the tank with NDEP. This is in addition to the enrollment fee into the Petroleum Fund, which is an annual fee of \$100/compartment for those who elect to enroll.

The time frame for compliance with the regulations is on or before September 30th of 2006. Compliance may be required sooner for any part of an existing system that poses a current threat

to nearby property, to human health or the environment. The intent of these regulations is to prevent and detect leaks.

III. PUBLIC FORUM

Jeff Stephens, Forever Resorts, requested to know if the Nevada program was similar to the federal program under 40 CFR 280. He stated that it was his understanding where locations are UST supplied that the UST program basically stops before you get on to the marina. With the addition of ASTs to the tank program, for marina applications, there are a variety of requirements for leak stops, dispensers, piping requirements, dispenser containment, and a variety of on-the-water requirements associated the AST. Mr. Stephens stated that his question referred to the fact that some companies have both UST and AST facilities. With the new AST requirements you have on-the-water guidelines and requirements for piping, containment, leak detection, and emergency shut off. Would marina facilities that are fed by the UST also require a retrofit? In other words, with one's UST system the requirements stop before you get out on the water as far as piping requirements so forth and so on. Although the International Fire Code adoption has some bearing on this, would a retrofit for the marina design for the UST facilities be required or will there be one standard of rules for AST marinas and one standard for UST marinas?

Mr. Cerruti replied that there will be two standards. Under Nevada State Law, a requirement cannot be stricter for USTs than those under the federal 40 CFR 280. 40 CFR 280 determines those requirements for UST supplied sites as far as storage tanks. Therefore, no changes to the UST requirements are proposed. As mentioned, there are the IFC codes. If the IFC code is compared with the proposed AST code, it is similar. The inspections required under IFC were reviewed. 40 CFR 280 is as high a standard as allowed without a change in the state law. There are no federal regulations for ASTs; this allows the adoption of stricter regulations for ASTs than for USTs.

Mr. Stephens requested further clarification and stated that some of Forever Resort's facilities may have a 200 or 300-foot elevation deferential. He stated that the question is not so much dynamics as it is whether the on-the-water marina specs or UST facilities would be at a different standard than the AST marina.

Mr. Cerruti clarified that a different standard for each is proposed.

Gail Kaiser, Las Vegas Boat Harbor, requested to know if their tanks, which are now two-years-old must be moved above high water by 2006. Mr. Cerruti responded that this is not the case. Keith Stewart, Stewart Environmental, discussed the need to consider the flood or high water mark. He cited several examples and stressed that this should be taken into account in the writing of these regulations. Mr. Cerruti clarified that item 2b, had been rephrased. He read the rephrasing. A short discussion followed. Mr. Cerruti clarified that this rephrase meant that if you install a new tank after September 2005, it must be placed above the high level dam watermark.

Mr. Stewart reviewed the issues relating to extending pipe. He stated that extending a pipe was already a concern and the pipe could be as long as 4,000 to 5,000 feet. He expressed concern that a bigger problem will be created by this regulation. It was stated that running thousands of

feet of pipe without a restrictive device might not work. Mr. Cerruti reviewed how others have solved this issue. They have taken one essentially continuous pipe and elevated it on a cable and extended it 5,000 feet from the source all the way down to the dispenser and then pulled it back and rewound it, with the rise and fall of the lake level. Comments from the workshop participants were made regarding this solution. Mr. Cerruti requested to know if a better solution would be to move the tank to within 1,000 feet of the lake.

It was stated that double-walled tanks have no requirements for fixed containment, as opposed to single-wall tanks. A participant replied that with a 12,000-gallon, double-walled tank, the vast majority of these tanks would be skid mounted. In reality, a skid mounted AST is a portable facility if you really want to look at it from an engineering perspective. In the case of the 100-year flood, if it is expected, there is a higher probability of purging your tank and moving your system to accommodate a potential 100-year event than to create a greater threat by adding several thousand feet of product in a pipe, keeping in mind that with an AST facility you normally got only one set of solenoid check valves. It was stated that if you take a new look at the 100-year-flood requirement, it is not so much a location but a portability issue as to how you could respond in that event because it's obvious; it's a given that your AST is going to have above-ground piping from the storage tank to the marina. These are normally built with breakaway connections; their valves can be drained and purged. In the speaker's opinion, it was probably safer environmentally from an integrity point of view to put your tank in a lower elevation with the knowledge that it can be moved rather easily than to adhere to a 100-year flood plain elevation that would require 5,000 feet of line in some instances. Mr. Cerruti replied that this is a well-taken point and that the response from NDEP would be to **revise the proposed regulations, unless there were objections from some of the other participants, to get away from the 100-year flood plain concept, and go forward with looking at it from where the tank is best located with the shorter runs of pipe and still accommodate the rise and fall of the lake.** A short discussion followed with participants citing examples of why the high-water mark should be considered rather than the 100-year flood plain. Several opinions were expressed both for and against the use of the 100-year flood plain as a measurement.

An individual commented that the health department may also have some input regarding the length of pipe line and that there may be other considerations related to health which should be considered.

Chris Bischoft, CCHD, agreed with this change but noted that by increasing the piping run, this will increase the amount of leak potential. For example in a situation where there is 4,000 feet of pipe, even if you have some sort of shut off at the tank, if there was a major rupture down the line, a lot of gasoline will come straight out of the pipe. He also requested to know if using the Nevada Water Authority in conjunction with the forecast of lake levels had been considered as a potential measure. In many places, lake level forecast is predicted for up to five years in advance. Another discussion followed regarding lake levels and the best way to measure this in relation to the regulation.

Mr. Cerruti replied that he would speak with Mr. Bischoft sometime after the workshop and before the next step forward relating to the kind of conditions that now exist for forecasting lake levels and to **explore the possibility of tying the regulation to those forecasts.**

A poll of the tank owners was requested next relating to other types of AST systems, in addition to the double wall AST system. The opinion of the owners was requested relating to the cost to move the tanks, the difficulty and if they would consider this a hardship. The two types of AST systems are single and double wall. Both meet UL142 standards. From this point, a series of vaults and vaulted ASTs are available. Some are quite expensive. **Moving the tanks is not considered as big an issue as other concerns, such as the length of pipe runs.**

One owner stated that his company considered it much safer to put the tanks down lower knowing that we were going to have to move these tanks when the water came back up. This results in less exposed line. It was stated that the double-walled tanks are skid mounted but they are on a pad for containment, which is more than what the regulations require, but is a much safer concept than putting them up above high water. This owner commented that in the relationship with the National Parks Service, there is no land assignment for the placement of ASTs.

The input provided indicated that it is preferable to move the tanks from time-to-time instead of dealing with long piping runs.

An individual commented that “you don't create a problem to solve a problem”, and that it would be better to have the expense and the labor-intensive issues associated with moving an AST skid than accepting the environmental liability and exposure from long piping runs. Other individuals cited examples of why it is better to move a tank rather than follow a policy of long piping runs.

It was suggested that feeding the intermediate AST with the existing USTs might provide one solution. These would have to be marginal tanks, perhaps 10,000 gallons. Mr. Cerruti stated that the UST pipe runs to the AST would still exist. He requested to know how long those would be.

Mr. Cerruti requested to know if you moved the AST as close as you thought practical to the water level and then you fed the dispenser from that AST (this AST was referred to as a day tank to distinguish it) and then you had the UST feeding the AST would it be fair to specify regulations for the run between the UST and the AST as far as leak detection? There were two options: one of which is supplying the AST from the UST run and the other, to temporarily abandon the use of the UST facility, situate the AST at a lower elevation where there is safe delivery truck access and have a minimal piping run from the AST. Mr. Cerruti requested to know if the first option was eventually elected by someone would it be fair to then have a regulation on the line supplying the day tank from the UST? Mr. Stewart stated that there are UST regulations, if what currently is installed are underground storage tanks with underground lines to the junction. Those are properly monitored for compliance to UST regulations then they feed into the junction box and it comes above ground for the fueling system. The only reason the UST is in the loop is that at an estimate, there are 35,000 gallons of fuel storage in the UST's reservoir to feed the day tank. Mr. Cerruti requested to know how 35,000 gallons from a reservoir tanks goes into a 10,000 gallon AST. Are there alarms or shut offs or other procedures? Mr. Stewart replied that they're on full meter route system just like a normal UST system.

One individual supported placing some stringent requirements on piping, commenting on the fact that why regulate part of your piping run and not the rest of it? This is to protect the environment.

Mr. Cerruti stated that he heard and understood the concerns loud and clear. He stated that he would leave the workshop with the conclusion that **the sanest approach is to have the AST as close to some safe lake level that is forecast** as far as the lake level near the dispenser and operate out of that, and maybe or maybe not fill it with a reservoir UST.

The factors associated with the existing options were reviewed. The factors included, but were not limited to: road accesses, elevation grades, geographics and demographics. A concern was expressed regarding a very general and over-encompassing law, which may not include these factors.

It was pointed out that site specifics are a factor. For example, Lake Mojave has little fluctuation; however, Lake Mead does. It was suggested that a site specific analysis is better for the tank owner and provides more environmental integrity for the program to accomplish what they were really designed to do which is keep fuel off the ground and out of the water.

An individual suggested that the verbiage should be just that simple related to this requirement. Suggested wording was: the marina, the tank owner/operator in conjunction with the National Park Service, because they are a regulator out of Lake Mead NRA and the NDEP along with the CCHD will conduct site surveys and determine, based on data from the past and projections from the future, a mutually approved location prior to tank installation.

It was pointed out that the participants of the workshop are primarily tank owners, but do not own the land. The land ownership falls primarily under the Department of Interior, National Parks Service. With this in mind, the location and installation of a tank may not be arbitrarily decided. For example, the Parks Service is very cosmetic-orientated. One owner has some AST's at Lake Powell in which a building was constructed around the tanks, so they couldn't be identified as a tank. Other considerations are impact on view. The point stressed was the tank owner is not only subject to the state regulations and environmental concerns, but there are also other regulatory agencies and conditions which must be satisfied. The National Parks Service should be an active participant in the determinations. Mr. Cerruti confirmed that his department will contact them for their input.

Next, the regulation regarding double wall tanks not exceeding 1,100 gallons was reviewed. These are the cube containers that go on the piers. This is listed as number 2 under NAC 459.9941 (2b). The second line refers to double walled tanks not exceeding 1,100 gallons at a capacity that may be located on a solid fill pier. A lively discussion followed with many voices speaking at once. Examples of existing setups were referenced, including one in which the whole dock facility is a floating pier, with the tanks integrated into that pier. It was estimated that, in this situation, the tanks might be between 5,000 and 10,000 gallons.

One participant commented that the Fire Department wouldn't permit tanks on a floating pier. It had been attempted at the Overton Beach Marina when a permit was attempted; however the Fire Department would not allow any floating tanks, piers or barges. It was suggested that the example cited had been grandfathered in. A discussion regarding the floating tank followed.

Mr. Stewart clarified that this same tank would not be allowed a permit under current regulations.

It was stated that the current regulation refers more to a day tank concept than it does to a storage tank concept.

The next item discussed was overflow prevention. Tanks must meet the requirement of IFC 2003.

Mr. Cerruti next reviewed regulations relating to corrosion protection. In summary, the regulation stated that any metallic portion of a tank or its piping system that has contact with the soil or water and is subject to corrosion must be protected from corrosion, be properly engineered, installed and maintained continuously in accordance with 40 CFR 280. This is a good reference to corrosion protection systems. A metal tank sitting on a pad would be considered in contact with the soil unless it is insulated from by a dielectric material. Anchoring hardware is not considered part of the tank.

Mr. Cerruti reviewed the requirements for secondary containment. Above ground tanks must have secondary containment for the fuel stored in them. Secondary containment must be capable of containing everything, including rainwater, and it is against regulation to discharge what is collected in the secondary containment to the outside world if it looks like it has contamination in it. Double walled tanks don't require additional containment. All piping connections to the tank are made above the normal maximum liquid level. A mechanism is provided to prevent the release from the tank by siphoned flow. A mechanism accessible to the delivery operator is provided for determining the level of the liquid in the tank, and another mechanism is in place to sound an alarm when it gets to the 90% capacity stage and then shut it off at 95%. If a submersible pump system is used, a listed emergency valve must be installed at each dispensing device. If you use a suction-type pump, you need to have a vacuum-actuated valve underneath the dispenser. Mr. Cerruti requested to know if anyone has any of these. No response. Shut off and check valves must be equipped with a pressure-relieving device that will relieve the pressure generated by thermal expansion of the fuel in the pipe back to the tank. This occurs often in hot climates. Mr. Cerruti requested to know if this was standard.

A participant commented that this was addressed at Lake Powell and there were tremendous problems to such an extent that a system was redesigned that included by-pass lines in the pipe. The participant provided a detailed description of how the new system worked. Another example introduced also related to Lake Powell where there was an approximate 300 foot elevation differential and with a 5 psi check valve at the submersible pump and the pressure would get to maybe 80 - 85 psi at the dispenser down at the dock resulting in bursting the filter cartridges before it would cause this check valve to open. So it became non-workable and the check valve was cleared out. There needs to be an accommodation for pressure relief, but how you do it is very site specific and not easy all the time.

Mr. Cerruti stated that he spoke with an installer in Reno who indicated that there are now valves available to accommodate this situation.

It was pointed out that one problem is that there are two types of pressure regulation on a field line. There is either a pressure-reducing valve or a pressure-regulating valve, and that only works when you're pumping or dispensing fuel. Your problem comes when you stop it and the flow

isn't moving then it heats up and fluid will not go through the reverse direction of a PRV (a pressure-regulating valve, or a pressure-reducing valve). It can regulate the pressure while you are dispensing fuel, but there's no way of regulating it when you're not pumping fuel.

It was pointed out that this might be solved if it were allowed to expand around these one-way devices. Mr. Cerruti requested to know if this would be very small ¼ inch line or something similar. It was stated that currently a bridge and 1/2 inch line are used. For more sturdiness an 1/8 inch union orifice is also used. This allows thermal expansion to occur. A discussion regarding this solution followed.

It was commented that, as far as known, these are not in operation at Lake Mead and that this device creates another potential leak point.

A question was asked relating to how big an issue thermal expansion is on Lake Mead. The general response was that this was a non-issue.

Next, the worst-case scenario relating to thermal expansion was requested. The response was that flooding would be the worst-case scenario. One owner stated that the biggest issue experienced has been vapor lock.

Mr. Cerruti reviewed the external piping protection. This has been changed relating to above ground piping runs longer than 100 feet. It is felt that above ground piping runs must be prevented from contaminating the environment as a result of leaks, and should be enclosed in a protective containment leading to a catch basin equipped with an operating automatic leak detection audible alarm and shut off device, irrespective of length. Either you've got double wall piping or you've got some sort of trough or containment area that leads to a sensor to let you know you have a leak.

A discussion followed regarding the length of piping runs in both USTs and ASTs. It was the general opinion that long piping runs are normal.

Next, Mr. Cerruti reviewed the underground piping material requirements that must be followed after September 30, 2005. An opinion regarding the issue of corrosion was requested. It was stated that if everything is plastic or fiberglass below ground and above ground you don't see any corrosion so it's not an issue.

The necessity to have piping UL approved for exposure to UV rays and the fact that not all flexible piping on the market is UL approved for intended use at marinas or aboveground application was discussed.

The issues relating to Environ piping and the UL approved use by application for OPW piping were discussed.

Mr. Cerruti reviewed regulations relating to existing facilities that have metallic or single wall nonmetallic piping that are permanently relocating a fuel island. They must install dispenser sumps with leak sensors. Is there anybody without dispenser pumps? No response. Any additions to the metallic piping must be nonmetallic, single or double walled piping.

Next discussed was piping at floating marinas. This refers to the diagrams handed out. The description refers to suitable lengths of all- weather and UV-resistant flexible hose or metal piping that must be used between the onshore piping and the piping on the floating structure. This will be changed to reflect **UL approved for the intended use**. Piping at all hinged locations must be connected with approved, listed flexible connectors. Where you have joints or pivots or so forth, the smart way to keep the fuel out of the water is to have your double or your triple wall piping but you **don't have flexible connectors** because that's a potential leak point. Because all of your flexible connectors have got O-rings and seals and so forth and **you don't need a flexible connector if you've got a flexible pipe**. There are fixed connectors with flexible piping. You don't want any more twist joints or pivots for your fluid than you have to. Anytime you have a marina you need a vertical and lateral motion, but your flex piping between those points takes care of it. You don't want flexible connectors because they leak.

Mr. Cerruti stated that double walled piping and a listed emergency break away device designed to retain liquid on both side of the break away point shall be installed in a spill containment box monitored with a leak sensor on each fuel line serving the dock and anchored at the onshore end of the piping. Relating to dispensers: a control must be provided that will permit the fuel delivery pump to operate only when the dispensing nozzle is removed from its brackets or normal position with respect to the dispensing device and only when the switch on the dispensing device is manually actuated. This control must also stop the pump when all nozzles have been returned either to their brackets or the normal non-dispensing position. All fuel dispensers must be filtered at the nozzle.

A workshop participant requested clarification on the definition of filtering and the purpose of trying to put in a screen or filter on a nozzle when the fuel has already gone through a 6 or 7-micron filter inside the dispenser. It was suggested that none of the manufactured nozzles of any brand have filtering systems in them. It was not known if these were produced. Mr. Cerruti replied that the intent is to capture particles that are breaking down in the hose. Some of these hoses are 50 feet long and they get stepped on, they lay out in the sun, then they start breaking down and the filtering enables you to see in advance of hose failure. A discussion regarding filtered nozzles followed. It was stated that there are no filtered nozzles manufactured. One opinion was that this in a non-issue. Mr. Cerruti requested an opinion from the other participants. One individual stated that the hoses will be replaced so often because of external wear that they will never get a chance to wear out inside. Mr. Cerruti requested to know if there were ever any complaints from boat owners that their fuel has been messed up. Per one owner, this was not the situation.

Mr. Cerruti reviewed the regulations related to defective hoses which must be checked and a record kept daily for evidence of blistering, carcass saturation or separation, cuts, nicks, or abrasion and exposed re-enforcement material and for slippage, misalignment, or leaks of coupling. Defective hoses must be removed from service within 48 hours of evidences of failure. Mr. Cerruti requested to know how many workshop participants have had a hose fail and leak gas into the lake or on to the dock, or wherever.

One individual replied that he worked on Lake Powell for 25 years on the marinas and never saw a dispenser hose fail. But he could count the number of times where the hose fitting failed. There are different qualities of fittings, press fittings, screw fittings, compression fittings. The problems on the dispenser hoses are the quality of the fitting; not the hose per-say. They have been seen

pinched, crimped, you name it, but your release is usually under the water and **failures are normally fitting or connection problems.**

Mr. Cerruti clarified that this individual was recommending that this section of the regulations should address inspection of couplings and fittings rather than the hose itself. The individual agreed and suggested added wording to roll them (hoses) and make sure there are loops and not twists or kinks. It was suggested that everything from the dispenser cabinet right up to the tip of the nozzle should be inspected.

Mr. Cerruti requested to know if dispensing nozzles used at marina service station must be equipped with a non-drip check valve as a normal standard. The definition of non-drip check valve was requested. Mr. Cerruti replied that apparently the nozzle has a device at the end of it so when you remove it from a boat it doesn't drip 2 or 3 drops into the lake. It was clarified that new air regulations are being passed and in advance of that, the nozzle companies are actually creating nozzles that don't drip. A discussion followed regarding emission standards in California and other regulations that are pertinent to this regulation.

Mr. Cerruti stated that under the new requirements, relating to connection requirements, all above ground marina tanks must be filled through a liquid pipe connection enclosed in a grounded fill containment box, located at least 3 feet above the ground, 20 feet away from a water body and capable of containing a minimum of 5 gallons. Where the storage tank is filled by means of remote piping either a check valve or shut off valve with a quick connect coupling or a check valve with a dry break coupling must be installed in the piping at a point where the connection and disconnection is made between the tank and the delivery vehicle. This device must be protected from tampering and physical damage. He reviewed the exceptions to this regulation, which include tanks not exceeding 1,100 gallon or older tanks not equipped to accept a tight fill that are filled with a delivery nozzle from a delivery vehicle.

The monitoring requirements consist of performing a task and dating and recording the results. Weekly monitoring includes above ground storage tanks systems that comply with containment requirements for new above ground storage tanks. These must be visually monitored for leaks weekly. Double walled above ground storage tanks are exempt from the weekly monitoring. The monthly monitor requirement are visual inspection in accordance NAC 590.40 and that basically just says you have to inspect around the tank and the pipes and make sure you don't see leaks. This had been reviewed earlier. In reference to single walled tanks, a reconciliation measurement to 2% or less daily product measurement with dispenser meter reading and deliveries, and deliveries or static inventory of record reconciliation. Double walled tanks are exempt from the reconciliation inventory control.

An individual commented that it seems to be very restrictive, as far as types and ways you can meet them. A suggestion was that the **regulations should allow a SIR so long as it is designed for above ground storage tanks and that the regulations should allow for future technology to replace this item.**

Mr. Cerruti replied that the regulation would be modified to include this suggestion. Further the code will be modified to state that weekly and monthly monitoring is not required when the marina is closed during the off season, based on quantity in the tanks. In monitoring all

underground or underwater product lines that are not double walled with interstitial leak sensors must be tightness-tested for leaks in accordance with the requirements for 40 CFR 280.41. Next discussed was manufacture recommended monitoring. All electronic and mechanical equipment use for release detection monitoring or warning must be tested for proper operation calibration annually or per the manufacturer recommendation whichever is more frequent.

Next discussed was inventory records. Inventory daily records are required where due to the nature of the above ground storage tank or secondary containment visual inspections are not adequate for purpose of determining whether a leak has occurred. These records must be kept at the premises or made available for inspection upon 24 hours notice. They must be kept for three years and they must include a minimum recording showing by product date daily reconciliation between fuel received, fuel used, fuel sold, and inventory on hand. If there is more than one system consisting of a tank serving a separate pump or dispenser for any product, the reconciliation must be maintained separately for each system. Not required during the off-season if the tanks contain a de minimus quantity.

It was pointed out once more that the regulation appears to limit the role of technology in the future advances. It was suggested that the regulations could be expanded to include such things as a daily print out from a meter, which might satisfy section 40 CFR 280.43. The advantages of an electric printout versus a manual were briefly discussed.

Mr. Cerruti announced that this concluded the review of the proposed requirements for marina above ground storage tanks. He stated that the workshop would finish with a brief review of some of the other changes recommended to NAC 459. Under NAC 459.997, the word water bodies are added.

Under NAC 459.9974, which relates to management of contaminated soil, the intent of the change was to eliminate one line, which was obsolete, as it did not address contaminants below the action level of 100 ppm/tph. Language was added to provide more flexibility in the treatment of soil that is excavated but doesn't fall into the regulated limit.

Mr. Cerruti stated that under monitoring of ground water, the term MTBE has been added. This appears to be a common problem for which there has been no regulation. Another change is to add wording relating to the analysis of other constituents as directed by NDEP.

Mr. Cerruti thanked everyone and reiterated that the comments obtained today will be used to modify the proposed code as decided today. All participants who provided an address will be mailed a new draft of the regulations. This should be completed by June 2005.

IV. ADJOURNMENT

Mr. Cerruti thanked everyone for attending the workshop. There being no further business, the workshop was adjourned.