Florida Department of
Environmental Protection

Memorandum

TO: Waste Program Administrators
BPSS Section Administrators
BPSS District Managers
Contracted Local Cleanup Program Administrators
Interested Parties

THROUGH: Michael E. Ashey, Chief MEA 2/14/07
Bureau of Petroleum Storage Systems

FROM: Tom Conrardy, PE Administrator TC
Bureau of Petroleum Storage Systems

DATE: February 15, 2007

SUBJECT: Rule 62-770.300, F.A.C., Interim Source Removal, Supplemental Guidance

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The intent of Rule 62-770.300, Florida Administrative Code (F.A.C.), Interim Source Removal, is to allow a limited scope of remediation of contamination to be conducted prior to completion of the site assessment and preparation of a Remedial Action Plan (RAP). This is a useful option as it allows the amount of migration of contamination associated with new or recent discharges to be reduced, which may reduce liability, health risks, and overall cleanup costs. This also allows an opportunity for removal and disposal of contaminated soil which is encountered during a petroleum storage system upgrade or other construction event before the site assessment is completed at petroleum contaminated sites. The FDEP (including contracted local programs) encourages responsible parties to utilize these provisions to accomplish these objectives. The three categories of remediation which are allowed are free product recovery using specific techniques, short-term groundwater recovery under limited circumstances, and contaminated soil excavation and off-site disposal. Other methods of remediation which are not included under Rule 62-770.300, F.A.C., are considered to be Active Remediation rather than Interim Source Removal and may not commence until authorized by the FDEP by approval of a RAP in accordance with Rule 62-770.700, F.A.C., or, alternately, approval of Alternative Procedures and Requirements in accordance with Rule 62-770.890, F.A.C. This prohibition of implementation of active remediation is provided for under paragraph 62-770.700(10), F.A.C. The following are considered to be active remediation and therefore require prior approval by the FDEP and may not be conducted as Interim Source Removal:

1. Any use of biological or chemical remediation products to treat either soil or groundwater either by injection or application in an open excavation.

2. Short-term in situ remediation using portable equipment, whether a one time event or multiple intermittent remediation events.

3. Groundwater recovery that includes on-site treatment and discharge; unless associated with dewatering for petroleum storage system upgrade or contaminated soil source removal and the recovered water is treated and disposed under the Generic Permit for Discharges from Petroleum Contaminated Sites. These discharges of treated water must be short-term in nature and limited to the scope and duration necessary to accomplish the petroleum storage system upgrade or contaminated soil source removal. On-site treatment of contaminated water with reinfiltration or reinjection may not be conducted without prior authorization of the FDEP in a RAP Approval Order or Alternative Procedure Approval Order regardless of whether the dewatering is associated with a petroleum storage system upgrade or contaminated soil source removal.

4. Pilot studies may be conducted prior to FDEP approval of a RAP; however, paragraph 62-770.700(2), F.A.C., requires that a pilot study proposal be submitted to the FDEP or contracted local cleanup program for review prior to implementation. The term "pilot study" shall not be used as a euphemism to perform remediation without prior FDEP approval to conduct active remediation. In other words, the scope and duration of the pilot study should be limited to that necessary to collect data on operational and design parameters, such as radius of influence and recovered vapor concentrations, to be used for full scale remediation system design and not continue for a longer duration or extend to a larger area of the site than would be necessary to collect design information in order to accomplish remediation benefits under the guise of a pilot study.

Changes to Chapter 62-770, F.A.C., which were effective on April 17, 2005, included some important modifications to the requirements for Interim Source Removal, Rule 62-770.300, F.A.C. The most significant change was the addition of a new subsection to allow short-term groundwater recovery as interim source removal. This addition has resulted in some confusion in understanding the related requirements for information which need to be presented in the site assessment and the distinction between requirements for short-term groundwater recovery and dewatering associated with soil source removal. The following is supplemental information to provide further explanation and clarification of the requirements and procedures of this section. The purpose of this document is intended to supplement, not replace, the rule provisions for interim source removal and the information presented is to address the specific issues of requirements and limitations of short-term dewatering, and dewatering issues related to contaminated soil source removal. This document does not address requirements related to free product recovery as interim source removal or include all requirements of Rule 62-770.300, F.A.C., for soil source removal, and persons performing interim source removals need to refer to that rule as well as the supplemental information contained in this document.

Paragraph 62-770.300(2), F.A.C., – Short-Term Groundwater Recovery

The intent of this new section is to allow short-term groundwater recovery without prior authorization from the FDEP at facilities with a limited extent and degree of groundwater contamination, with the intent of reducing groundwater concentrations to levels that would

qualify the site for Post Active Remediation Monitoring (PARM) or Natural Attenuation Monitoring (NAM). The site must meet the following conditions to perform this interim remedial action without prior authorization from the FDEP:

1. The site assessment has been complete to the point of characterizing the extent of the groundwater plume and the assessment data demonstrate:

    a) The groundwater plume as defined by Cleanup Target Level (CTL) isocontours is less than ¼ acre in area and is limited to the top of the surficial aquifer. It will have to be demonstrated later in the site assessment that there existed a monitoring well which defined the downgradient extent of the plume and a vertical extent well which confirmed that groundwater CTLs were exceeded only in water-table wells.

    b) There is no free product present prior to and during the groundwater recovery event.

    c) Documentation of contaminant levels in source wells indicate there is a reasonable likelihood of qualifying the site for PARM status or NAM status following the groundwater recovery event.

2. The duration of the groundwater recovery is limited to 30 consecutive calendar days or less.

3. Air/fluid extraction techniques which generate a petroleum vapor discharge may not be used for groundwater recovery.

4. Recovered groundwater is containerized and disposed off-site at a contaminated water disposal facility or discharged to a sanitary sewer with the permission of the sanitary sewer authority. The water may not be treated and disposed on-site by reinfiltration or injection and the NPDES Generic Permit for Discharges from Petroleum Contaminated Sites may not be used to treat and dispose of the water.

5. Sampling of representative monitoring wells to evaluate the effectiveness of the pumping event must be performed at least 30 days following the conclusion of the groundwater recovery event.

Following the interim groundwater recovery event it will be necessary to submit an Interim Source Removal Report in accordance with paragraph 62-770.300(5), F.A.C., and obtain approval by the FDEP of the Site Assessment in accordance with requirements of Rule 62-770.600, F.A.C. The Site Assessment Report that is submitted must indicate the groundwater contaminant levels that existed prior to the groundwater recovery event as well as groundwater contaminant concentration levels following the interim groundwater recovery event.

If the contaminant concentrations have been reduced to CTL levels or less as a result of the groundwater recovery event it will be necessary to conduct confirmatory groundwater monitoring in accordance with paragraph 62-770.600(4)(m)3.a., F.A.C. This monitoring of at least two quarterly events, with the first monitoring event at least 30 days after the conclusion of the groundwater recovery event and the second monitoring event at least 90 days after the first monitoring event, may be conducted prior to submittal of the Site Assessment Report to the FDEP provided the timeframe to submit the site assessment within 270 days of discovery of contamination is not exceeded, and does not require the issuance by the FDEP of a PARM approval prior to conducting the post-groundwater recovery confirmatory groundwater monitoring. If the sampling results demonstrate that contaminant concentrations did not exceed groundwater CTLs at each monitoring event, and soil sampling and analyses demonstrate that there is no contaminated soil present, the Site Assessment may be concluded with a No Further Action Proposal as indicated in paragraph 62-770.600(8)(b)1., F.A.C.

Some provisions of Rule 62-770.600, F.A.C., Site Assessment, include a qualifier that the provision is not applicable if the site meets the No Further Action Criteria of Rule 62-770.680, F.A.C. These exemptions are intended to apply to sites for which groundwater contamination had not been detected at any time during the site assessment. Sites that have groundwater contamination but reduce contaminant levels to below CTLs by performing an interim source removal by short-term groundwater recovery must meet all applicable provisions of Rule 62-770.600, F.A.C.

If the site qualifies for NAM as a result of the groundwater recovery event, the Site Assessment may be concluded with a NAM proposal as indicated in paragraph 62-770.600(8)(b)2., F.A.C., but the monitoring to qualify for Site Rehabilitation Completion may not begin until the NAM proposal has been approved by the FDEP.

Paragraph 62-770.300(3), F.A.C. – Soil Removal, Treatment, and Disposal (Dewatering considerations)

The intent of this subsection is to allow responsible parties to implement timely and effective contaminated soil source removals without prior FDEP approval in order to mitigate the spreading of contamination while site assessment progresses, or to allow for the removal and proper disposal of contaminated soil that is encountered while doing a petroleum storage system upgrade or other construction event. These provisions were not intended to be used for responsible parties to attempt to do a complete cleanup of facilities which have a significant degree of groundwater contamination prior to completion of the site assessment and submittal of a RAP. The FDEP encourages responsible parties to consider implementing an interim contaminated soil source removal, and in order to maximize the effectiveness, it may be appropriate to extend the excavation beyond the unsaturated zone into the saturated zone to remove highly contaminated soil at the depth affected by fluctuation of the level of the groundwater table, also known as the smear zone.

Source Removals Below Groundwater Table in Conjunction with Underground Petroleum Storage System Upgrade

Responsible parties that are upgrading their underground petroleum storage systems may install a dewatering system if there is shallow groundwater that must be lowered to accomplish tank replacement and do a contaminated soil source removal below the groundwater table during the tank upgrade and not first obtain prior approval from the FDEP for either the source removal below the groundwater table or the dewatering provided that:

1. The water is containerized for proper off-site disposal, discharged to a sanitary sewer with the permission of the sewer authority, or discharged under the NPDES Generic Permit for Short Term Discharges from Petroleum Contaminated Sites. Treated water cannot be disposed on-site by reinfiltration or injection unless authorized by the FDEP in a RAP Approval Order or Alternative Procedure Approval Order.

2. The scope and duration of the dewatering is limited to that necessary to do the tank removal and replacement and contaminated soil removal and is not extended in duration following the completion of the facility upgrade to accomplish additional groundwater remediation benefits.

Source Removals Below Groundwater Table *Not* Associated with Petroleum Storage System Upgrade

An interim soil source removal that does not involve tank removal and replacement but does involve excavation of contaminated soil which may exist in the smear zone below the groundwater table may also be conducted as an interim source removal in order to maximize the effectiveness of the contaminated soil source removal. A dewatering system may be utilized to support the source removal without prior approval of the FDEP as long as the following criteria are met:

1. Water from the dewatering process is containerized for proper off-site disposal, discharged to a sanitary sewer with the permission of the sewer authority, or discharged under the NPDES Generic Permit for Short Term Discharges from Petroleum Contaminated Sites. Treated water cannot be disposed on-site by reinfiltration or injection unless authorized by the FDEP in a RAP Approval Order or Alternative Procedure Approval Order.

2. The area for which excavation will be conducted below the groundwater table and will be dewatered must be justified by the following criteria:

    a) The area to be excavated formerly had free product observed in monitoring wells and the excavation depth will be limited to the range of seasonal water table fluctuations, or

b) The area to be excavated exceeds soil CTLs in the unsaturated zone above the groundwater table and the excavation depth below the groundwater table will be limited to the range of seasonal water-table fluctuation, or

c) The area of the excavation is defined by (a) or (b) above and the depth of the excavation may extend deeper than the lower known depth of water-table fluctuation if soil samples have been collected to the proposed depth of the excavation that indicate that leachability-based soil CTLs are exceeded at the depth that will be excavated. (This last criterion has been established as a boundary condition to identify the limits of soil excavation below the groundwater table that may be performed as an Interim Source Removal without FDEP approval. Removal of such soil may or may not facilitate the achievement of groundwater CTLs in a cost-effective manner. However, it should be noted that the soil CTLs only apply to the unsaturated zone and the FDEP does not require soil below the groundwater table with concentrations above soil CLTs to be remediated or removed in order for a site to qualify for Site Rehabilitation Completion.)

3. The scope and duration of the dewatering is limited to that which is necessary to accomplish the contaminated soil source removal. The area or depth of dewatering or the duration of dewatering may not be extended to accomplish groundwater cleanup benefits beyond those that are incidental to the dewatering that is done in order to accomplish the contaminated soil source removal.

Following the interim contaminated soil source removal event it will be necessary to submit a Source Removal Report in accordance with paragraph 62-770.300(5), F.A.C., and obtain approval by the FDEP of the Site Assessment in accordance with requirements of Rule 62-770.600, F.A.C. If excavation was conducted below the groundwater table with dewatering, the Source Removal Report must include documentation of the conditions described in 2 (a) through (c) above which was the justification for the area and depth of the dewatering and excavation below the groundwater table. It is highly advisable to collect confirmatory samples at the perimeter of the excavation for inclusion in the Site Assessment Report, regardless of whether the objective of the interim soil source removal was to excavate all the contaminated soil (paragraph 62-770.300(3)(a)4., F.A.C.).

Following the source removal, representative monitoring wells should be installed and sampled at least 30 days after the conclusion of the source removal. If the concentrations in groundwater are within the Natural Attenuation Default Concentrations criteria, the site assessment may be concluded with a NAM proposal, but the monitoring to qualify for Site Rehabilitation Completion may not begin until the NAM proposal has been approved by the FDEP.

Some provisions of Rule 62-770.600, F.A.C., Site Assessment, include a qualifier that the provision is not applicable if the site meets the No Further Action Criteria of Rule 62-770.680, F.A.C. These exemptions are intended to apply to sites for which groundwater contamination had not been detected at any time during the site assessment. Sites that have groundwater contamination but reduce contaminant levels to below CTLs by performing an interim

contaminated soil source removal, and sites that did an interim contaminated soil source removal prior to determining whether groundwater contamination existed, must meet all applicable provisions of Rule 62-770.600, F.A.C.

Confirmatory Groundwater Monitoring Following Soil Source Removal

The requirements and limitations on monitoring of groundwater conducted after an interim soil source removal are dependent upon whether dewatering was conducted during the soil source removal. If dewatering was not conducted during the contaminated soil source removal, and if groundwater contamination was present prior to the source removal, and as a result of the source removal groundwater concentrations are at or below CTLs, then in accordance with paragraph 62-770.600(4)(m)3.a., F.A.C., groundwater samples from representative wells may be collected for two consecutive sampling events three months apart with the first monitoring event occurring at least 30 days following the source removal and the site assessment may be concluded with a request for site rehabilitation completion if both monitoring events result in concentrations at or below CTLs.

If groundwater extraction (dewatering) was conducted during the soil source removal, this would be considered the equivalent of active remediation of groundwater and the provisions of paragraph 62-770.600(4)(m)3.a., F.A.C., may not be used to conclude the site assessment with a proposal for site rehabilitation completion after two quarterly sampling events. Instead, in this instance the post excavation monitoring requirements to demonstrate the site qualifies for site rehabilitation completion are defined by Rule 62-770.690 or 62-770.750, F.A.C., which requires a minimum of four quarters of natural attenuation or post-active remediation monitoring to qualify for site rehabilitation completion, with at least the last two events having concentrations at or below the groundwater cleanup target levels. Because of the monetary and time investment associated with embarking on such a monitoring program, and because it would not be possible to conclude the entire monitoring without exceeding the requirement to submit the Site Assessment Report (SAR) within 270 days of discovery of contamination, responsible parties are advised to conclude the site assessment and submit the SAR to the FDEP, or contracted local cleanup program, with a proposal for beginning confirmatory monitoring.

If there was no groundwater contamination present prior to the source removal then in accordance with paragraph 62-770.600(4)(m)3.b., F.A.C., groundwater samples from representative wells may be collected for one sampling event conducted at least 30 days following the source removal and the site assessment may be concluded with a request for site rehabilitation completion if the monitoring event results in concentrations at or below CTLs. This monitoring following a source removal can be conducted during the site assessment, provided the timeframe to submit the site assessment within 270 days of discovery of contamination is not exceeded and does not require the issuance by the FDEP of a PARM approval prior to conducting the post-excavation confirmatory groundwater monitoring.

The site assessment must present information on the extent and degree of groundwater contamination that existed prior to the soil source removal if such data had been collected prior to the contaminated soil source removal. If groundwater contaminant concentration data were

not collected prior to the contaminated soil source removal it must be assumed that groundwater contamination existed and therefore a minimum of two consecutive sampling events will be required (four sampling events if dewatering was conducted in conjunction with the source removal) to demonstrate the site qualifies for Site Rehabilitation Completion, unless monitoring wells were not installed during the site assessment and the FDEP agrees with the technical justification for not installing monitoring wells provided in the site assessment report.

Even though provisions of paragraph 62-770.600(4)(m), F.A.C., allow post excavation monitoring to be conducted without prior concurrence from the FDEP to conclude the site assessment with a request for Site Rehabilitation Completion, the FDEP will apply the same level of scrutiny to the review of the Site Assessment Report as any other site assessment review, and issues may arise that necessitate supplemental soil or groundwater assessment or sampling. Therefore, even though responsible parties are permitted to perform the post-excavation confirmatory sampling without prior authorization from the FDEP, we encourage responsible parties to contact the FDEP for concurrence with the monitoring plan to reduce the possibility of fruitless monitoring expenses and wasted time. However, if the FDEP is contacted for concurrence on a post-excavation monitoring strategy without submittal of the complete site assessment at that time, the FDEP may still raise questions when the Site Assessment Report is submitted that will necessitate supplemental assessment or monitoring.

If you have any questions, please contact Tom Conrardy at (850)245-8899 or at tom.conrardy@dep.state.fl.us.