

Natural Attenuation Monitoring (NAM) Plan Checklist

Site Manager: _____

NAM Plan Date: _____ Purchase Order #: _____

If NAM Plan combined with another report, list name and date of report:

Date: _____ Name: _____

FACILITY INFORMATION	
Facility ID Number: <i>(9 digit)</i>	
Facility Name:	
Location:	
Special Circumstances:	

As applicable, list section and/or page number of NAM Plan where item is addressed.

GENERAL		
		NAM Plan (separate or combined report) signed, sealed, and dated by Florida P.E. or P.G. (per section 471.025 or 492.107, F.S., as applicable).
		Indication whether proposed plan is for a discharge eligible for funding, non-program, or a voluntary cleanup.
		Pertinent to NAM Plan preparation: recap of SAR information/conclusions, and as applicable, recap of active remediation and/or PARM information/conclusions including dates of any source removals and/or other active remediation (e.g., system start-up and shutdown dates, injection dates, etc).
		Current sampling results [within nine (9) months] used for NAM Plan (preferrable for verifying current conditions meet NAM criteria, but not specifically required by Rule for NAM Plans).
		Identification of underground utility locations; any which may enhance transport of contaminants.
		For NAM following injections, NAM Plan documents/confirms that following non-inert injections (e.g., chemical injections, carbon with amendments, etc.), as an indicator that active remediation has been completed, the parameters monitored specifically for the injection (e.g., nitrate, sulfate, etc.) have returned to background or pre-injection levels (for at least one monitoring event) prior to initiating NAM. If not, then site remains in active remediation (i.e., active remediation monitoring). If no contamination remains and injection parameters remain elevated, case-by-case evaluation to initiation NAM.

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NOTICING		
		Potable water considerations: <ul style="list-style-type: none"> • method of potable water supply to site and surrounding area • locations of private wells within ¼ mile, public wells within ½ mile radius of site • FDEP district office drinking water program has been notified if groundwater contamination may affect any public or private well. Method of notification, person notified and date.
		If Temporary Point(s) of Compliance (TPOCs) are proposed beyond the source property boundary, indicate TPOC(s) on site plan.
		If TPOCs are proposed beyond the source property boundary, TPOC Noticing has been initiated (Provisional Approval of NAM Plan).
		If TPOCs are proposed beyond the source property boundary, TPOC Noticing has been completed and documented including associated dates for 30-day comment period (NAM Plan Approval following completion of noticing).
		As applicable, NAM Plan schedule includes 5-year status update for TPOC noticing.

CRITERIA FOR NAM - LEVEL 1 AND LEVEL 2 {Chapter 62-780.690(1)(a)-(e) F.A.C. }		
Per Chapter 62-780.700(1), if the site conditions do not satisfy applicable NFA/closure criteria or NAM criteria, a Remedial Action Plan shall be submitted, unless other course of action approved by the Department.		
		Free product is not present or free product removal is not technologically feasible. No fire or explosive hazard exists as a result of a release of non-aqueous phase liquids.
		Contaminated soil is not present in the unsaturated zone, except as allowable - see "If Exceedances of STCLs" section below.
		Contaminants present in the groundwater above background concentrations or applicable CTLs are not migrating beyond the TPOC(s) or migrating vertically.
		The physical, chemical or biological characteristics of each contaminant and its transformation product(s) are conducive to natural attenuation.
		The available data show an overall decrease in the contamination.

CRITERIA FOR NAM - LEVEL 1 {Chapter 62-780.690(1)(f)1. F.A.C. }		
		Statement that site is anticipated to meet the applicable No Further Action criteria of Rule 62-780.680, F.A.C., as a result of natural attenuation.
		The background concentrations or the applicable CTLs are not exceeded at the TPOC(s).
		Contaminant concentrations do not exceed the criteria specified in chapter 62-777, F.A.C., Table V.

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CRITERIA FOR NAM - LEVEL 2 {Chapter 62-780.690(1)(f)2. F.A.C. }

		Technical evaluation of groundwater and soil characteristics, chemistry, and biological activity verifies that the contaminants have the capacity to degrade under the site-specific conditions.
		Scientific evaluation of plume migration in relation to TPOC(s). Of note, TPOCs may be the source property boundary or well(s) beyond the source property boundary.
		Life-cycle cost analysis of remedial alternatives.

NAM PLAN GOALS (Level 1 and Level 2 NAM Plans)

		Estimation of the time to meet the applicable No Further Action criteria of rule 62-780.680, F.A.C. for groundwater and soil. Calculations for estimation of timeframe to achieve applicable NFA provided.
		For site-specific goal of conditional NFA, source property owner's acknowledgement of future institutional controls at cleanup completion should be documented.
		Estimation of expected annual reductions in contaminant concentrations in monitoring wells.
		Proposed sampling plan will provide data required to support applicable closure; all media, all CTLs.

SAMPLING-REPORTING REQUIREMENTS

		Designated monitoring wells (e.g. key, perimeter, background, TPOC, other) and frequency of their sampling per 62-780.690, F.A.C.
		Plan includes a minimum of two (2) monitoring wells with at least one representing the downgradient edge of plume and one in area of highest groundwater contamination. Proposed monitoring wells adequately represent plume.
		Schedule of analyses for monitoring well samples for appropriate contaminants of concern for the site.
		Schedule and selected monitoring wells for sampling/analyses of applicable NAM parameters and proposed ranges for evaluating site-specific applicability of NAM. Other samples and parameter measurements for NAM may include, but are not necessarily limited to, the following: pH, DO, ORP, N, P, Temperature, TOC, Alkalinity, microbe counts, etc.
		Water level data collected during monitoring well sampling events.
		Frequency of monitoring events and reporting schedule.

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		Sites entering NAM that are subject to post-biological or post-chemical application/injection compliance verification monitoring as required by the Underground Injection Control (UIC) or other program incorporate the applicable monitoring requirements into the NAM Plan.
		Seasonal changes in groundwater elevation evaluated with respect to site-specific monitoring schedule to include months that have historically had the highest contaminant concentrations.

IF EXCEEDANCES OF SCTL(S)		
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		If site-specific circumstances allow exceedance of Direct Exposure SCTLs, institutional and/or engineering controls, as applicable, and maintenance of controls are proposed.
		If leachability SCTLs are exceeded and SPLP analytical results fail or exceed the calculated site-specific SCTLs based on soil properties, it is demonstrated that the concentrations are at a level where the soil does not constitute a continuing source of contamination to the groundwater at concentrations that pose a threat to human health, public safety, and the environment, and that the rate of natural attenuation of contaminants in the groundwater exceeds the rate at which contaminants are leaching from the soil.
		If soil contamination is not accessible at the time of the NAM Plan for remediation (i.e., it is adjacent to or under tanks, a building or other structure) but will be at some point in the future, NAM is being implemented as an interim action until soil remediation may occur.
		If contamination in the smear zone had a direct effect on the groundwater concentrations, appropriate measures to remediate the smear zone contamination were taken prior to developing NAM Plan.

NAM PLAN - PROGRESS AND ACTIONS		
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		Proposed Action Levels for all applicable contaminants and associated monitoring wells and proposed course(s) of action if Action Levels exceeded.
		Plan includes schedule and proposed method(s) for evaluating site rehabilitation progress and continued applicability of NAM. A signed/sealed evaluation/confirmation the site conditions meet all applicable NAM criteria a minimum of annually and at 42 months of monitoring.