Interstate Natural Gas Association of America

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February 26, 2009

The Honorable Michael Shapiro
Acting Assistant Administrator
United States Environmental Protection Agency
1301 Constitution Avenue, N.W.
Washington, D.C. 20469
Docket Number EPA-HQ-OW-2008-0465

Submitted by U.S. Mail and Electronic Mail to OW-Docket@epa.gov

RE: Docket ID No. EPA-HQ-OW-2008-0465, Effluent Guidelines for the Construction and Development Point Source Category: EPA Proposes a Rulemaking Intended to Further Reduce Discharge of Sediments from Construction Sites (73 Fed. Reg. 72562)

The Interstate Natural Gas Association of America ("INGAA") submits the following comments in response to the U.S. Environmental Protection Agency ("EPA") Notice of Proposed Rulemaking ("NOPR") in this docket, 73 Fed. Reg. 72562 (November 28, 2008).

INGAA has reviewed the NOPR in detail and is very concerned about its potential impact of the Proposal on the costs and viability of our interstate natural gas pipeline projects. Consequently, we offer the attached comments to help guide and inform the EPA on the unique nature and challenges that the NOPR presents to our industry. Given the importance of natural gas operations to our Nation's energy supply, Congress has exempted natural gas pipeline construction activities from the Clean Water Act ("CWA") stormwater permitting requirements, and only in limited circumstances are permits required. The EPA should clarify the exempt status of interstate natural gas pipeline construction activity.

As an industry whose construction activities are already highly regulated by the Federal Energy Regulatory Commission ("FERC"), the federal agency that certificates pipelines, each FERC pipeline project is required to minimize its environmental footprint, which necessarily involves protecting water resources and minimizing landowner impacts.

We are confident that FERC's requirements for erosion and sediment control and wetland and waterbody construction mitigation – which are tailored to the unique aspects of pipeline construction projects – provide an equivalent level of effluent reduction and resource protection to that sought under the NOPR.

The EPA has requested supporting technical and financial data on many aspects of the NOPR. Due to the complexity of the proposed regulation, INGAA was unable to gather the empirical industry data, especially with regard to industry costs, that would support this filing. However, Spectra Energy, an INGAA member, has filed comments with such data that is representative of the industry as a whole. INGAA fully endorses the Spectra Energy comments.

We appreciate the opportunity to comment and look forward to working with EPA and all stakeholders to finalize and implement this rule. If you have any questions, please feel free to contact me at (202) 216-5935 or lbeal@ingaa.org.

Regards,

Lisa S Beal

Lisa S. Beal

Attachments (2)

CC M. Robinson, FERC
L. O'Donnell, FERC

UNITED STATES OF AMERICA
BEFORE THE
ENVIRONMENTAL PROTECTION AGENCY

Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category	))))	Docket No. EPA-HQ-OW-2008-0465 FRL-8744-1
Proposed Rule	)	RIN 2040-AE91

COMMENTS OF THE INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA

Pursuant to the Proposed Rule issued by the Environmental Protection Agency ("EPA") on November 19, 2008, and published in the *Federal Register* on November 28, 2008, (the "Proposed Rule")[1] the Interstate Natural Gas Association of America ("INGAA") comments as follows:

INTRODUCTION

On behalf of the Nation's interstate natural gas transmission pipelines, INGAA welcomes this opportunity to comment on the proposed effluent limitations guidelines and standards ("ELGs") for the construction and development point source category. INGAA is a non-profit trade association representing virtually all of the Nation's interstate natural gas transmission pipeline companies operating in the United States and the interprovincial pipelines operating in Canada. INGAA's United States members operate over 220,000 miles of pipeline and related facilities and account for over 90% of all natural gas transported and sold in interstate commerce. INGAA members build and operate long linear facilities that cross nearly every state. [2]

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1 *Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category*, 73 Fed. Reg. 72561.

2 A map detailing the network is included as Attachment A.

Natural gas is efficient and clean and plays an important role in the Nation's energy portfolio. Nearly a quarter of the Nation's energy needs presently are met with natural gas. Additionally, natural gas will undoubtedly play a critical role in reducing United States and global Greenhouse Gas ("GHG") emissions. Natural gas is the cleanest burning of all fossil fuels and emits half the carbon dioxide per unit of energy as coal when burned. INGAA believes that natural gas will be a "bridge" between our current carbon-intensive economy and a low-carbon future. We agree that significant new low emissions energy resources such as nuclear and renewable generation, as well as coal generation with carbon sequestration, and energy efficiency advances will be part of the worldwide solution for GHG reductions. Yet, some of these technologies remain several decades away from large-scale commercial deployment. Natural gas provides affordable and reliable energy *today* and can be counted on to contribute to both near-term and mid-term GHG emission reductions. Still, natural gas can be a part of the climate change solution only if the United States has the supplies and infrastructure it needs to meet growing natural gas demand.

In addition to the long-term impacts, INGAA is particularly concerned that the effective date of the proposed rulemaking could have an enormous impact on existing natural gas pipeline projects.[3] One of the greatest energy challenges facing the United States today is the natural gas supply imbalance and its effect on natural gas prices. A critical part of meeting this challenge will be constructing the pipeline and storage infrastructure needed for accessing gas supply and delivering it efficiently to consumers. As is covered in our comments, interstate natural gas pipeline construction is fundamentally different from other conventional and linear construction projects due to, among other things, the strict space limitations on rights-of-way, the ordered

[3] For other types of pipeline construction activities, INGAA member companies have worked with the American Petroleum Institute in developing separate comments on the Proposed Rule.

engineering and sequencing of construction, landowner impact considerations, and concurrent federal and state regulatory oversight. Most important, as an industry whose construction activities are already highly regulated by the Federal Energy Regulatory Commission ("FERC"), an imperative element of each and every FERC pipeline project is to minimize the environmental footprint, which necessarily involves protecting water resources and minimizing landowner impacts. In fact, interstate pipeline projects *must* adopt FERC's requirements for erosion and sediment control and wetland and waterbody construction mitigation that are tailored to the unique aspects of pipeline projects. These mitigation measures, originally developed in the 1980's have been continually modified[4] with the most recent revision in 2003 to reflect state of the art industry best management practices, region specific issues, and applicable laws and regulations, provide an equivalent level of effluent reduction and resource protection sought under the proposed ELGs.

Pipeline projects are proposed and built based on market demand and it is important to remember that it takes several years for a project to move more from the "need" stage to operational. INGAA is particularly concerned that the effective date of the proposed rulemaking could have a devastating impact on existing pipeline projects. Before construction can commence, a pipeline project must engage in an extensive application process with the FERC. An early but critical stage of the construction process is land acquisition and workspace requirements. Once FERC initiates its formal review process, and particularly after FERC issues a construction certificate, specifications cannot be modified once a project has been authorized without incurring considerable delay, especially if the modifications require additional land acquisition. In some cases, these specifications are locked in a year or more in advance of

[4] The FERC mitigation procedures were developed and modified with input from regulatory agencies, environmental groups and industry.

construction. INGAA is very concerned that the proposed rule would delay many projects that have been or are near approval. According to the FERC, there are nearly 30 major pending pipeline projects with active dockets.[5] These shovel-ready projects have been in development for at least a year and a half and have advanced to the stage where the need for additional right-of-way, which is likely should the installation of sediment basins be required, would certainly delay a project. If, as proposed, the EPA ELG rulemaking is finalized and goes into effect in early 2010, many of these mature projects could be significantly delayed and potentially restrict the flow of natural gas into needed markets. This could impact the cost of natural gas to consumers and undermine the ability for natural gas to be used as an environmental solution. INGAA cannot overstate the urgency of these potential consequences and their impact on energy supplies. INGAA estimates that approximately 45,000 miles of pipeline will need to be constructed through the year 2015, or roughly 3,000 miles of pipeline per year. The consequences of a two year delay in natural gas infrastructure will cost United States gas consumers in excess of $200 billion (in constant 2003 dollars) by 2020.[6] The magnitude of these costs fundamentally alters the cost-benefit analysis appearing in the Proposed Rule,[7] and belies the conclusion that the Proposed Rule is not a "significant energy action" as defined in Executive Order 13211.[8]

The EPA has requested technical and financial data on many aspects of the proposed rule. Due to the complexity of the proposed regulation, INGAA was unable to gather the empirical

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5 FERC's list of these projects is included as Attachment B.

6 Discussion of Effects of Long-Term Gas Commodity and Transportation Contracts on the Development of North American Natural Gas Infrastructure, Energy and Environmental Analysis, Inc. (The INGAA Foundation, Aug. 2005).

7 *See*, *e.g.*, Proposed Rule, 73 Fed. Reg. at 72602 (estimating the total social costs of Option 3 (the most costly option) to be approximately $3.8 billion per year).

8 *Id.* at 72608.

industry data, especially with regard to industry costs, that would support this filing. However, Spectra Energy, an INGAA member, has filed comments with such data that is representative of the industry as a whole. INGAA fully endorses the Spectra Energy comments on the Proposed Rule.

COMMENTS

I. BECAUSE INTERSTATE NATURAL GAS PIPELINE CONSTRUCTION IS STATUTORILY EXEMPT FROM STORMWATER PERMITTING, AND THE UNIQUE STATUS OF THIS CONSTRUCTION IS MANIFESTED THROUGH COMPREHENSIVE EROSION AND SEDIMENTATION REQUIREMENTS IMPOSED BY THE FEDERAL ENERGY REGULATORY COMMISSION, SUCH CONSTRUCTION SHOULD BE FOUND EXEMPT FROM WHATEVER REGULATIONS EMERGE FROM THIS DOCKET.

The proposed regulations would apply "to discharges associated with construction activity required to obtain a National Pollutant Discharge Elimination System ("NPDES") permit" pursuant to EPA regulations implementing the Clean Water Act ("CWA").[9] Through Section 323 of the Energy Policy Act of 2005 ("Section 323"),[10] Congress expressed a clear intent to exempt the construction of interstate natural gas pipelines and other energy-related projects from NPDES stormwater permitting.[11]

The United States Court of Appeals for the Ninth Circuit cast a cloud over this exemption when it issued *NRDC v. EPA*,[12] vacating EPA's initial effort to implement Section 323. Nevertheless, as EPA correctly observed in a "Question and Answer" document prepared in the

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9 Proposed Rule, 73 Fed. Reg. at 72612.

10 Pub. L. No. 109-58, § 323, 119 Stat. 694, amending 33 U.S.C. § 1362(24) ("Section 323").

11 The Section 323 exemption covers stormwater discharges from oil and gas exploration, production, processing, or treatment operations, or transmission facilities, including associated construction activities.

12 *Natural Resources Defense Council v. EPA*, 526 F.3d 591 (9th Cir. 2008).

wake of the Ninth Circuit's decision,[13] *NRDC v. EPA* vacated EPA's implementing regulations but did not invalidate Section 323. If Section 323 is to retain any meaning at all, some form of exemption must be incorporated in the regulations at issue.[14]

For the construction of interstate natural gas pipelines, the case for exemption is particularly clear. As will be discussed at length in the next section of these comments, interstate pipeline construction is already subject to a comprehensive set of Erosion and Sedimentation ("E&S") standards and practices administered by the FERC. For interstate pipelines, the unique status conferred by Section 323 is manifested through FERC's E&S standards. In recognition of Section 323, the final rule should clarify that interstate natural gas pipeline construction subject to FERC's E&S standards is exempt from stormwater permitting.

II. FOR INTERSTATE NATURAL GAS PIPELINES, A SEPARATE SET OF EFFLUENT LIMITATION GUIDELINES IS UNNECESSARY BECAUSE STORMWATER DISCHARGES OF SEDIMENT ARE FULLY ADDRESSED THROUGH CONSTRUCTION CERTIFICATION BY THE FEDERAL ENERGY REGULATORY COMMISSION.

EPA states that the proposed effluent regulations "would significantly reduce the amount of sediment and other pollutants discharged from construction sites."[15] Under Section 7(c) of the Natural Gas Act ("NGA"),[16] interstate natural gas pipelines cannot be constructed without a

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13 Questions for EPA re Impact of NRDC v. EPA, http://www.epa.gov/npdes/pubs/oilandgas_epaqa.pdf (Oct. 13, 2008).

14 According to the Question and Answer document, oil and gas construction employing control measures that "minimize pollution discharges" will be presumed "to meet applicable water quality standards in most instances," and a permit would not be necessary because any associated stormwater discharges would not violate a water quality standard for sediment. *Id*. Unfortunately, this approach is inadequate. As noted within the Question and Answer document itself, "if at any time an operator or EPA becomes aware that a discharge from these activities contributes to a violation of a water quality standard, the operator must immediately apply for permit coverage." *Id*. Because of the capital commitments and logistical complexity inherent in interstate pipeline construction, project developers will be forced to apply for permits simply because they cannot take the risk of a permit requirement emerging down the road.

15 NOPR, 73 Fed. Reg. at 72562.

16 15 U.S.C. 717f(c).

certificate of public convenience and necessity from FERC, and through its issuance of these certificates, FERC imposes detailed design, installation, maintenance and enforcement requirements that comprehensively address stormwater E&S control.

As detailed below, FERC's comprehensive E&S standards and practices meet the objectives behind the proposed effluent limitation guidelines, and they do so through measures specifically tailored for interstate natural gas pipelines. EPA should therefore establish a sub-category for interstate natural gas pipeline construction and find that FERC's E&S standards and practices constitute the effluent limitation guidelines for this sub-category.

The installation, extension or expansion of an interstate pipeline requires a project-specific construction certificate. As part of the certificate application, the project developer must submit an environmental report consisting of thirteen resource reports.[17] Resource Report 7, which is required for all projects involving ground disturbance, requires the applicant to list the affected soils and their erosion potential[18] and identify the project's potential to cause soil erosion "due to *water*, wind, or loss of vegetation."[19]

Of particular importance, the certificate applicant must "[d]escribe proposed mitigation measures to reduce the potential for adverse impact."[20] More specifically, an applicant must assess its mitigation proposals against Upland Erosion Control, Revegetation and Maintenance Plan (the "E&S Plan"),[21] FERC's benchmark for E&S mitigation.[22] The E&S Plan serves as a

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17 18 C.F.R. § 380.12(a).

18 *Id.* § 380.12(*i*)(1).

19 *Id.* § 380.12(*i*)(3) (emphasis added). While the potential erosion due to water is most directly germane to this docket, Resource Report 7 requires certificate applicants to examine a number of other potential effects on soil, including compaction caused by construction equipment and structural damage to wet soils and soils with poor drainage.

20 *Id.* § 380.12(*i*)(5).

21 *Id.*

baseline. Certificate applicants must identify any proposed departures from these best management practices, and explain how the proposed departures "provide equivalent or greater protections to the environment."[23]

The E&S Plan consists of 17 pages of highly detailed standards governing pre-construction planning, the installation of temporary[24] and permanent[25] E&S controls; post-construction monitoring, maintenance and reporting; and numerous other elements of E&S mitigation. The E&S Plan also contains enforcement provisions to ensure the substantive standards are observed in the field. Environmental Inspectors are responsible for (1) identifying erosion/sediment control and soil stabilization needs in all areas;[26] (2) ensuring compliance with the E&S plan; and (3) overseeing remedial activities, should any be needed. For example, the E&S Plan provides that an Environmental Inspector shall inspect temporary E&S measures daily during active construction, weekly while construction is occurring elsewhere, and within 24 hours of each rainfall of 0.5 inches or more.[27] Environmental Inspectors have the authority to stop construction activities and order corrective action.[28]

If a proposed construction project involves any wetlands or waterbodies, as is usually the case for linear pipeline construction of any significance, the certificate application's

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22 The E&S Plan is available online at http://www.ferc.gov/industries/gas/enviro/uplndctl.pdf. A copy of the E&S Plan is also attached to this document as Appendix C for the convenience of the reader and for inclusion in the public record for this docket.

23 *Id*. § 380.12(*i*)(5).

24 The E&S plan specifies three temporary E&S controls: temporary slope breakers (with spacing determined by the slope of the terrain), sediment barriers and mulch. E&S Plan at 8-11.

25 The E&S plan specifies three permanent E&S controls: trench breakers, permanent slope breakers (with spacing determined by the slope of the terrain) and revegetation. E&S Plan at 12-15.

26 E&S Plan at 3 (requirement II.B.5.).

27 *Id*. at 2 (requirement II.A.3.).

28 *Id*. (requirement II.B.13.). Defects in temporary control measures must be corrected within 24 hours of detection. *Id*. at 4 (requirement II.B.14.).

environmental report must also include Resource Report 2, concerning water use and quality.[29] The applicant is required to identify the project's potential impact on wetlands and waterbodies and assess the effectiveness of proposed protective measures. More specifically, the applicant must assess its mitigation proposals against Wetland and Waterbody Construction and Mitigation Procedures (the "Procedures"),[30] the FERC handbook for measures to protect against sedimentation migration to waterbodies.[31] To depart from the Procedures, an applicant must demonstrate that "the proposed alternative mitigation would provide equivalent or greater protection to the environment."[32]

FERC's Procedures consist of detailed requirements governing all aspects of the design, installation and maintenance of pipeline facilities crossing waterbodies and wetlands. For waterbody crossings, virtually all extra work areas, including additional spoil storage areas, must be set back at least 50 feet from water's edge.[33] Spoil piles must be placed at least 10 feet from any waterbody,[34] and sediment buffers must be used "to prevent the flow of spoil or heavily silt-laden water into any waterbody."[35] The use of soils to construct or stabilize equipment

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29 18 C.F.R. § 380.12(d).

30 The Procedures document is available online at http://www.ferc.gov/industries/gas/enviro/wetland.pdf. A copy of the Procedures is attached to this document as Appendix D for the convenience of the reader and for inclusion in the public record for this docket.

31 18 C.F.R. § 380.12(d)(2).

32 *Id*. As an extra measurer of protection, applicants are also required to "Discuss proposed mitigation measures to reduce the potential for adverse impacts to surface water, wetlands, or groundwater quality to the extent they are not described in response to [18 C.F.R. § 380.12(d)(2)]." *Id*. § 380.12(d)(8).

33 E&S Procedures at 6 [requirement V.B.2.a.]. Any deviation from this standard must be approved by FERC before construction can begin.

34 *Id*. at 6 [requirement V.B.4.a.].

35 *Id*. at 6 [requirement V.B.4.b.].

bridges is strictly prohibited,[36] and equipment bridges must be designed and maintained "to prevent soil from entering the waterbody."[37]

Like the standards in FERC's E&S Plan, the requirements in FERC's Procedures are specifically tailored to the techniques employed in interstate natural gas pipeline construction across waterbodies. Where the "dam and pump" method is being used, the developer must "construct dams with materials that prevent sediment and other pollutants from entering the waterbody."[38] Where a flume crossing is being used, the flume pipes must be properly aligned to prevent bank erosion and streambed scour.[39] Where horizontal drilling is being used, the project developer must provide a contingency plan for containing and cleaning up any drilling muds that are inadvertently released.[40]

With regard to temporary E&S control, FERC's Procedures cross-reference FERC's E&S Plan concerning the installation, maintenance and removal of sediment barriers.[41] The Procedures also call for using trench plugs to keep accumulated trench water out of the waterbody.[42] Permanent E&S control consists of: (1) revegetation with conservation grasses or legumes, or native (preferably woody) plants;[43] and, (2) the installation of permanent slope breakers and sediment barriers.[44]

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36 *Id*. at 7 [requirement V.B.5.b.].

37 *Id*. at 7 [requirement V.B.5.d.].

38 *Id*. at 9 [requirement V.B.6.b.(2)(ii)].

39 *Id*. at 9 [requirement V.B.6.c.(3)].

40 *Id*. at 10 [requirement V.B.6.d.(2)].

41 *Id*. at 12 [requirement V.B.10.(a)-(b)].

42 *Id*. at 12 [requirement V.B.10.(c)].

43 *Id*. at 13 [requirement V.C.6.]; see also *Id*. at 14 [requirement V.D.1.] (prescribing size requirements for revegetation zones).

44 *Id*. at 13 [requirement V.C.7.].

Similar cross-referencing addresses enforcement of FERC's Procedures. As under FERC's E&S Plan, the provisions of FERC's Procedures are enforced by Environmental Inspectors with stop work authority.[45]

FERC's Procedures provide a parallel set of design, installation, maintenance and restoration requirements applicable to pipeline construction in wetlands.[46] In the interest of brevity, these provisions will not be repeated here.[47]

In contrast to project-specific certificates, FERC also offers a programmatic certificate process commonly referred to as "blanket" construction certificates which authorize natural gas pipeline construction for projects that satisfy pre-determined regulatory criteria.[48] The FERC blanket certificate process is similar to EPA's NPDES general permit program that allows EPA, states and tribes to cover a group of similar dischargers under one permit.[49] NPDES General permits and the FERC blanket certificate program simplify the process to obtain authorization to discharge (or in the case of FERC construct) and reduce the administrative workload for permitting authorities. More importantly, in both cases, the authorization is contingent upon the terms and conditions established in the general permit or certificate. In other words, regardless of the path interstate pipeline take to apply for a certificate, the FERC Plan and Procedures will always be applicable and enforceable.

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45 *Id*. at 3 [requirement III.].

46 *Id*. at 14-21 [requirement VI.].

47 Although the E&S Plan and E&S Procedures constitute the most direct form of FERC regulation of E&S issues, these issues can also be addressed through pre-application screening and in the course of preparing Environmental Assessments, Environmental Impact Statements and similar documents. An integral element of the pre-filing consultation and document preparation is multi-lateral consultation involving not only FERC and the project sponsor, but any other federal, state, and local agency that has environmental permit or approval authority over one or more portions of the proposed project.

48 *See generally* 18 C.F.R. Part 157.

49 *See* 40 C.F.R. § 122.28.

A standard condition of FERC's blanket certificate requires that all construction activities must be consistent with the CWA and the NPDES program.[50] By regulation, a blanket certificate holder is deemed to meet this requirement *only* if it adheres to the E&S Plan and Procedures or gets written approval to the a project-specific alternative.[51]

Whether an interstate natural gas pipeline construction project receives a project-specific certificate or qualifies to proceed under a blanket certificate, the project developer must meet or exceed the requirements specified in FERC's E&S Plan and Procedures.[52] Those specifications satisfy the objectives being sought through the proposed effluent guidelines, and additional regulatory requirements serve only to increase construction, permitting and permit administration costs with no discernable environmental benefit. In light of these circumstances, EPA should (1) exercise its authority under CWA Section 306(b)(2)[53] to designate a separate sub-category for interstate natural gas pipeline construction, and (2) find that the ELGs for this sub-category are the E&S standards and practices FERC imposes on this construction through its certificates.

III. UNLIKE THE REQUIREMENTS SET OUT IN FERC'S E&S PLAN AND PROCEDURES, THE PROPOSED RULE'S CONTROL MEASURES ARE ECONOMICALY UNFEASIBLE FOR INTERSTATE NATURAL GAS PIPELINE PROJECTS.

While the Proposed Rule lists natural gas pipeline construction among the industries that would be affected by the proposed control measures,[54] there is no record evidence examining

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50 18 C.F.R. § 157.206(b)(2)(i).

51 *Id*. § 157.206(b)(3)(iv).

52 FERC's E&S Plan and E&S Procedures, first introduced in 1994, were developed in consultation with a number of federal, and state regulatory agencies, as well as natural resource management agencies and interstate natural gas pipeline companies. Similar multi-lateral consultation was undertaken when the E&S Plan and E&S Procedures were revised in 2003. Significantly, EPA participated in both rounds of consultations.

53 33 U.S.C. § 1316(b)(2).

54 Proposed Rule, 73 Fed. Reg. at 72569.

how these proposed measures could be accommodated in the field. In fact, as regards lineal projects the only evidence in the record concerns highways. For example, in developing the proposed control measures, EPA gathered and evaluated data from NPDES notices of intent (NOIs).[55] The NOI database reflects residential construction, non-residential construction, and road and highway construction,[56] but not pipeline construction.

From the perspective of erosion and sedimentation control, the construction of highways and buildings structures are more similar to each other than either is to the construction of interstate natural gas pipelines. Both highway construction and building construction: take place in relatively large footprints; create aboveground structures, reducing the amount of remaining, permeable surface soil; typically alter surrounding terrain and resulting hydrology; and take relatively long to complete. By contrast, other than compressor stations and meter stations, interstate natural gas pipeline construction takes place underground with limited surface disturbance in a limited footprint. Pipelines are constructed to follow the natural contours of the terrain and are constructed in a relatively short time frame. Because of these differences, proposed control measures that might be appropriate for other construction are wholly inappropriate and overwhelmingly expensive for natural gas pipeline construction.

The clearest example of this problem concerns sediment basins. The proposed sediment control requires a sediment basin to be installed "[f]or common drainage locations that serve an area with 10 or more acres disturbed at one time."[57] As a rule of thumb, it takes only one mile of

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55 *Id*, 73 Fed. Reg. at 72570-71.

56 *Id*, 73 Fed. Reg. at 72571.

57 *Id*, 73 Fed. Reg. at 72613 (proposed 40 C.F.R. § 450.21(b)(8)).

interstate pipeline construction to disturb 10 acres. Virtually every interstate pipeline project is longer than one mile, and sediment basins would be required for all of them.[58]

The first hurdle is placement. For interstate natural gas pipelines, the standard construction right-of-way is 75 feet wide.[59] One INGAA member estimates that installing sediment basins will expand project footprints by one acre for every mile of mainline construction (0.8 acres for the basin itself, and 0.2 acres for the swales and diverters necessary to channel stormwater into the basin). Based on these determinations, this member found that a 50-mile project in the Northeast would require 300 sediment basins and 300 additional acres of right-of-way. In effect, the requirement to install sediment basins would increase the required pipeline right-of-way by 50 percent.

INGAA appreciates that the NPDES General Permit for Stormwater Discharges From Construction Activities**,** modified January 8, 2009,[60] allows that a developer may not be able to install a sediment basin because of the area available on-site.[61] However, the General Permit regards site-unavailability as the exception, while for interstate pipeline construction under FERC's right-of-way specifications, site unavailability is more the rule.

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58 This interpretation assumes that any project disturbing over 10 acres would require a sediment basin. Another possible interpretation is that a sediment basin would only be required where 10 acres of right-of-way slopes would drain to the same on-site location. Similar imprecision in language runs throughout the proposed ELGs. Because the principal thrust of these comments is to urge adoption of the FERC E&S Plan and Procedures in lieu of the ELGs, INGAA has not attempted to catalog and address concerns regarding the specific terms of the proposed ELGs. INGAA would like to reserve the right to file supplemental comments should EPA fail to adopt the FERC E&S Plan and Procedures.

59 E&S Plan, *supra*, at 6 [Requirement IV.A.2.] ("The construction right-of-way width for a project shall not exceed 75 feet or that described in the FERC application unless otherwise modified by a Certificate condition. However, in limited, non-wetland areas, this construction right-of-way width may be expanded up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions (such as side-slopes) or soil limitations require it.").

60 http://www.epa.gov/npdes/pubs/cgp2008_finalpermit.pdf.

61 *Id*. at 9-10.

A second and related problem concerns the size of these basins. An INGAA member examined this by projecting how the proposed sediment basin provision would have affected a 54-mile long pipeline extension project in northeastern Utah. This member determined that if the proposed standard were in place the project would have required 15 sediment basins. This estimate was based on the number of common drainage locations across the project that serve an area with 10 or more acres disturbed at one time. The member noted that more than 15 sediment basins would have been required based on actual field determinations.

Watershed areas in northeastern Utah are large, and for the 15 projected sediment basins the corresponding watershed ranged from approximately 1,500 acres to approximately 7,000 acres.[62] Because the minimum size of the sediment basins is determined by the size of the corresponding watershed, with no absolute size limit, the 15 sediment basins in this case would have an average size of 112 acres.[63] Together, the 15 sediment basins alone would require 1,680 acres.[64] The sediment basins required under the proposed ELG rules would have tripled the project's footprint, which was originally 827 acres. Further, the proposed sediment basin requirement also does not reflect the highly phased nature of natural gas pipeline construction. Natural gas pipeline construction moves along 30 to 100 mile long "spreads," where specialized teams of professionals move down the line, one after another, performing the sequence of

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62 It should be noted that a leading guide for construction best management practices states that sediment basins are not appropriate for drainage areas greater than 75 acres. Construction Site Best Management Practices Handbook, Section 4, Sediment/Desilting Basin SC-2 (Caltrans Storm Water Quality Handbooks: March 1, 2003) ("Caltrans").

63 Since the proposed sediment basin provision does not specify minimum or maximum depths, an average depth had to be assumed. Caltrans states that the depth of sediment basins should be at least 3 feet (for settling) and no more than 5 feet (for safety). The projected average and total acreage for the 15 sediment basins assume a uniform depth of 4 feet.

64 This figure does not include the space that would be necessary to provide basin banks and to store the excavated topsoil and subsoil. (Of course, the activities involved in constructing sediment basins, *e.g.*, removing trees, disturbing surface soil and vegetation, and stockpiling removed material, create erosion and sedimentation issues of their own.)

tasks—clearing and grading, stringing, trenching, bending, welding, backfilling, hydrostatic testing and restoration—necessary to place a new pipeline in service. This form of construction is highly efficient, reducing not only construction costs but also time on site and environmental impact. Within 20 days of completing construction (in urban areas within 10 days), topsoil is returned, the right-of-way is graded to its original contour and all permanent erosion controls are put in place.[65] Pipelines return the right-of-way to landowners in as near original condition as possible.

For interstate natural gas pipelines, construction timing is critical to accommodate weather conditions and construction windows established in federal, state or local permits. Moreover, interstate pipelines are financed on the basis of gas transportation contracts that are tied to the line's in-service date.

The installation of sediment basins would significantly disrupt pipeline construction schedules and delay project completion.[66] As a result, heavy equipment will have to be on site longer, increasing the possibility of soil compaction and other negative environmental impacts. The additional right-of-way that would be required to accommodate sediment basins would negatively impact landowners who are particularly sensitive to any unnecessary use of their land.

CONCLUSION

INGAA appreciates EPA's desire to address sedimentation issues arising from stormwater run-off from construction sites. That said, imposing the proposed ELGs on interstate natural gas pipeline construction would be economically disastrous and would severely

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[65] E&S Plan, *supra*, at 11 [requirement V.A.1.]. The restoration of pre-construction soils, vegetation and grade marks another major distinction between natural gas pipeline construction and the construction of highways and buildings.

[66] One INGAA member estimates the average delay to be at least several months.

undermine United States energy policy, particularly against the backdrop of emerging climate change policies. INGAA is confident FERC's E&S Plan and Procedures provide at least the same level of effluent reduction as the proposed ELGs, and therefore we urge EPA to (1) exercise its authority under CWA Section 306(b)(2)[67] to designate a separate sub-category for interstate natural gas pipeline construction, and (2) find that the ELGs for this sub-category are the E&S Plans and Procedures that FERC imposes on interstate pipeline construction through its certificates.

Respectfully submitted,

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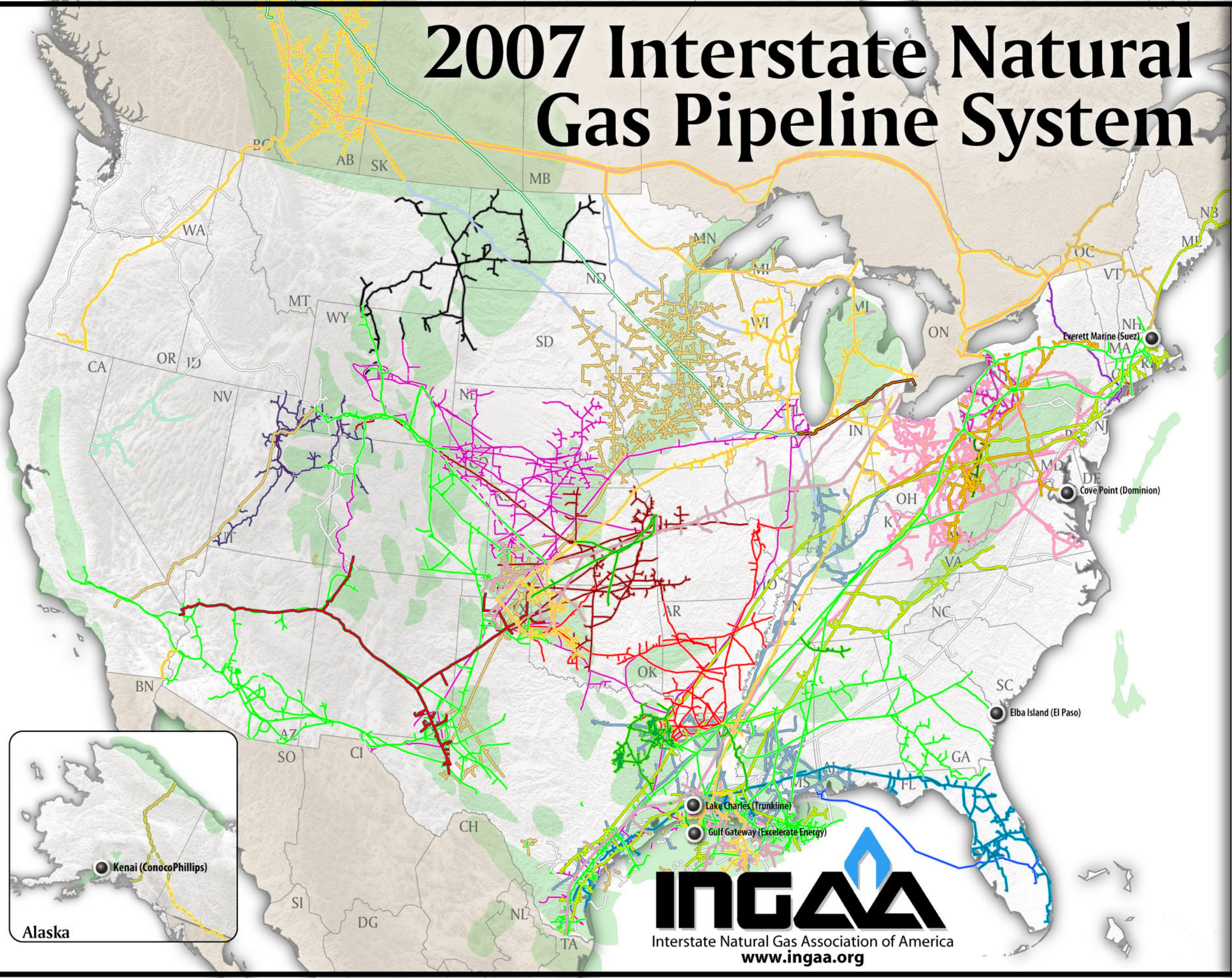
[67] 33 U.S.C. § 1316(b)(2).

ATTACHMENT A

System Map of Interstate Natural Gas Pipelines

2007 Interstate Natural Gas Pipeline System



PARENT COMPANY	PIPELINE
Alaska Natural Gas Pipeline	
Alliance Pipeline LP	
Boardwalk Pipeline Partners	Gulf South Pipeline Co., LP
	Texas Gas Transmission, LLC
Centerpoint Energy	Centerpoint Energy Gas Transmission Co.
	Mississippi River Tranmission
Dominion Transmission Inc.	
El Paso	Cheyenne Plains Pipeline
	Colorado Interstate Gas Co.
	El Paso Natural Gas Co.
	Mojave Pipeline Co.
	Southern Natural Gas Co.
	Tennessee Gas Pipeline Co.
	Wyoming Interstate Co., Ltd.
El Paso and Southern Union	Florida Gas Transmission Co.
Enbridge	Enbridge Offshore Pipelines
	(Stingray, Garden Banks, Nautilus,
	Destin, Manta Ray,MA Canyon)
	Enbridge Pipelines
	(Midla, AlaTenn, KPC, UTOS)
Enbridge and DTE	Vector Pipeline, LP
Energy Transfer Partners	Transwestern Pipeline Co.
Equitrans, LP	
Kinder Morgan	Kinder Morgan Interstate Gas Transmission
	Natural Gas Pipeline Co. of America
	Trailblazer Pipeline Co.
	TransColorado Gas Transmission Co.
	Rocky Mountain Express
Mid American	Kern River Gas Transmission Co.
	Northern Natural Gas Co.
National Fuel Gas Supply	
NiSource	Columbia Gas Transmission Corp.
	Columbia Gulf Transmission Co.
Northern Border Partners	Midwestern Gas Transmission Co.
	Northern Border Pipeline Co.
	Viking Gas Transmission Co.
Paiute Pipeline Co.	
Questar Pipeline Co.	
Southern Star Central	
Southern Union	Sea Robin Pipeline Co.
	Trunkline Gas Co., LLC
	Panhandle Eastern Pipe Line Co.
Spectra Energy	Algonquin Gas Transmission Co.
	East Tennessee Natural Gas Co.
	Maritimes & Northeast Pipeline, LLC
	Texas Eastern Transmission Corp.
Spectra Energy and Keyspan	Islander East Pipeline
Spectra Energy and Williams	Gulfstream Pipeline
TransCanada	ANR Pipeline Co.
	Foothills Pipe Lines, Ltd.
	Gas Transmission Northwest Corp.
	Great Lakes Gas Transmission, L.P.
	North Baja Pipeline
	TransCanada PipeLines, Ltd.
TransCanada and Gaz Metro	Portland Natural Gas Transmission
	Trans Quebec & Maritimes Pipeline
TransCanada, Dominion, Keyspan & others	Iroquois Gas Transmission System, LP
Williams Companies	Northwest Pipeline Corp.
	Transcontinental Gas Pipe Line Corp.
Williston Basin Interstate Pipeline Co.	

Existing and Proposed Natural Gas Pipelines

LNG Terminal **Gas Producing Region**

Interstate Natural Gas Association of America
www.ingaa.org

platts
www.maps.platts.com

ATTACHMENT B

Federal Energy Regulatory Commission

List of Major Pending Interstate Natural Gas Pipeline Projects with Active Dockets

and

Pending Interstate Pipeline Projects Map (Courtesy of ICF International)

List of Major Pending Pipeline Projects

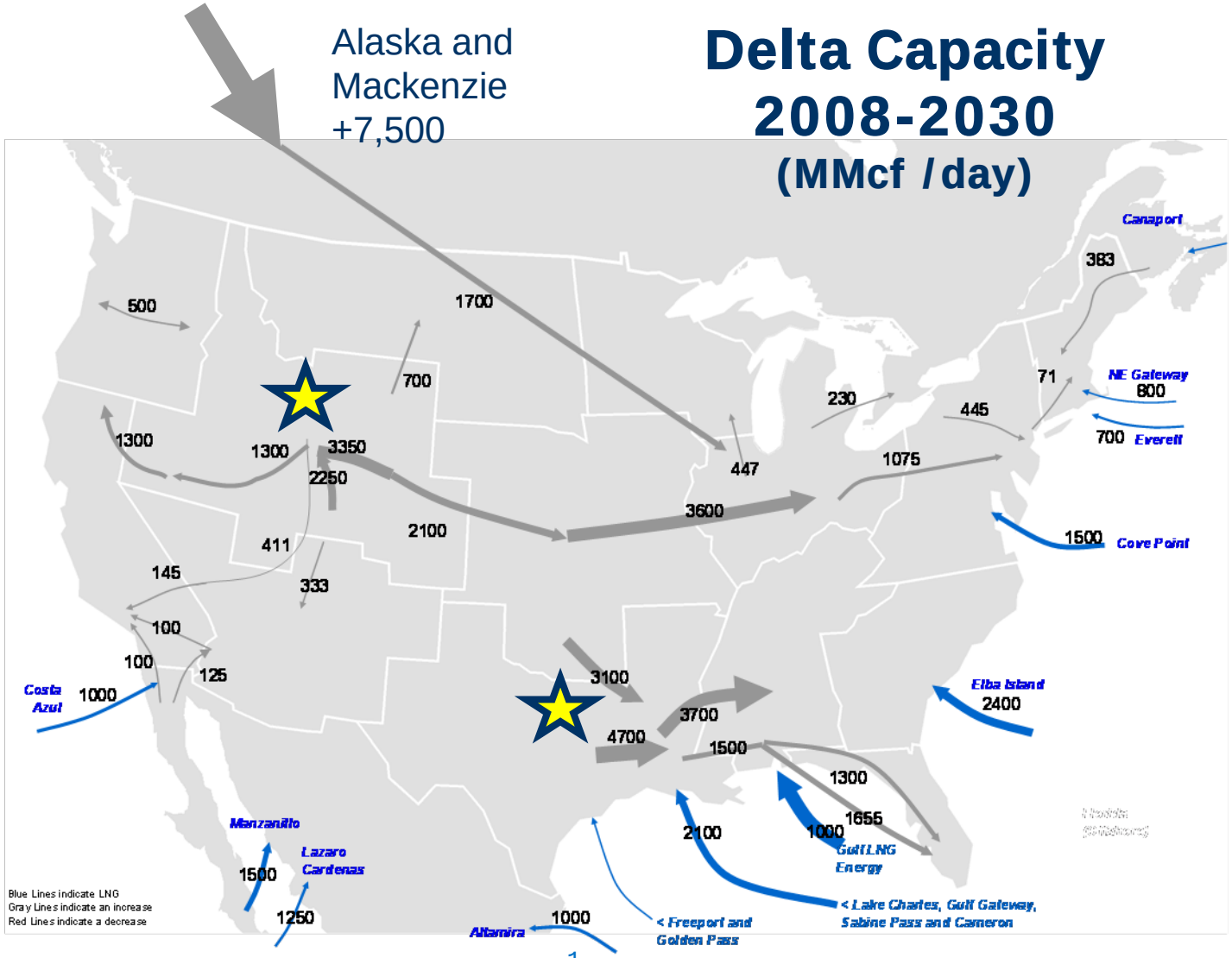
as of February 17, 2009

Docket Number	Project Name	Project Description	Company Name	Notice of Application	DEIS	FEIS or EA	State (s)
PF09-6	Loop Expansion Project	43 miles of 36-inch pipeline in Wyoming	Questar Overthrust Pipeline Company				WY
PF09-4	Fayetteville Express Pipeline	185 miles of 42-inch pipeline from Arkansas to Mississippi	Fayetteville Express Pipeline, LLC				AR, MS
PF09-2	Sunstone Pipeline Project	601 miles of 42-inch pipeline and ancillary facilities extending from Opal, Wyoming to Stanfield, Oregon	Williams Gas Pipeline, LLC				WY, ID, OR
PF09-1	300 Line Expansion Project	128 miles of pipeline looping in Pennsylvania and New Jersey	Tennesse Gas Pipeline Company				NJ, PA
PF08-32	Pascagoula Expansion Project	15 miles of 26-inch diameter pipeline in Mobil County, Alabama	Transcontinental Gas Pipe Line Corporation				AL
PF08-31	Mobile Bay Later Expansion Project	8.9 miles of 24-inch diameter pipeline in Mobil County, Alabama	Florida Gas Transmission Company, LLC				AL
PF08-30	Sundance Trail Expansion Project	16 miles of 30-inch diameter pipeline loop in Lincoln County, Wyoming	Northwest Pipeline GP				WY
PF08-27	TEMAX and TIME III Projects	8.6 miles of 36-inch pipeline loop and 30-miles of 36-inch and 30-inch pipeline from Marietta, PA to York County, PA	Texas Eastern Transmission, LP				PA
PF08-26	Denali - The Alaska Gas Pipeline Project	Pipeline from the Alaska North slope to the Canadian border	Alaska Gas Pipeline LLC				AK
PF08-25	Raton 2010 Expansion Project	Two 16 inch pipeline segments totaling 117 miles in Colorado	Colorado Interstate Gas Company				CO
PF08-24	Calais LNG Project	The proposed terminal will receive LNG from oceangoing vessels at a site near Ford Point on the St. Croix River in the City of Calais, Washington County, Maine.	Calais LNG Project Company, LLC				ME
PF08-23	Bison Pipeline Project	289 miles of 24-inch diameter pipeline and appurtenant facilities from Dead Horse, Wyoming to Morton County, North Dakota	Bison Pipeline LLC				WY, ND

PF08-22	Pathfinder Pipeline Project	500-mile, 42-inch natural gas pipeline that will move gas from the Rockies connecting Wamsutter, Wyoming to the Northern Border Pipeline Company system for delivery into the Ventura and Chicago area markets	TransCanada Pipeline USA				WY, MT, ND
PF08-17	Phase V Project	63,000 of new compression, about 4 miles of 36-inch-diameter pipeline loop, and the uprate of a 24-inch-diameter mainline from Baileyville to Westbrook, Maine	Maritimes & Northeast Pipeline, L.L.C.				ME
PF08-13	South System Expansion III Project	Southern proposes to construct a total of about 83.3 miles of 18- to 36-inch-diameter pipeline, an additional 19,560 horsepower of compression at existing compressor stations, a meter station, and appurtenances	Southern Natural Gas Company				GA, MS, AL
PF07-8	EasternShore EnergyLink Project	The proposed Project would consist of six pipeline segments that would provide approximately 60,000 dekatherms per day of additional firm transportation service from an interconnect with the Dominion Cove Point Liquefied Natural Gas(LNG), LP Facility on the western shore of the Chesapeake Bay in Maryland to customers in Delaware and Maryland on the Delmarva Peninsula.	Eastern Shore Natural Gas Company				MD
CP09-57 (formerly PF08-21)	85 North Expansion Project	26 miles of 42-inch pipeline in four loops in Alabama, South Carolina, and North Carolina	Transcontinental Gas Pipe Line Corporation	X			AL, SC, NC
CP09-54 (formerly PF08-9)	Ruby Pipeline Project	The proposed project consists of 680 miles of 42 inch pipeline from Lincoln County, Wyoming to Klamath County Oregon through Wyoming, Idaho, Utah, Nevada, and Oregon	Ruby Pipeline LLC	X			WY, ID, UT, NV, OR
CP09-35 (formerly PF07-13)	Palomar Pipeline	The proposed pipeline will consist of approximately 213 miles of new 36-inch diameter pipeline in Wasco, Clackamas, Marion, Yamhill, Washington, Columbia, and Clatsop Counties, Oregon	Palomar Gas Transmission, LLC	X			OR
CP09-17 (formerly PF08-14)	Phase VIII Expansion Project	580 miles of various diameter pipelines (20 to 42 inches) in the State of Florida	Florida Gas Transmission	X			FL
CP09-6 (formerly PF07-10)	Oregon LNG Terminal	The proposed Oregon LNG Project site is located on the East Skipanon Peninsula near the confluence of the Skipanon and Columbia Rivers in Warrenton, Clatsop County, Oregon	LNG Development Company, LLC	X			OR
CP08-420 (formerly PF07-15)	East to West Hubline Expansion	The proposed project includes a total of 46.3 miles of multi-diameter pipeline and associated pipeline support facilities. Of this amount, 12.9 miles consist of new pipeline in Massachusetts and 33.4 miles consist of upgrades to existing pipeline in Massachusetts and Connecticut.	Algonquin Gas Transmission LLC	X	X		MA, CT
CP08-398 (formerly PF08-3)	White River Hub Project	The proposed Project would consist of 7 miles of 30 inch diameter pipeline, 3 miles of existing 36 inch diameter pipeline and a metering station in Blanco County, Colorado	White River Hub, LLC	X			CO

CP07-52, CP07-53, CP07-54, CP07-55, PF06-13	Downeast LNG project	The project would consist of an onshore LNG import and storage terminal, located on the south side of Mill Cove in the Town of Robbinston, near the confluence of Passamaquoddy Bay and the St. Croix River, in Washington County, Maine; and an approximately 31-mile-long natural gas sendout pipeline.	Downeast LNG, Inc.	X			ME
CP07-444	Jordan Cove LNG and Pacific Connector Gas Pipeline	An onshore LNG import and storage terminal located on the bay side of the north spit of Coos Bay, Coos County, Oregon,Approximately 223-mile-long, 36-inch-diameter natural gas pipeline extending from the Jordon Cove LNG terminal, to an interconnection with the existing Pacific Gas and Electric Company's (PG&E) pipeline system in Modoc County, California.	Jordan Cove Energy Project, L.P.	X	X		OR, CA
CP07-191		A certificate of public convenience and necessity authorizing Port Dolphin to construct, install, own, operate, and maintain a single-use, 5.8-mile natural gas pipeline and related facilities necessary to provide transportation from the proposed Port Dolphin Project, a deepwater port offshore of Tampa Bay, Florida, to interconnections with Gulfstream Natural Gas System	Port Dolphin Energy LLC	X			FL

New Pipeline Capacity will be Needed



ATTACHMENT C

Federal Energy Regulatory Commission

Upland Erosion Control, Revegetation and Maintenance Plan

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

TABLE OF CONTENTS

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN)

I. APPLICABILITY

A. The intent of this Plan is to assist applicants by identifying baseline mitigation measures for minimizing erosion and enhancing revegetation. The project sponsors should specify in their applications for a FERC Certificate (Certificate) any individual measures in this Plan they consider unnecessary, technically infeasible, or unsuitable due to local conditions and to fully describe any alternative measures they would use. Applicants should also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is certificated, further changes can be approved. Any such changes from the measures in this Plan (or the applicant's approved plan) will be approved by the Director of the Office of Energy Projects (Director), upon the applicant's written request, if the Director agrees that an alternative measure:

1. provides equal or better environmental protection;

2. is necessary because a portion of this Plan is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another Federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Any requirements in this Plan to file material with the Secretary of the FERC (Secretary) do not apply to projects undertaken under the provisions of the blanket certificate program. This exemption does not apply to a request for alternative measures.

Project-related impacts on wetland and waterbody systems are addressed in the staff's Wetland and Waterbody Construction and Mitigation Procedures (Procedures).

II. SUPERVISION AND INSPECTION

A. ENVIRONMENTAL INSPECTION

1. At least one Environmental Inspector is required for each construction spread during construction and restoration (as defined by section V). The number and experience of Environmental Inspectors assigned to each construction spread should be appropriate for the length of the construction spread and the number/significance of resources affected.

2. Environmental Inspectors shall have peer status with all other activity inspectors.

3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the Certificate, state and Federal environmental permit conditions, or landowner requirements; and to order appropriate corrective action.

B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. Ensuring compliance with the requirements of this Plan, the Procedures, the environmental conditions of the Certificate authorization, the mitigation measures proposed by the applicant (as approved and/or modified by the Certificate), other environmental permits and approvals, and environmental requirements in landowner easement agreements;

2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;

3. Verifying that the limits of authorized construction work areas and locations of access roads are properly marked before clearing;

4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;

5. Identifying erosion/sediment control and soil stabilization needs in all areas;

6. Ensuring that the location of dewatering structures and slope breakers will not direct water into known cultural resources sites or locations of sensitive species;

7. Verifying that trench dewatering activities do not result in the deposition of sand, silt, and/or sediment near the point of discharge into a wetland or waterbody. If such deposition is occurring, the dewatering activity shall be stopped and the design of the discharge shall be changed to prevent reoccurrence;

8. Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;

9. Advising the Chief Construction Inspector when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive rutting;

10. Ensuring restoration of contours and topsoil;

11. Verifying that the soils imported for agricultural or residential use have been certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;

12. Determining the need for and ensuring that erosion controls are properly installed, as necessary to prevent sediment flow into wetlands, waterbodies, sensitive areas, and onto roads;

13. Inspecting and ensuring the maintenance of temporary erosion control measures at least:

    a. on a daily basis in areas of active construction or equipment operation;

    b. on a weekly basis in areas with no construction or equipment operation; and

    c. within 24 hours of each 0.5 inch of rainfall;

14. Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification;

15. Keeping records of compliance with the environmental conditions of the FERC certificate, and the mitigation measures proposed by the project sponsor in the application submitted to the FERC, and other Federal or state environmental permits during active construction and restoration; and

16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.

III. PRECONSTRUCTION PLANNING

The project sponsor shall do the following before construction:

A. CONSTRUCTION WORK AREAS

1. Identify all construction work areas (e.g., construction right-of-way, extra work space areas, pipe storage and contractor yards, borrow and disposal areas, access roads, etc.) that would be needed for safe construction. The project sponsor must ensure that appropriate cultural resources and biological surveys have been conducted.

2. Project sponsors are encouraged to consider expanding any required cultural resources and endangered species surveys in anticipation of the need for activities outside of certificated work areas.

B. DRAIN TILE AND IRRIGATION SYSTEMS

1. Attempt to locate existing drain tiles and irrigation systems.

2. Contact landowners and local soil conservation authorities to determine the locations of future drain tiles that are likely to be installed within 3 years of the authorized construction.

3. Develop procedures for constructing through drain-tiled areas, maintaining irrigation systems during construction, and repairing drain tiles and irrigation systems after construction.

4. Engage qualified drain tile specialists, as needed to conduct or monitor repairs to drain tile systems affected by construction. Use drain tile specialists from the project area, if available.

C. GRAZING DEFERMENT

Develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies to minimize grazing disturbance of revegetation efforts.

D. ROAD CROSSINGS AND ACCESS POINTS

Plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

E. DISPOSAL PLANNING

Determine methods and locations for the disposal of construction debris (e.g., timber, slash, mats, garbage, drilling fluids, excess rock, etc). Off-site disposal in other than commercially operated disposal locations is subject to compliance with all applicable survey, landowner permission, and mitigation requirements.

F. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and Federal agencies as outlined in this Plan and in the Certificate.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications.

2. Develop specific procedures in coordination with the appropriate agency to prevent the introduction or spread of noxious weeds and soil pests resulting from construction and restoration activities.

G. STORMWATER POLLUTION PREVENTION PLAN

Make available on each construction spread the Stormwater Pollution Prevention Plan prepared for compliance with the U.S. Environmental Protection Agency's National Stormwater Program General Permit requirements.

IV. INSTALLATION

A. APPROVED AREAS OF DISTURBANCE

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra work space areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the Certificate. Any project-related ground disturbing activities outside these Certificated areas, except those needed to comply with the Plan and Procedures (e.g., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) will require prior Director approval. All construction or restoration activities outside of the Certificated areas are subject to all applicable survey and mitigation requirements.

2. The construction right-of-way width for a project shall not exceed 75 feet or that described in the FERC application unless otherwise modified by a Certificate condition. However, in limited, non-wetland areas, this construction right-of-way width may be expanded by up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions (such as side-slopes) or soil limitations require it. Twenty-five feet of extra construction right-of-way width may also be used in limited, non-wetland or non-forested areas for truck turn-arounds where no reasonable alternative access exists.

   Project use of these additional limited areas is subject to landowner approval and compliance with all applicable survey and mitigation requirements. When such additional areas are used, each one should be identified and the need explained in the weekly or biweekly construction reports to the FERC, if required. The following material should be included in the reports:

   a. the location of each additional area by station number and reference to a previously filed alignment sheet, or updated alignment sheets showing the additional areas;

   b. identification of where the Commission's records contain evidence that the additional areas were previously surveyed; and

c. a statement that landowner approval has been obtained and is available in project files.

Prior written approval of the Director is required when the Certificated construction right-of-way width would be expanded by more than 25 feet.

B. TOPSOIL SEGREGATION

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:

   a. actively cultivated or rotated croplands and pastures;

   b. residential areas;

   c. hayfields; and

   d. other areas at the landowner's or land managing agency’s request.

2. In residential areas importation of topsoil is an acceptable alternative to topsoil segregation.

3. In deep soils (more than 12 inches of topsoil), segregate at least 12 inches of topsoil. In soils with less than 12 inches of topsoil make every effort to segregate the entire topsoil layer.

4. Where topsoil segregation is required, maintain separation of salvaged topsoil and subsoil throughout all construction activities.

5. Segregated topsoil may not be used for padding the pipe.

C. DRAIN TILES

1. Mark locations of drain tiles damaged during construction.

2. Probe all drainage tile systems within the area of disturbance to check for damage.

3. Repair damaged drain tiles to their original or better condition. Do not use filter-covered drain tiles unless the local soil conservation authorities and the landowner agree. Use qualified specialists for testing and repairs.

4. For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s).

D. IRRIGATION

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

E. ROAD CROSSINGS AND ACCESS POINTS

1. Maintain safe and accessible conditions at all road crossings and access points during construction.

2. If crushed stone access pads are used in residential or active agricultural areas, place the stone on synthetic fabric to facilitate removal.

F. TEMPORARY EROSION CONTROL

Install temporary erosion controls immediately after initial disturbance of the soil. Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

1. Temporary Slope Breakers

a. Temporary slope breakers are intended to reduce runoff velocity and divert water off the construction right-of-way. Temporary slope breakers may be constructed of materials such as soil, silt fence, staked hay or straw bales, or sand bags.

b. Install temporary slope breakers on all disturbed areas, as necessary to avoid excessive erosion. Temporary slope breakers must be installed on slopes greater than 5 percent where the base of the slope is less than 50 feet from waterbody, wetland, and road crossings at the following spacing (closer spacing should be used if necessary):

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Direct the outfall of each temporary slope breaker to a stable, well vegetated area or construct an energy-dissipating device at the end of the slope breaker and off the construction right-of-way.

d. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive resources.

2. Sediment Barriers

a. Sediment barriers are intended to stop the flow of sediments and to prevent the deposition of sediments into sensitive resources. They may be constructed of materials such as silt fence, staked hay or straw bales, compacted earth (e.g., driveable berms across travelways), sand bags, or other appropriate materials.

b. At a minimum, install and maintain temporary sediment barriers across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing until revegetation is successful as defined in this Plan. Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.

c. Where wetlands or waterbodies are adjacent to and downslope of construction work areas, install sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or waterbody.

3. Mulch

a. Apply mulch on all slopes (except in actively cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.

b. Mulch can consist of weed-free straw or hay, wood fiber hydromulch, erosion control fabric, or some functional equivalent.

c. Mulch before seeding if:

(1) final grading and installation of permanent erosion control measures will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1; or

(2) construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.

d. If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.

e. If wood chips are used as mulch, do not use more than 1 ton/acre and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).

f. Ensure that mulch is adequately anchored to minimize loss due to wind and water.

g. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands or waterbodies.

h. Install erosion control fabric on waterbody banks at the time of final bank recontouring. Anchor the erosion control fabric with staples or other appropriate devices.

V. RESTORATION

A. CLEANUP

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (temporary slope breakers and sediment barriers) until conditions allow completion of cleanup.

   The project sponsor should file with the Secretary for the review and written approval of the Director, a winterization plan if construction will continue into the winter season when conditions could delay successful decompaction, topsoil replacement, or seeding until the following spring.

2. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed (as specified in section IV.F.) and inspected and maintained (as specified in sections II.B.12 through 14). When access is no longer required, the travel lane must be removed and the right-of-way restored.

3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench should be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas by the landowner or land managing agency.

4. Remove excess rock from at least the top 12 inches of soil in all actively cultivated or rotated cropland and pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area should be similar to adjacent areas not disturbed by construction. The landowner may approve other provisions in writing.

5. Grade the construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting.

6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves otherwise.

7. Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful.

B. PERMANENT EROSION CONTROL DEVICES

1. Trench Breakers

a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.

b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.

c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.

d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland.

2. Permanent Slope Breakers

a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, sand bags, or some functional equivalent.

b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.

d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

C. SOIL COMPACTION MITIGATION

1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.

2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil.

   Alternatively, make arrangements with the landowner to plant and plow under a "green manure" crop, such as alfalfa, to decrease soil bulk density and improve soil structure. If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

D. REVEGETATION

1. General

   a. The project sponsor is responsible for ensuring successful revegetation of soils disturbed by project-related activities, except as noted in section V.D.1.b.

   b. Restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.

2. Soil Additives

   Fertilize and add soil pH modifiers in accordance with written recommendations obtained from the local soil conservation authority, land management agencies, or landowner. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as possible after application.

3. Seeding Requirements

   a. Prepare a seedbed in disturbed areas to a depth of 3 to 4 inches using appropriate equipment to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.

b. Seed disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or as requested by the landowner or land management agency. Seeding is not required in actively cultivated croplands unless requested by the landowner.

c. Perform seeding of permanent vegetation within the recommended seeding dates. If seeding cannot be done within those dates, use appropriate temporary erosion control measures discussed in section IV.F. and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Lawns may be seeded on a schedule established with the landowner.

d. In the absence of written recommendations from the local soil conservation authorities, seed all disturbed soils within 6 working days of final grading, weather and soil conditions permitting, subject to the specifications in section V.D.3.a-c.

e. Base seeding rates on Pure Live Seed. Use seed within 12 months of seed testing.

f. Treat legume seed with an inoculant specific to the species using the manufacturer’s recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydro).

g. In the absence of written recommendations from the local soil conservation authorities, landowner, or land managing agency to the contrary, a seed drill equipped with a cultipacker is preferred for seed application.

   Broadcast or hydroseeding can be used in lieu of drilling at double the recommended seeding rates. Where seed is broadcast, firm the seedbed with a cultipacker or imprinter after seeding. In rocky soils or where site conditions may limit the effectiveness of this equipment, other alternatives may be appropriate (e.g., use of a chain drag) to lightly cover seed after application, as approved by the Environmental Inspector.

VI. OFF-ROAD VEHICLE CONTROL

To each owner or manager of forested lands offer to install and maintain measures to control unauthorized vehicle access to the right-of-way. These measures may include:

A. Signs;

B. Fences with locking gates;

C. Slash and timber barriers, pipe barriers, or a line of boulders across the right-of-way; and

D. Conifers or other appropriate trees or shrubs across the right-of-way.

VII. POST-CONSTRUCTION ACTIVITIES

A. MONITORING AND MAINTENANCE

1. Conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation.

2. Revegetation in non-agricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In agricultural areas, revegetation shall be considered successful if crop yields are similar to adjacent undisturbed portions of the same field.

   Continue revegetation efforts until revegetation is successful.

3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in active agricultural areas until restoration is successful.

4. Restoration shall be considered successful if the right-of-way surface condition is similar to adjacent undisturbed lands, construction debris is removed (unless requested otherwise by the land owner or land managing agency), revegetation is successful, and proper drainage has been restored.

5. Routine vegetation maintenance clearing shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be maintained annually in a herbaceous state. In no case shall routine vegetation maintenance clearing occur between April 15 and August 1 of any year.

6. Efforts to control unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the project. Maintain signs, gates, and vehicle trails as necessary.

B. REPORTING

1. The project sponsor shall maintain records that identify by milepost:

   a. method of application, application rate, and type of fertilizer, pH modifying agent, seed, and mulch used;

   b. acreage treated;

   c. dates of backfilling and seeding;

   d. names of landowners requesting special seeding treatment and a description of the follow-up actions; and

   e. any problem areas and how they were addressed.

2. The project sponsor shall file with the Secretary quarterly activity reports documenting problems, including those identified by the landowner, and corrective actions taken for at least 2 years following construction.

ATTACHMENT D

Federal Energy Regulatory Commission

Wetland and Waterbody Construction and Mitigation Procedures

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

01/17/2003 VERSION

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

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WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES)

I. APPLICABILITY

A. The intent of these Procedures is to assist applicants by identifying baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. The project sponsors should specify in their applications for a FERC Certificate (Certificate) any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and to fully describe any alternative measures they would use. Applicants should also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is certificated, further changes can be approved. Any such changes from the measures in these Procedures (or the applicant's approved procedures) will be approved by the Director of the Office of Energy Projects (Director), upon the applicant's written request, if the Director agrees that an alternative measure:

1. provides equal or better environmental protection;

2. is necessary because a portion of these Procedures is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another Federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Any requirements in these Procedures to file material with the Secretary of the FERC (Secretary) do not apply to projects undertaken under the provisions of the blanket certificate program. This exemption does not apply to a request for alternative measures.

Project-related impacts on non-wetland areas are addressed in the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

B. DEFINITIONS

1. "Waterbody" includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:

   a. "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing;

   b. "intermediate waterbody" includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of crossing; and

   c. "major waterbody" includes all waterbodies greater than 100 feet wide at the water's edge at the time of crossing.

2. "Wetland" includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current Federal methodology for identifying and delineating wetlands.

II. PRECONSTRUCTION FILING

A. The following information shall be filed with the Secretary prior to the beginning of construction:

1. the hydrostatic testing information specified in section VII.B.3. and a wetland delineation report as described in section VI.A.1., if applicable; and

2. a schedule identifying when trenching or blasting would occur within each waterbody greater than 10 feet wide, or within any designated coldwater fishery. The project sponsor shall revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice.

B. The following site-specific construction plans required by these Procedures must be filed with the Secretary for the review and written approval by the Director:

1. plans for extra work areas that would be closer than 50 feet from a waterbody or wetland;

2. plans for major waterbody crossings;

3. plans for the use of a construction right-of-way greater than 75 feet wide in wetlands; and

4. plans for horizontal directional drill (HDD) "crossings" of wetlands or waterbodies.

III. ENVIRONMENTAL INSPECTORS

A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread should be appropriate for the length of the construction spread and the number/significance of resources affected.

B. The Environmental Inspector's responsibilities are outlined in the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

IV. PRECONSTRUCTION PLANNING

A. A copy of the Stormwater Pollution Prevention Plan (SWPPP) prepared for compliance with the U.S. Environmental Protection Agency's (EPA) National Stormwater Program General Permit requirements must be available in the field on each construction spread. The SWPPP shall contain Spill Prevention and Response Procedures that meet the requirements of state and Federal agencies.

1. It shall be the responsibility of the project sponsor and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. The project sponsor and its contractors must, at a minimum, ensure that:

a. all employees handling fuels and other hazardous materials are properly trained;

b. all equipment is in good operating order and inspected on a regular basis;

c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;

d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer only if the Environmental Inspector finds, in advance, no reasonable alternative and the project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas; and

f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use.

2. The project sponsor and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, the project sponsor and its contractors must:

a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills;

b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;

c. know the contact names and telephone numbers for all local, state, and Federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and

d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

B. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and Federal agencies as outlined in these Procedures and in the Certificate.

V. WATERBODY CROSSINGS

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.

2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.

3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.

4. Notify appropriate state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in state permits.

B. INSTALLATION

1. Time Window for Construction

Unless expressly permitted or further restricted by the appropriate state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:

a. coldwater fisheries - June 1 through September 30; and

b. coolwater and warmwater fisheries - June 1 through November 30.

2. Extra Work Areas

a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water’s edge, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land.

b. The project sponsor shall file with the Secretary for review and written approval by the Director, a site-specific construction plan for each extra work area with a less than 50-foot setback from the water's edge, (except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback.

c. Limit clearing of vegetation between extra work areas and the edge of the waterbody to the certificated construction right-of-way.

d. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.

3. General Crossing Procedures

a. Comply with the COE, or its delegated agency, permit terms and conditions.

b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.

c. If the pipeline parallels a waterbody, attempt to maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way.

d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.

e. Maintain adequate flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.

f. Waterbody buffers (extra work area setbacks, refueling restrictions, etc.) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

4. Spoil Pile Placement and Control

a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas as described in section V.B.2.

b. Use sediment barriers to prevent the flow of spoil or heavily silt-laden water into any waterbody.

5. Equipment Bridges

a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.

b. Construct equipment bridges to maintain unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:

(1) equipment pads and culvert(s);
(2) equipment pads or railroad car bridges without culverts;
(3) clean rock fill and culvert(s); and
(4) flexi-float or portable bridges.

Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.

d. Design and maintain equipment bridges to prevent soil from entering the waterbody.

e. Remove equipment bridges as soon as possible after permanent seeding unless the COE, or its delegated agency, authorizes it as a permanent bridge.

f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove equipment bridges as soon as possible after final cleanup.

6. Dry-Ditch Crossing Methods

a. Unless approved otherwise by the appropriate state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries.

b. Dam and Pump

(1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.

(2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:

(i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
(ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
(iii) screen pump intakes;
(iv) prevent streambed scour at pump discharge; and
(v) monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

c. Flume Crossing

The flume crossing method requires implementation of the following steps:

(1) install flume pipe after blasting (if necessary), but before any trenching;

(2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required in to achieve an effective seal);

(3) properly align flume pipe(s) to prevent bank erosion and streambed scour;

(4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and

(5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill (HDD)

To the extent they were not provided as part of the pre-certification process, for each waterbody or wetland that would be crossed using the HDD method, provide a plan that includes:

(1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;

(2) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and

(3) a contingency plan for crossing the waterbody or wetland in the event the directional drill is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours. Streambanks and unconsolidated streambeds may require additional restoration after this period;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

9. Crossings of Major Waterbodies

Before construction, the project sponsor shall file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). This plan should be developed in consultation with the appropriate state and Federal agencies and should include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.2.a. of the Plan) immediately after initial disturbance of the waterbody or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. In the travel lane, these may consist of removable sediment barriers or driveable berms. Removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;

b. where waterbodies are adjacent to the construction right-of-way, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way; and

c. use trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as possible after the completion of dewatering activities.

C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries.

2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.

3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.

4. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.

5. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.

6. Revegetate disturbed riparian areas with conservation grasses and legumes or native plant species, preferably woody species.

7. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

8. Sections V.C.3. through V.C.6. above also apply to those perennial or intermittent streams not flowing at the time of construction.

D. POST-CONSTRUCTION MAINTENANCE

1. Limit vegetation maintenance adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. However, to facilitate periodic pipeline corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be maintained in a herbaceous state. In addition, trees that are located within 15 feet of the pipeline that are greater than 15 feet in height may be cut and removed from the permanent right-of-way.

2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.

VI. WETLAND CROSSINGS

A. GENERAL

1. The project sponsor shall conduct a wetland delineation using the current Federal methodology and file a wetland delineation report with the Secretary before construction. This report shall identify:

   a. by milepost all wetlands that would be affected;

   b. the National Wetlands Inventory (NWI) classification for each wetland;

   c. the crossing length of each wetland in feet; and

   d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

   The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.

3. Limit the width of the construction right-of-way to 75 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 75 feet. Early in the planning process the project sponsor is encouraged to identify site-specific areas where existing soils lack adequate unconfined compressive strength that would result in excessively wide ditches and/or difficult to contain spoil piles.

4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V. and VI. in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V. and VI. cannot be met, the project sponsor must file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:

   a. spoil control;

   b. equipment bridges;

   c. restoration of waterbody banks and wetland hydrology;

   d. timing of the waterbody crossing;

e. method of crossing; and

f. size and location of all extra work areas.

6. Do not locate aboveground facilities in any wetland, except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

B. INSTALLATION

1. Extra Work Areas and Access Roads

a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land.

b. The project sponsor shall file with the Secretary for review and written approval by the Director, a site-specific construction plan for each extra work area with a less than 50-foot setback from wetland boundaries (except where adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback.

c. Limit clearing of vegetation between extra work areas and the edge of the wetland to the certificated construction right-of-way.

d. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.

e. The only access roads, other than the construction right-of-way, that can be used in wetlands without Director approval, are those existing roads that can be used with no modification and no impact on the wetland.

2. Crossing Procedures

a. Comply with COE, or its delegated agency, permit terms and conditions

b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.

c. Use "push-pull" or "float" techniques to place the pipe in the trench where water and other site conditions allow.

d. Minimize the length of time that topsoil is segregated and the trench is open.

e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.

f. Cut vegetation just aboveground level, leaving existing root systems in place, and remove it from the wetland for disposal.

g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.

h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are saturated or frozen. Immediately after backfilling is complete, restore the segregated topsoil to its original location.

i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.

j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.

k. Do not cut trees outside of the approved construction work area to obtain timber for riprap or equipment mats.

l. Attempt to use no more than two layers of timber riprap to support equipment on the construction right-of-way.

m. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.2.a. of the Plan) immediately after initial disturbance of the wetland or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c., maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan.

a. Install sediment barriers across the entire construction right-of-way at all wetland crossings where necessary to prevent sediment flow into the wetland. In the travel lane, these may consist of removable sediment barriers or driveable berms. Removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent

b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to prevent sediment flow into the wetland.

c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into any wetland. Remove the dewatering structures as soon as possible after the completion of dewatering activities.

C. RESTORATION

1. Where the pipeline trench may drain a wetland, construct trench breakers and/or seal the trench bottom as necessary to maintain the original wetland hydrology.

2. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of a slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.

3. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate land management or state agency.

4. Consult with the appropriate land management or state agency to develop a project-specific wetland restoration plan. The restoration plan should include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of undesirable exotic species (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.

5. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).

6. Ensure that all disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.

7. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after upland revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.5. of the Plan.

D. POST-CONSTRUCTION MAINTENANCE

1. Do not conduct vegetation maintenance over the full width of the permanent right-of-way in wetlands. However, to facilitate periodic pipeline corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be maintained in a herbaceous state. In addition, trees within 15 feet of the pipeline that are greater than 15 feet in height may be selectively cut and removed from the permanent right-of-way.

2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate land management agency or state agency.

3. Monitor and record the success of wetland revegetation annually for the first 3 years after construction or until wetland revegetation is successful. At the end of 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts. Include the percent cover achieved and problem areas (weed invasion issues, poor revegetation, etc.). Continue to file a report annually until wetland revegetation is successful.

4. Wetland revegetation shall be considered successful if the cover of herbaceous and/or woody species is at least 80 percent of the type, density, and distribution of the vegetation in adjacent wetland areas that were not disturbed by construction. If revegetation is not successful at the end of 3 years, develop and implement (in consultation with a professional wetland ecologist) a remedial revegetation plan to actively revegetate the wetland. Continue revegetation efforts until wetland revegetation is successful.

VII. HYDROSTATIC TESTING

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.

2. Apply for National Pollutant Discharge Elimination System (NPDES) or state-issued discharge permits, as required.

3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

B. GENERAL

1. Perform non-destructive testing of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.

2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address the operation and refueling of these pumps in the project's Spill Prevention and Response Procedures.

3. The project sponsor shall file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location.

C. INTAKE SOURCE AND RATE

1. Screen the intake hose to prevent entrainment of fish.

2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate Federal, state, and/or local permitting agencies grant written permission.

3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.

4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.

2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate Federal, state, and local permitting agencies grant written permission.