RIGHT-OF-WAY MICROFICHE
In Reply Refer To: MS 5232

JUL 20 1999

Mr. William A. Van Wie
PennzEnergy Exploration and Production, L.L.C.
Post Office Box 4616
Houston, Texas 77210-4616

Dear Mr. Van Wie:

Pursuant to the authority granted by 43 U.S.C. 1334(e) and 30 CFR 250.1000(b) and (d), your application dated May 13, amended by your supplements of June 1, 4, 14, 25, 28, and 30, and July 7 and 8, 1999, for a pipeline right-of-way two-hundred feet (200') in width and 7.79 miles in length, is hereby approved, as proposed.

This right of way is approved for the installation, operation, and maintenance of a 6 5/8-inch pipeline (West), with associated control/chemical umbilical, to transport bulk oil from a proposed Flowline End Termination Sled/Manifold in Garden Banks Block 161 (Lease OCS-G 13367), across Blocks 117 and 73, to Platform "A" located in Garden Banks Block 72 (Lease OCS-G 13363).

Your request to use navigational positioning equipment to comply with Notice to Lessees and Operators No. 98-20, Section IV.B, is hereby approved.

Based on our analysis of your application, the maximum allowable operating pressure for this pipeline will be 8,281 psig.

Please be reminded that in accordance with 30 CFR 250.1008(a) you must notify the Regional Supervisor at least 48 hours prior to commencing the installation or relocation of a pipeline or conducting a pressure test on the pipeline. Also, in accordance with 30 CFR 250.1008(b) you must submit a report to the Regional Supervisor within 90 days after completion of any pipeline construction.

This pipeline and umbilical has been assigned Right-of-Way OCS-G 21046, Segment No. 12244 and 12270, respectively.

Sincerely,

(Org.Sgd.) J. R. Hennessey

Donald C. Howard
Regional Supervisor
Field Operations

bcc: 1502-01 Segment No. 12270, ROW OCS-G 21046 (MS 5232)
1502-01 ROW OCS-G 21046 (Microfilm) (MS 5033)
1502-01 Segment No. 12244, ROW OCS-G 21046 (MS 5232)
1502-01 ROW OCS-G 21046 (Microfilm) (MS 5033)
MS "5280 w/flow schematic"
MS 5232 Carto

MBarton:amm:7/15/99:PennzEne.270
UNITED STATES GOVERNMENT
MEMORANDUM
01-Jun-99

To: Leasing Activities Section, Adjudication Unit (MS 5421)

From: Petroleum Engineer, Pipeline Unit, Office of Field Operations, Gulf of Mexico OCS Region (MS 5232)

Subject: Adjudication of Application for New Pipeline Right-of-Way

Right-of-Way
Number: OCS-G 21046
Applicant: PennzEnergy Exploration and Production, L.L.C.
Right-of-Way Length: 7.76 Miles

The subject application is attached for your adjudication. Any questions should be addressed to the undersigned. The pipeline proposed in this application is described as follows:

A 6 5/8-inch pipeline (West) to transport bulk oil from a proposed Flowline End Termination Sled in Garden Banks Block 161 (Lease OCS-G 13367), across Blocks 117 and 73, to Platform "A" located in Garden Banks Block 72 (Lease OCS-G 13363).

Michael Barton

Attachment

Application dated May 13, 1999 (received May 17, 1999)

Please verify the following company qualifications:

<table>
<thead>
<tr>
<th>Corporation (qualified)</th>
<th>Yes ☑</th>
<th>No __</th>
</tr>
</thead>
<tbody>
<tr>
<td>On File (N.O Misc. # 02332)</td>
<td>Yes ☑</td>
<td>No __</td>
</tr>
<tr>
<td>Authority of person signing Application</td>
<td>Yes ☑</td>
<td>No __</td>
</tr>
<tr>
<td>$300,000 Right-of-Way Grant Bond</td>
<td>Yes ☑</td>
<td>No __</td>
</tr>
</tbody>
</table>

Initial ___________ Date 6/2/99
UNITED STATES GOVERNMENT
MEMORANDUM

June 29, 1999

To: Chief, Pipeline Section, Field Operations, GOM OCS Region (MS 5232)

From: Acting Chief, Project Management Section, Leasing and Environment, GOM OCS Region (MS 5440)

Subject: Categorical Exclusion Review for P-12244(G-21046), P-12247(G-21049) in GB 161, 117, 73, and 72

Ref: (a) 516 DM 2.3A
(b) 516 DM 2 Appendix 2
(c) 516 DM 6 Appendix 10
(d) Policy and Guidelines for Categorical Exclusion Reviews (CER) and Environmental Assessments (EA), February 14, 1997

The proposed action is categorically excluded with no further environmental analysis needed as none of the exception criteria in the above references (a) through (d) were met.

Advisories or reminders associated with this proposal are attached.

Richard E. Defenbaugh

Attachments

bcc: 102-01a ENV 5-4b (MS 5440)
      Lease OCS-G POD File (MS 5032)
      W. Barton:jw:g:final\P-12244(G-21046),P-12247(G-21049)

The Topographical Feature Biological Review of Pine Energy Exploration and Production Proposed pipeline installation activity determined no seabottom disturbing activities or impacts within 500 feet of the no activity zone of McGrail Bank and no mitigation required.
United States Government
Memorandum

June 29, 1999

To: Chief, Pipeline Section, Field Operations, GOM OCS Region (MS 5232)

From: Acting Chief, Project Management Section, Leasing and Environment, GOM OCS Region (MS 5440)

Subject: Categorical Exclusion Review for P-12244(G-21046), P-12247(G-21049) in GB 161, 117, 73, and 72

Ref: (a) 516 DM 2.3A
(b) 516 DM 2 Appendix 2
(c) 516 DM 6 Appendix 10
(d) Policy and Guidelines for Categorical Exclusion Reviews (CER) and Environmental Assessments (EA), February 14, 1997

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Advisories or reminders associated with this proposal are attached.

Richard E. Defenbaugh

Attachments

BCC: 102-01a ENV 5-4b (MS 5440)
Lease OCS-G POD File (MS 5032)
W. Barton:jw:g:\final\P-12244(G-21046), P-12247(G-21049)
Operator Name: PennzEnergy Explor & Prod  
Type of Plan: ROW p/ls (revised) w/ unbilical  
Description of Action: Install p/ls to transport B/O  
Shore Base: Intracoastal City  
Distance from Shore: 115 miles

Control No. P-12244(G-21046) P-12247(G-21049)  
OCS-G No. GB 161, 117, 73, and 72  
Area/Block: Dynamically positioned reel barge  
Rig Type:  
Water Depth: 500 to 1140 feet

I. Preliminary Determination by Unit Supervisors

A. Categorical Exclusion, no analysis required:  
B. Categorical Exclusion, analysis required:  
C. Environmental Assessment, Exception Criteria:

None

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. Defenbaugh</td>
<td>6/25/99</td>
</tr>
</tbody>
</table>

II. Secondary Determination by Analysts

Mitigation/reminders/advisories

<table>
<thead>
<tr>
<th>Air Quality:</th>
<th>Not required</th>
<th>W. Barton</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeology:</td>
<td>Not required</td>
<td>W. Barton</td>
<td>None</td>
</tr>
<tr>
<td>Biology:</td>
<td>None</td>
<td>W. Barton</td>
<td>None</td>
</tr>
<tr>
<td>Oil Spill:</td>
<td>Not required</td>
<td>W. Barton</td>
<td>None</td>
</tr>
<tr>
<td>Other Agencies:</td>
<td>Supplied by FO</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Geohazards:</td>
<td>Supplied by FO</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Pipelines:</td>
<td>Supplied by FO</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Others:</td>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FO Engineer: M. Barton  
NEPA Coordinator: W. Barton

<table>
<thead>
<tr>
<th>Extension</th>
<th>Surface Location / Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2555</td>
<td>Install (2) 6 5/8 in dia p/ls (with control/unbilical)(west)(east) to transport B/O from proposed FETS in GB 161 across Blks 117 and 73, to Plat A in GB 72 (revised route)</td>
</tr>
</tbody>
</table>

Env. Report Due: Not required  
Env. Report Comp:    
NEPA Due Date: 6/29/99  
CER Final Date: 6/29/99  
EA Final Date:  
Analyst Signature [Signature]
UNITED STATES GOVERNMENT
MEMORANDUM

June 23, 1999

To: Chief, Plans Section, Field Operations, GOM OCS Region (MS 5231)

From: Acting Chief, Project Management Section, Leasing and Environment, GOM OCS Region (MS 5440)

Subject: Categorical Exclusion Review for P-12244, P-12247, P-12248, P-12249 in GB 72, 73, 117, and 161

Ref: (a) 516 DM 2.3A
(b) 516 DM 2 Appendix 2
(c) 516 DM 6 Appendix 10
(d) Policy and Guidelines for Categorical Exclusion Reviews (CER) and Environmental Assessments (EA), February 14, 1997

The proposed action is categorically excluded with no further environmental analysis needed as none of the exception criteria in the above references (a) through (d) were met.

Advisories or reminders associated with this proposal are attached.

Richard E. Defenbaugh

Attachments

bcc: 102-01a ENV 5-4b (MS 5440)
Lease OCS-G 13367, 12631, 13364, 13363 POD File (MS 5032)
W. Barton jw:g:\final\P-12244, P-12247, P-12248, P-12249
Operator Name: PennzEnergy Explor. & Prod
Type of Plan: 2 ROWs and 2 L/T p/ls
Description of Action: Install p/ls to transport Bulk Oil
Shore Base: Intracoastal City
Distance from Shore: 115 miles

Control No. P-12244, P-12247, P-12248, P-12249
OCS-G No. 13367, 12631, 13364, 13363
Area/Block: GB 72, 73, 117, and 161
Rig Type: Dynamically positioned reel barge
Water Depth: 500 to 1140 feet

I. Preliminary Determination by Unit Supervisors

A. Categorical Exclusion, no analysis required:
B. Categorical Exclusion, analysis required:
C. Environmental Assessment, Exception Criteria:

None

Name Date
R. Defenbaugh 6/3/99

II. Secondary Determination by Analysts

Mitigation/reminders/advisories

Air Quality: None T. Scholten None
Archaeology: Not required W. Barton None
Biology: None D. Moran None
Oil Spill: Not Required W. Barton None
Other Agencies: Supplied by FO N/A
Geohazards: Supplied by FO N/A
Pipelines: Supplied by FO N/A
Others: None

FO Engineer: M. Barton Extension: 2555
NEPA Coordinator: W. Barton Extension 2731

Env. Report Due: Not required
Env. Report Comp: 
NEPA Due Date: 6/11/99
CER Final Date: 6/23/99
EA Final Date: 
Analyst Signature

Install (2) 6 5/8 in dia p/ls to trans BO fr pro FETS, GB 161, 117, 73 to Plat A in GB 72
Install dual 6 5/8 in dia BO p/ls (rigid jumpers) fr Subsea Wells 1 & 2 to pro FETS, all in GB 161
Geophysical Review of Pipeline

Segment
12244
12247
12248
12249

Comments on Natural Hazards:
Water depth 520-1015'; fault scarp, pockmarks.

Comments on Man Made Hazards:
Parallel lines, lines at platform A; may cross cable

General Comments:
PennzEnergy E&P ROW dual 6" oil, jumpers, & umbilical from GB 161-1subsea to GB 72-A (7.75 miles) mb
#12244, 12249
No burial with lay barge

Possible Hazards Identified in the Shallow Hazards Analysis and/or Maps

- There is a fault scarp along pipeline route which may cause pipeline spanning. The scarp relief is 12 feet.
- There is a steep slope along the proposed pipeline route which may cause spanning. The Maximum slope is 1.7 degrees.
- There are well sites near potential anchor locations that should be avoided.
- There are pipelines near the proposed pipeline route which could be damaged during pipeline construction.
- There are pipelines near potential anchor locations that could be damaged during or after anchor placement.

Recommendations:
Approval recommended based on the assumption of accuracy in the company submission.
TO: Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

DATE: July 8, 1999.

ATTENTION: Michael Barton

REGARDING:
PennzEnergy’s ROW Pipeline Applications for Garden Banks Block 161 (Segments No. 12244 and 12247)

<table>
<thead>
<tr>
<th>NO. OF COPIES</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Revised Safety Flow Schematic (4 copies for each application)</td>
</tr>
</tbody>
</table>

THESE ARE FOR THE PURPOSE INDICATED BELOW:

( ) For Approval       ( ) For Review and Comments
( ) For Further Handling  ( ) For Execution

REMARKS: Please replace the revised schematic in the above referenced applications.

Signed Connie Goers

JUL 12 1999
July 7, 1999

Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: Application Dated May 13, 1999 for a 6-Inch Bulk Oil Right-of-Way Pipeline (WEST) with Associated Control/Chemical Umbilical to be Installed In and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area (Garden Banks 161 Subsea Development Prospect), OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana (Segment No. 12244)

Dear Mr. Barton:

By letters dated May 13, 1999, June 25, 1999 and June 30, 1999, PennzEnergy Exploration and Production, L.L.C. (PennzEnergy), submitted an application and supplemental information covering the construction, maintenance and operation of an 6-Inch bulk oil right-of-way pipeline with associated control/chemical umbilical to be installed in and/or through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

In further support of the referenced application, the following additional information is provided and/or enclosed:

1. Two additional copies of complete pipeline application and addendum information

2. Clarification that the wall thickness of the pipeline is 0.718 inches

3. Riser Protection - The Garden Banks Block 72 Platform Jacket provides adequate protection for the pipeline riser. The 6-5/8" x 0.864" riser will be installed inside of an existing 24" J-tube which is installed inside the Garden Banks Block 72 Platform Jacket. The bellmouth of the J-tube is located at an approximate elevation of -505' below sea level, 3' off bottom. The J-tube extends vertically through the jacket and terminates at +15' above sea level. The top of the J-tube is located approximately 10' south of Column Row 2 and approximately 11' west of Column Row B. No further protection shall be required for the riser.
4. Four copies of the Anode Calculations

5. The updated Safety Schematic has been faxed to your office under separate cover, and upon receiving your final review, we will express the additional hard copies to your attention.

6. All of the nearby magnetic anomalies and sonar contacts in the attached site assessment are presumed to represent modern debris associated with prior oil and gas construction or passing ship traffic. Utilizing an on-board graphic system during construction operations, PennzEnergy will record the coordinates of the pipeline and all unidentified magnetic anomalies and side scan sonar contacts. PennzEnergy will avoid the anomalies identified in the site assessment along the proposed pipeline route and/or during placement of anchors.

7. PennzEnergy is negotiating the fiber optic cable crossing with Petroleum Communications. The fiber optic cable will be coated with a Uraduct coating to cover the entire length of the line.

8. The revised hazards maps contained in the pipeline pre-lay survey have been updated to change the minor route change requested by Mariner Energy, Inc., and are being submitted under separate cover to your attention.

Should you have any further requests or questions, please contact the undersigned or our regulatory consultant, J. Connor Consulting, Inc., Attention: Connie Goers or Wendy DesOrmeaux at 16225 Park Ten Place, Suite 500, Houston, Texas 77084, (281) 578-3388.

Sincerely,

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

Chris Morris

CM:CJG
Enclosures
(i) **Description of the cathodic protection system:**

Pipeline anodes, with the following characteristics, will be used for cathodic protection:

<table>
<thead>
<tr>
<th>Type</th>
<th>Tapered Semi-Cylindrical Aluminum Bracelet, Galvalum III.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>9.625” ID (for 6.625” pipe with 1.5” thick polypropylene coating).</td>
</tr>
<tr>
<td>Weight</td>
<td>70.5 pounds net (Galvalum III)</td>
</tr>
<tr>
<td></td>
<td>79 pounds gross (Galvalum III plus steel core)</td>
</tr>
<tr>
<td>Number</td>
<td>170</td>
</tr>
<tr>
<td>Spacing</td>
<td>500 feet maximum</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>71 years</td>
</tr>
</tbody>
</table>

**Calculation:**

From MS 5232

\[
\text{Life Expectancy} = \frac{3.82 \times 10^4 \times W^0}{D \times I \times R}
\]

\[
\text{Life Expectancy} = \frac{3.82 \times 10^4 \times 70.5}{9.625 \times 494 \times 7.9}
\]

Life Expectancy = 71.7 years

**Where:**

- Life Expectancy = Life of cathodic protection system
- W = Weight of unit anodes (lbs)
- D₀ = Diameter of pipe, with coating (inches)
- I = Interval - length of pipe (ft) / total number of anodes 83,918/170 = 494
- R = Rate of consumption (lbs/amp·year) – The value of R for Galvalum III (aluminum-zinc-indium) as obtained from Table 1.B of NACE Standard RP0176-83 is 8.4 to 7.4 use 7.9.
June 30, 1999

U.S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: PennzEnergy Exploration and Production, L.L.C. Applications Dated May 13, 1999 for a Dual 6-Inch Bulk Oil Right-of-Way Pipelines (East/West) with Associated Control/Chemical Umbilical to be Installed In and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore Louisiana (Segment Nos. 12244, 12248 and 12249)

Dear Mr. Barton:


As designated operator of Lease OCS-G 12631, Garden Banks Block 73, Mariner Energy, Inc. received notification of the referenced applications on May 17, 1999.

This letter is being provided because the certified mail return receipt card has not been returned to the sender.

If you need additional information, please contact me at (281) 584-5573, or our regulatory consultant, Connie Goers with J. Connor Consulting, Inc., at (281) 578-3388.

Regards,

MARINER ENERGY, INC.

Wanda Hignight
Regulatory Compliance Manager
June 30, 1999

Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: Application Dated May 13, 1999 for a 6-Inch Bulk Oil Right-of-Way Pipeline (WEST) with Associated Control/Chemical Umbilical to be Installed in and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area (Garden Banks 161 Subsea Development Prospect), OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana (Segment No. 12244)

Dear Mr. Barton:

By letter dated May 13, 1999, PennzEnergy Exploration and Production, L.L.C. (PennzEnergy), submitted an application covering the construction, maintenance and operation of an 6-Inch bulk oil right-of-way pipeline with associated control/chemical umbilical to be installed in and/or through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

In further support of the referenced application, enclosed are copies of the letters of no objection and certified mail return receipt cards to the affected operators along the pipeline route.

Should you have any further requests or questions, please contact the undersigned or our regulatory consultant, J. Connor Consulting, Inc., Attention: Connie Goers or Wendy DesOrmeaux at 16225 Park Ten Place, Suite 500, Houston, Texas 77084, (281) 578-3388.

Sincerely,

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

Chris Morris

CM: CJG
Enclosures
June 30, 1999

U.S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: PennzEnergy Exploration and Production, L.L.C. Applications Dated May 13, 1999 for a Dual 6-Inch Bulk Oil Right-of-Way Pipelines (East/West) with Associated Control/Chemical Umbilical to be Installed In and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore Louisiana (Segment Nos. 12244, 12248 and 12249)

Dear Mr. Barton:


As designated operator of Lease OCS-G 12631, Garden Banks Block 73, Mariner Energy, Inc. received notification of the referenced applications on May 17, 1999.

This letter is being provided because the certified mail return receipt card has not been returned to the sender.

If you need additional information, please contact me at (281) 584-5573, or our regulatory consultant, Connie Goers with J. Connor Consulting, Inc., at (281) 578-3388.

Regards,

MARINER ENERGY, INC.

Wanda Hignight
Regulatory Compliance Manager
June 4, 1999

PennzEnergy Exploration and Production, L.L.C.
c/o J. Connor Consulting, Inc.
Attn: Ms. Wendy DesOrmeaux
16225 park Ten Place, Suite 500
Houston, TX 77084

Dear Ms. DesOrmeaux:

OFFSHORE, GULF OF MEXICO
GARDEN BANKS AREA, BLOCKS 73 & 72
POSEIDON 16" PIPELINE
SUBSEA PL XING; FILE NO. 99-81

This will respond to PennzEnergy Exploration and Production, L.L.C.'s (PENNZENERGY) letter dated May 13, 1999 pertaining to PENNZENERGY's plans to install a single 6 inch bulk oil pipeline with associated umbilical through Blocks 161, 117, 73 and 72 in the Garden Banks Area.

Initial review of PENNZENERGY's planned construction of a 6 inch bulk oil pipeline will not cross Equilon's Poseidon 16". If, however, PENNZENERGY's proposed route changes in such a way that Equilon's pipeline will be impacted, Equilon has no objection to PENNZENERGY's crossing plans as proposed provided PENNZENERGY agrees to and complies with the following Equilon requirements:

1. The crossing will be accomplished in accordance with the drawings labeled EXHIBIT "A", attached hereto and made a part hereof.

2. At least seven days prior to commencing any crossing activity in the immediate vicinity of the captioned pipeline, PENNZENERGY will notify Magellan Marine Inc.'s John Naylon or Michael James at (504) 835-3009 so that a Magellan Marine employee, on Equilon's behalf, can be present during the crossing operation.
3. PENNZENERGY agrees that Magellan Marine or its designated alternate will be afforded the opportunity to be present on board the lay barge during PENNZENERGY's construction of its pipeline over Equilon's pipeline.

4. PENNZENERGY'S anchor-handling tug will have a satellite position system accurate to within five meters. When setting and weighing anchors, anchor positions will be plotted to determine the extent of anchor slippage. All anchors placed across the Equilon pipeline will be located a minimum horizontal distance of 1,000 feet from Equilon's pipeline, and all anchors not crossing the Equilon pipeline will be located a minimum horizontal distance of 800 feet from Equilon's pipelines. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally. (This paragraph is not applicable if dynamically positioned vessels (DPV) are utilized during the crossing operation).

5. Whether PENNZENERGY uses divers or a remote operated vehicle (ROV) to inspect the crossing location, PENNZENERGY agrees that Magellan Marine or its designated alternate will be notified at least seven days prior to inspection operations and will be given the opportunity to be present on board the vessel during the periods of diver and/or ROV inspection.

6. Within 90 days following completion of construction of the PENNZENERGY pipeline across Equilon's pipeline PENNZENERGY will furnish to Equilon, at the above address, an "as-built" drawing of the crossing.

7. Should Paragraph #4 be applicable, within 90 days following completion of construction, PENNZENERGY will furnish to Equilon, at the above address, anchor coordinate's drawings showing the locations where all anchors were set and picked up within 1,000 feet of Equilon's pipeline which drawings will be used to show if anchor slippage has occurred which may endanger the
Equilon pipeline. The anchor locations will also be shown in a table on the as-built drawings.

8. PENNZENERGY shall defend, indemnify and hold harmless Equilon, its associated and affiliated companies, its and their agents, employees, officers, directors, insurers, successors and assigns from and against any loss, damage, claim, suit liability, judgment and expense (including attorneys' fees and other costs of litigation), and any fines, penalties and assessments arising out of injury, disease or death of persons (including that of the employees of PENNZENERGY or Equilon or their contractors and subcontractors), damage to or loss of any property (including that of PENNZENERGY or Equilon or their contractors and subcontractors), lost product and/or lost business due to interference with Equilon's pipelines, and any environmental harm, or damages to natural resources, caused by, arising out of or resulting from, either directly or indirectly, the activities of PENNZENERGY and its contractors in the construction, operation and maintenance of PENNZENERGY's pipeline across the Equilon pipeline.

9. This conditional pipeline crossing covers only PENNZENERGY’s proposed construction of a 6 inch bulk oil pipeline with associated umbilical across Equilon’s Poseidon 16” crude oil pipeline, and in no way implies Equilon’s consent to PENNZENERGY’s crossing of other blocks that may be leased by Equilon or any of its associated or affiliated companies.

By copy of this letter to Minerals Management Service's (MMS) Mr. D. C. Howard, Equilon is informing MMS that Equilon will not object to PENNZENERGY’s proposed pipeline crossing in Garden Banks Area, Blocks 73 and 72, provided PENNZENERGY agrees to the above-stated Equilon requirements.

If PENNZENERGY is agreeable to the foregoing, please have the proper authority indicate acceptance thereof by dating, executing and returning one of the originals of this letter to my attention at the above address. If no response is received within thirty (30) days, this agreement will be null and void.
Very truly yours,

EQUIPON PIPELINE COMPANY LLC

Karen L. Jones
Land and Permits

Enclosures

AGREED TO AND ACCEPTED THIS
_____ DAY OF __________, 1999.

PENNZE energy EXPLORATION AND PRODUCTION, L.L.C.

cc: Minerals Management Service
D. C. Howard

Magellan Marine
Michael James
John Naylon
June 4, 1999

PennzEnergy Exploration and Production, L.L.C.
C/O O.J. Connor Consulting, Inc.
16225 Park Ten Place
Suite 500
Houston, Texas 77084

Attention: Ms. Wendy DesOrmeaux

Reference: PennzEnergy’s Proposed Installation of a 6-inch Bulk Oil Pipeline with Associated Umbilical from Block 161 to Block 72 in the Garden Banks, Area in the Gulf of Mexico.

Dear Madam:

Flextrend Development Company, L.L.C. (“FDC”) was notified by your May 13, 1999 transmittal of PennzEnergy Exploration and Production, L.L.C. (“PennzEnergy”) plan to install the above referenced pipeline and umbilical. This pipeline crosses FDC’s Leases in Garden Banks Block 72 and 117 and parallels FDC’s Right of Way OCS-G 15983 in Garden Banks Blocks 72, 73 and 117. FDC has no objection to the installation of PennzEnergy’s pipelines as proposed in your above mentioned letter, subject to the following conditions:

1. PennzEnergy shall notify the undersigned at (713) 420-2131 at least seven (7) days in advance of installing its pipeline crossing the referenced lease. PennzEnergy shall reimburse FDC for the employment of a representative on board PennzEnergy’s installation vessel to witness the complete pipeline installation.

2. PennzEnergy agrees that all work done on the referenced leases and in the vicinity of the referenced Right of Way shall be done in accordance with accepted industry practice and all applicable permits and governmental regulations.

3. Prior to move in of marine construction equipment, PennzEnergy will physically locate and buoy FDC’s existing pipelines through the potential anchor spread corridors. Such buoys will be set at a maximum of 1,000 feet spacing along the pipelines and will be maintained for so long as the marine construction equipment is in the area. This is not required if a “real time positioning system” is on the marine construction equipment, which includes the anchor-handling tug.

EL PASO ENERGY BUILDING
1001 LOUISIANA STREET
HOUSTON, TEXAS 77002
(713) 420-2131 • FAX (713) 420-5472
4. PennzEnergy’s anchor-handling tug will have a satellite positioning system accurate to within five meters. When setting and weighing anchors, anchor position will be plotted to determine the extent of anchor slippage. All anchors placed across FDC’s pipelines will be located a minimum perpendicular distance of 1,000 feet from FDC’s pipelines, and all anchors not crossing FDC’s pipelines will be located a minimum perpendicular distance 500 feet from FDC’s pipelines. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally.

5. PennzEnergy agrees to furnish FDC with an “as built” plat to scale of 1” - 1000’ within 60 days of completion of the pipeline installation.

6. PennzEnergy shall defend, indemnify and hold harmless FDC, its parent, associated and affiliated companies, its and their agents, employees, officers, directors, insurers, successors and assigns from and against any loss, damage, claim, suit liability, judgement and expense (including attorneys, fees and other costs of litigation), and any fines, penalties and assignments arising out of injury, disease or death of persons (including that of employees of PennzEnergy or FDC or their contractors and subcontractors), damage to or loss of any property (including that of PennzEnergy or FDC or their contractors and subcontractors), lost product and/or lost business due to interference with FDC’s pipelines, and any environmental harm, or damages to natural resources, caused by, arising out of or resulting from, either directly or indirectly, the activities of PennzEnergy and its contractors in the construction, operation and maintenance of PennzEnergy’s pipeline and umbilical in the vicinity of FDC’s pipelines, but excepting any injury, death or damages caused by sole negligence of FDC.

By copy of this letter to Minerals Management Service’s (MMS) Mr. Alex Alvarado, FDC is informing MMS that FDC will not object to PennzEnergy’s proposed pipeline route, provided that PennzEnergy agrees to the above-stated FDC requirements.

If PennzEnergy is agreeable to the foregoing, please have the proper authority indicate acceptance thereof by dating, executing and returning one of the originals of this letter to my attention at the above address.

Best Regards,

FLEXTREND DEVELOPMENT COMPANY, L.L.C.

[Bart Heijermans,
Vice President]
AGREED TO ACCEPTED this ________ day of ________ , 1999.

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

By __________________________

Name ________________________

Title _________________________

Date _________________________

APPROVED: Flextrend Development Company, L.L.C.

By: __________________________

Name: Bart Heijermans

Title: Vice President
PennzEnergy Exploration and Production, L.L.C.
C/O J. Connor Consulting, Inc.
16225 Park Ten Place
Suite 500
Houston, Texas 77084

Attention: Ms. Wendy DesOrmeaux

Reference: PennzEnergy’s Proposed Installation of a 6-inch Bulk Oil Pipeline with Associated Umbilical from Block 161 to Block 72 in the Garden Banks, Area in the Gulf of Mexico.

Dear Madam:

Flextrend Development Company, L.L.C. ("FDC") was notified by your May 13, 1999 transmittal of PennzEnergy Exploration and Production, L.L.C. ("PennzEnergy") plan to install the above referenced pipeline and umbilical. This pipeline crosses FDC’s Leases in Garden Banks Block 72 and 117 and parallels FDC’s Right of Way OCS-G 15983 in Garden Banks Blocks 72, 73 and 117. FDC has no objection to the installation of PennzEnergy’s pipelines as proposed in your above mentioned letter, subject to the following conditions:

1. PennzEnergy shall notify the undersigned at (713) 420-2131 at lease seven (7) days in advance of installing its pipeline crossing the referenced lease. PennzEnergy shall reimburse FDC for the employment of a representative on board PennzEnergy’s installation vessel to witness the complete pipeline installation.

2. PennzEnergy agrees that all work done on the referenced leases and in the vicinity of the referenced Right of Way shall be done in accordance with accepted industry practice and all applicable permits and governmental regulations.

3. Prior to move in of marine construction equipment, PennzEnergy will physically locate and buoy FDC’s existing pipelines through the potential anchor spread corridors. Such buoys will be set at a maximum of 1,000 feet spacing along the pipelines and will be maintained for so long as the marine construction equipment is in the area. This is not required if a “real time positioning system” is on the marine construction equipment, which includes the anchor-handling tug.

Block Xing Agree.doc

EL PASO ENERGY BUILDING
1001 LOUISIANA STREET
HOUSTON, TEXAS 77002
(713) 420-2131 • FAX (713) 420-5472
4. PennzEnergy’s anchor-handling tug will have a satellite positioning system accurate to within five meters. When setting and weighing anchors, anchor position will be plotted to determine the extent of anchor slippage. All anchors placed across FDC’s pipelines will be located a minimum perpendicular distance of 1,000 feet from FDC’s pipelines, and all anchors not crossing FDC’s pipelines will be located a minimum perpendicular distance 500 feet from FDC’s pipelines. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally.

5. PennzEnergy agrees to furnish FDC with an “as built” plat to scale of 1" - 1000’ within 60 days of completion of the pipeline installation.

6. PennzEnergy shall defend, indemnify and hold harmless FDC, its parent, associated and affiliated companies, its and their agents, employees, officers, directors, insurers, successors and assigns from and against any loss, damage, claim, suit liability, judgement and expense (including attorneys, fees and other costs of litigation), and any fines, penalties and assignments arising out of injury, disease or death of persons (including that of employees of PennzEnergy or FDC or their contractors and subcontractors), damage to or loss of any property (including that of PennzEnergy or FDC or their contractors and subcontractors), lost product and/or lost business due to interference with FDC’s pipelines, and any environmental harm, or damages to natural resources, caused by, arising out of or resulting from, either directly or indirectly, the activities of PennzEnergy and its contractors in the construction, operation and maintenance of PennzEnergy’s pipeline and umbilical in the vicinity of FDC’s pipelines, but excepting any injury, death or damages caused by the sole negligence of FDC.

By copy of this letter to Minerals Management Service’s (MMS) Mr. Alex Alvarado, FDC is informing MMS that FDC will not object to PennzEnergy’s proposed pipeline route, provided that PennzEnergy agrees to the above-stated FDC requirements.

If PennzEnergy is agreeable to the foregoing, please have the proper authority indicate acceptance thereof by dating, executing and returning one of the originals of this letter to my attention at the above address.

Best Regards,

FLEXTREND DEVELOPMENT COMPANY, L.L.C.

[Signature]

Bart Heijermans,
Vice President

Block Xing Agree.doc
cc: Alex Alvarado  
Minerals Management Service  
1201 Elmwood Park Blvd.  
New Orleans, LA 70123-2394

AGREED TO ACCEPTED this ____________ day of ____________, 1999.

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

By ________________

Name ________________

Title ________________

Date ________________

APPROVED: Flextrend Development Company, L.L.C.

By: ________________

Name: ________________

Title: ________________
June 28, 1999

PennzEnergy Exploration and Production, L.L.C.
c/o J. Connor Consulting, Inc.
Attn: Ms. Wendy DesOrmeaux
16225 Park Ten Place, Suite 500
Houston, TX 77084

Dear Ms. DesOrmeaux:

OFFSHORE, GULF OF MEXICO
GARDEN BANKS AREA, BLOCKS 73 & 72
POSEIDON 16" PIPELINE
SUBSEA PL XING; FILE NO. 99-81

This will respond to PennzEnergy Exploration and Production, L.L.C.'s (PENNZENERGY) letter dated May 13, 1999 pertaining to PENNZENERGY's plans to install a single 6 inch bulk oil pipeline with associated umbilical through Blocks 161, 117, 73 and 72 in the Garden Banks Area.

Initial review of PENNZENERGY's planned construction of a 6 inch bulk oil pipeline will not cross Equilon's Poseidon 16". If, however, PENNZENERGY's proposed route changes in such a way that Equilon's pipeline will be impacted, Equilon has no objection to PENNZENERGY's crossing plans as proposed provided PENNZENERGY agrees to and complies with the following Equilon requirements:

1. The crossing will be accomplished in accordance with the drawings labeled EXHIBIT "A", attached hereto and made a part hereof.

2. At least seven days prior to commencing any crossing activity in the immediate vicinity of the captioned pipeline, PENNZENERGY will notify Magellan Marine Inc.'s John Naylon or Michael James at (504) 835-3009.
so that a Magellan Marine employee, on Equilon's behalf, can be present during the crossing operation.

3. PENNZENERGY agrees that Magellan Marine; or its designated alternate will be afforded the opportunity to be present on board the lay barge during PENNZENERGY's construction of its pipeline over Equilon's pipeline.

4. PENNZENERGY'S anchor-handling tug will have a satellite position system accurate to within five meters. When setting and weighing anchors, anchor positions will be plotted to determine the extent of anchor slippage. All anchors placed across the Equilon pipeline will be located a minimum horizontal distance of 1,000 feet from Equilon's pipeline, and all anchors not crossing the Equilon pipeline will be located a minimum horizontal distance of 800 feet from Equilon's pipelines. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally. (This paragraph is not applicable if dynamically positioned vessels (DPV) are utilized during the crossing operation).

5. Whether PENNZENERGY uses divers or a remote operated vehicle (ROV) to inspect the crossing location, PENNZENERGY agrees that Magellan Marine or its designated alternate will be notified at least seven days prior to inspection operations and will be given the opportunity to be present on board the vessel during the periods of diver and/or ROV inspection.

6. Within 90 days following completion of construction of the PENNZENERGY pipeline across Equilon's pipeline PENNZENERGY will furnish to Equilon, at the above address, an "as-built" drawing of the crossing.

7. Should Paragraph #4 be applicable, within 90 days following completion of construction, PENNZENERGY will furnish to Equilon, at the above address, anchor coordinates drawings showing the locations where all anchors were set and picked up within 1,000 feet of
Equilon's pipeline which drawings will be used to show if anchor slippage has occurred which may endanger the Equilon pipeline. The anchor locations will also be shown in a table on the as-built drawings.

8. PENNZENERGY shall defend, indemnify and hold harmless Equilon, its associated and affiliated companies, its and their agents, employees, officers, directors, insurers, successors and assigns from and against any loss, damage, claim, suit liability, judgment and expense (including attorneys' fees and other costs of litigation), and any fines, penalties and assessments arising out of injury, disease or death of persons (including that of the employees of PENNZENERGY or Equilon or their contractors and subcontractors), damage to or loss of any property (including that of PENNZENERGY or Equilon or their contractors and subcontractors), lost product and/or lost business due to interference with Equilon's pipelines, and any environmental harm, or damages to natural resources, caused by, arising out of or resulting from, either directly or indirectly, the activities of PENNZENERGY and its contractors in the construction, operation and maintenance of PENNZENERGY's pipeline across the Equilon pipeline, but excepting any injury, death or damages caused by the sole negligence of Equilon.

9. This conditional pipeline crossing covers only PENNZENERGY's proposed construction of a 6 inch bulk oil pipeline with associated umbilical across Equilon's Poseidon 16" crude oil pipeline, and in no way implies Equilon's consent to PENNZENERGY's crossing of other blocks that may be leased by Equilon or any of its associated or affiliated companies.

By copy of this letter to Minerals Management Service's (MMS) Mr. D. C. Howard, Equilon is informing MMS that Equilon will not object to PENNZENERGY's proposed pipeline crossing in Garden Banks Area, Blocks 73 and 72, provided PENNZENERGY agrees to the above-stated Equilon requirements.
If PENNZENERGY is agreeable to the foregoing, please have the proper authority indicate acceptance thereof by dating, executing and returning one of the originals of this letter to my attention at the above address. If no response is received within thirty (30) days, this agreement will be null and void.

Very truly yours,

EQUILON PIPELINE COMPANY LLC

[Signature]
C. A. Pulpan
Sr. Land Agent

AGREED TO AND ACCEPTED THIS
______ DAY OF __________, 1999.

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

[Signature]

cc: Minerals Management Service
D. C. Howard

Magellan Marine
Michael James
John Naylon
CONSTRUCTION DETAILS:

1. 18" MINIMUM SEPARATION REQUIRED.
2. THE EXISTING PIPELINE MUST BE SUPPORTED AT THE CROSSING. NO CROSSING SHALL BE INSTALLED OVER AN UNSUPPORTED SHELL PIPELINE.
3. 2 X 20' SUBMAR MATT WITH TUFF-N-HUFF ABRASION PROTECTION OR EQUIVALENT TO BE USED IN CONTACT WITH EITHER PIPELINE.
4. SUBMAR MATT MAY BE PLACED PARALLEL OR PERPENDICULAR OVER THE EXISTING SHELL PIPELINE. ASSURANCE IS REQUIRED THAT THE MATT WILL REMAIN IN PLACE.
5. GAP MATT TO BE INSTALLED AS PER AMS AND OPERATOR REQUIREMENTS.

PIPELINE CROSSING DETAILS
POST CROSSING REQUIREMENTS
FOR CROSSINGS > 200 FSW

NOTES:
1. REQUESTS FOR VARIANCE MUST BE PRE-APPROVED BY SHELL ENGINEERING OR MAGELLAN MARINE INSPECTOR.
2. SAND & CEMENT MIXTURE SHALL BE 3 TO 1 PARTS BY VOLUME. BASE SHALL EREQ THE ORIGINAL SHORELINE MATERIAL WITH A PLOTTING ACTION. AFTER PLACING THE BAG IT MUST BE CLOSED BY SEWING OR THE EQUIVALENT BUT NOT BY BIRCHING OR TYPING THE END. SIDE SLOPE SHALL BE MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL IN ALL DIRECTIONS.
June 28, 1999

U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: PennzEnergy Exploration and Production, L.L.C. Applications Dated May 13, 1999 for a Dual 6-Inch Bulk Oil Right-of-Way Pipelines (EAST/WEST) with Associated Control/Chemical Umbilical to be Installed in and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana (Segments No. 12244 and 12247)

Dear Mr. Barton:

By letter dated May 13, 1999, PennzEnergy Exploration and Production, L.L.C. (PennzEnergy), submitted applications to the Minerals Management Service covering the construction, maintenance and operation of dual 6-Inch bulk oil right-of-way pipelines with associated control/chemical umbilical to be installed in and/or through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

This letter is to serve notice that PennzEnergy Exploration and Production, L.L.C. will also be the designated operator of the above referenced right-of-way pipelines and associated umbilical.

Should you have any further requests or questions, please contact the undersigned or our regulatory consultant, J. Connor Consulting, Inc., Attention: Connie Goers (281) 578-3388.

Sincerely,

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

Chris Morris

CM:CJG

700 Milam Street • P. O. Box 4616 • Houston, Texas 77210-4616 • (713) 5460-6000 • Fax (713) 546-6639
June 25, 1999

Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: Application Dated May 13, 1999 for a 6-Inch Bulk Oil Right-of-Way Pipeline (WEST) with Associated Control/Chemical Umbilical to be Installed In and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area (Garden Banks 161 Subsea Development Prospect), OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana (Segment No. 12244)

Dear Mr. Barton:

By letter dated May 13, 1999, PennzEnergy Exploration and Production, L.L.C. (PennzEnergy), submitted an application covering the construction, maintenance and operation of an 6-Inch bulk oil right-of-way pipeline with associated control/chemical umbilical to be installed in and/or through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

In further support of the referenced application, enclosed in quadruplicate are updated route maps depicting the correct direction of flow for the control/chemical umbilical, as well as a diskette of the proposed route.

Should you have any further requests or questions, please contact the undersigned or our regulatory consultant, J. Connor Consulting, Inc., Attention: Connie Goers or Wendy DesOrmeaux at 16225 Park Ten Place, Suite 500, Houston, Texas 77084, (281) 578-3388.

Sincerely,

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

Chris Morris

CM:CJG
Enclosures

700 Milam Street ● P. O. Box 4616 ● Houston, Texas 77210-4616 ● (713) 5460-6000 ● Fax (713) 546-6639
PROPOSED
4" ELECTROHYDRAULIC UMBILICAL

PENNZ ENERGY
COMPANY

PROPOSED
4" ELECTROHYDRAULIC UMBILICAL
BLK 161-WELL #1 F.F.T. to BLK 72-STR'A'-BOR
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE
& ASSOCIATES, INC.

GEOGRID DATUM: NAD 1927
PROJECTION: U.T.M. 15
GRID UNITS: FEET

SCALE
0
30,000'

IN FEET

Job No.: 99-1299 Date: 4/13/99
Drew: MOD
Chart: Of:

Dwgfiles: H:\1999\997097\CAD\GARNE\7097COVR

BEST AVAILABLE COPY
PROPOSED ELECTROHYDRAULIC UMBILICAL

TOTAL LENGTH = 38,993.03' = 7.39 MI.

GB161
OCS-G-13367
PENNZENERGY

GB162

FAIRWAY

GB117
OCS-G-12631
FLEXTREND

GB118

MATCH LINE

FAIRWAY

62+90.46
Block Line Crossing
X = 1,799,822.70'
Y = 10,105,920.00'
Lat. 27° 50' 23.336"N
Lon. 92° 30' 17.960"W

WELL #1

0+00.00
GB 161
Well #1 F.E.T.
X = 1,800,635.04'
Y = 10,099,725.31'
Lat. 27° 49' 51.342"N
Lon. 92° 30' 11.765"W

BEST AVAILABLE COPY

PLAN

SCALE IN FEET

FAIRWAY

32+96.68
Fairway Crossing
X = 1,800,035.68'
Y = 10,102,970.71'
Lat. 27° 50' 23.836"N
Lon. 92° 30' 17.960"W

32+96.68
Enter Fairway

GB161 Well #1 F.E.T.

940'

-980'

-1020'

-1060'

-1100'

-1140'

-1180'

-1220'

FAIRWAY

Profiles

H/W UNITS

100'

0'

PROPOSED UMBILICAL

H/W UNITS

100'

0'

RIGHT-OF-WAY DETAIL

STATE OF LOUISIANA

Robert J. Champagne
Reg. No. 309
Registered Professional Land Surveyor

PENNZENERGY COMPANY

PROPOSED

4" ELECTROHYDRAULIC UMBILICAL

BLOCK 161 WELL #1 F.E.T. to BLK 72 STR. "A"-BOR
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE & ASSOCIATES, INC.

GEOGRAPHIC DATUM: NAD 1983
PROJECTION: U.T.M. 15
GRID UNITS: FEET
SCALE AS SHOWN

Job No.: 99-1269  Date: 4/15/99  Drawn: WJK  Chart: 01

Printed: 6/23/99  Dwgfile: H:\1999\897097\CAD\MARINE\897097

2 5
June 14, 1999

Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Mr. Michael Barton
Mail Stop 5232

RE: Application Dated May 13, 1999 for a 6-Inch Bulk Oil Right-of-Way Pipeline (WEST) with Associated Control/Chemical Umbilical to be Installed In and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area (Garden Banks 161 Subsea Development Prospect), OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana (Segment No. 12244)

Dear Mr. Barton:

By letter dated May 13, 1999, PennzEnergy Exploration and Production, L.L.C. (PennzEnergy), submitted an application covering the construction, maintenance and operation of an 6-Inch bulk oil right-of-way pipeline with associated control/chemical umbilical to be installed in and/or through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana.

In further support of the referenced application and our telephone conversation call this past week, enclosed in quadruplicate are updated route maps depicting the minor route change in Garden Banks Block 73 as requested by Mariner Energy, Inc., as well as a new diskette depicting the current proposed route coordinates.

Should you have any further requests or question, please contact the undersigned or our regulatory consultant, J. Connor Consulting, Inc., Attention: Wendy DesOrmeaux at 16225 Park Ten Place, Suite 500, Houston, Texas 77084, (281) 578-3388.

Sincerely,

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

Chris Morris

CM:CJG
Enclosures

700 Milam Street • P. O. Box 4616 • Houston, Texas 77210-4616 • (713) 5460-6000 • Fax (713) 546-6639
**GB117**

**OCS-G-12631**

**FLEXTREND**

**PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE**

**GB161**

**OCS-G-13367**

**PENNZENERGY**

**PLAN**

**PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE**

**PENN Z ENERGY COMPANY**

**PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE**

**BLOCK 161-WEY 1 F.E.T. to BLK 72-STR. "A" GARDEN BANKS AREA GULF OF MEXICO**

**JOHN E. CHANCE & ASSOCIATES, INC.**

**GEODETIC DATUM: NAD 1927**

**PROJECTION: U.T.M. 15**

**SCALE AS SHOWN**

**Job No.: 99-1269**

**Drawn: W.K.**

**Chart: O1**

**Dwg/Flr #: 1999/997057/CAD/WARK/997087**

**Printed: 8/21/99**
PROPOSED 4" ELECTROHYDRAULIC UMBILICAL
June 4, 1999

PennzEnergy Exploration and Production, L.L.C.
c/o J. Connor Consulting, Inc.
Attn: Ms. Wendy DesOrmeaux
16225 park Ten Place, Suite 500
Houston, TX  77084

Dear Ms. DesOrmeaux:

OFFSHORE, GULF OF MEXICO
GARDEN BANKS AREA, BLOCKS 73 & 72
POSEIDON 16" PIPELINE
SUBSEA PL XING; FILE NO. 99-81

This will respond to PennzEnergy Exploration and Production, L.L.C.'s (PENNZENERGY) letter dated May 13, 1999 pertaining to PENNZENERGY's plans to install a single 6 inch bulk oil pipeline with associated umbilical through Blocks 161, 117, 73 and 72 in the Garden Banks Area.

Initial review of PENNZENERGY's planned construction of a 6 inch bulk oil pipeline will not cross Equilon's Poseidon 16". If, however, PENNZENERGY's proposed route changes in such a way that Equilon's pipeline will be impacted, Equilon has no objection to PENNZENERGY's crossing plans as proposed provided PENNZENERGY agrees to and complies with the following Equilon requirements:

1. The crossing will be accomplished in accordance with the drawings labeled EXHIBIT "A", attached hereto and made a part hereof.

2. At least seven days prior to commencing any crossing activity in the immediate vicinity of the captioned pipeline, PENNZENERGY will notify Magellan Marine Inc.'s John Naylon or Michael James at (504) 835-3009 so that a Magellan Marine employee, on Equilon's behalf, can be present during the crossing operation.
3. PENNZENERGY agrees that Magellan Marine or its designated alternate will be afforded the opportunity to be present on board the lay barge during PENNZENERGY's construction of its pipeline over Equilon's pipeline.

4. PENNZENERGY'S anchor-handling tug will have a satellite position system accurate to within five meters. When setting and weighing anchors, anchor positions will be plotted to determine the extent of anchor slippage. All anchors placed across the Equilon pipeline will be located a minimum horizontal distance of 1,000 feet from Equilon's pipeline, and all anchors not crossing the Equilon pipeline will be located a minimum horizontal distance of 800 feet from Equilon's pipelines. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally. (This paragraph is not applicable if dynamically positioned vessels (DPV) are utilized during the crossing operation).

5. Whether PENNZENERGY uses divers or a remote operated vehicle (ROV) to inspect the crossing location, PENNZENERGY agrees that Magellan Marine or its designated alternate will be notified at least seven days prior to inspection operations and will be given the opportunity to be present on board the vessel during the periods of diver and/or ROV inspection.

6. Within 90 days following completion of construction of the PENNZENERGY pipeline across Equilon's pipeline PENNZENERGY will furnish to Equilon, at the above address, an "as-built" drawing of the crossing.

7. Should Paragraph #4 be applicable, within 90 days following completion of construction, PENNZENERGY will furnish to Equilon, at the above address, anchor coordinates drawings showing the locations where all anchors were set and picked up within 1,000 feet of Equilon's pipeline which drawings will be used to show if anchor slippage has occurred which may endanger the
Equilon pipeline. The anchor locations will also be shown in a table on the as-built drawings.

8. PENNZENERGY shall defend, indemnify and hold harmless Equilon, its associated and affiliated companies, its and their agents, employees, officers, directors, insurers, successors and assigns from and against any loss, damage, claim, suit liability, judgment and expense (including attorneys' fees and other costs of litigation), and any fines, penalties and assessments arising out of injury, disease or death of persons (including that of the employees of PENNZENERGY or Equilon or their contractors and subcontractors), damage to or loss of any property (including that of PENNZENERGY or Equilon or their contractors and subcontractors), lost product and/or lost business due to interference with Equilon's pipelines, and any environmental harm, or damages to natural resources, caused by, arising out of or resulting from, either directly or indirectly, the activities of PENNZENERGY and its contractors in the construction, operation and maintenance of PENNZENERGY's pipeline across the Equilon pipeline.

9. This conditional pipeline crossing covers only PENNZENERGY's proposed construction of a 6 inch bulk oil pipeline with associated umbilical across Equilon's Poseidon 16" crude oil pipeline, and in no way implies Equilon's consent to PENNZENERGY's crossing of other blocks that may be leased by Equilon or any of its associated or affiliated companies.

By copy of this letter to Minerals Management Service's (MMS) Mr. D. C. Howard, Equilon is informing MMS that Equilon will not object to PENNZENERGY's proposed pipeline crossing in Garden Banks Area, Blocks 73 and 72, provided PENNZENERGY agrees to the above-stated Equilon requirements.

If PENNZENERGY is agreeable to the foregoing, please have the proper authority indicate acceptance thereof by dating, executing and returning one of the originals of this letter to my attention at the above address. If no response is received within thirty (30) days, this agreement will be null and void.
Very truly yours,

EQUILON PIPELINE COMPANY LLC

Karen L. Jones
Land and Permits

Enclosures

AGREED TO AND ACCEPTED THIS
_______ DAY OF ____________, 1999.

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

cc: Minerals Management Service
    D. C. Howard

    Magellan Marine
    Michael James
    John Naylon
EXISTING PIPELINE

TWO 8" X 20' SUBMAR MATS WITH TUFF-N-UFF OR EQUIVALENT ABRASION PROTECTION REQUIRED WHERE SUBMAR MATS CONTACT EITHER PIPELINE. 18" MINIMUM TOTAL SEPARATION.

18" MINIMUM

NATURAL BOTTOM

PIPELINE

REQUESTS FOR VARIANCE MUST BE PRE-APPROVED BY SHELL ENGINEERING OR MAGELLAN MARINE INSPECTOR. D & C CEMENT MIXTURE SHALL BE 3 TO 1 PARTS BY WEIGHT. BAGS SHALL BE MADE OF CLOTH AND WOVEN TOGETHER WITH A WICKING ACTION. AFTER FILLING THE BAG IT SHALL BE CLOSED BY SEWING OR THE EQUIVALENT BUT NOT BY BUNCHING OR TYING THE END. SIDE SLOPE SHALL BE MINIMUM OF 3 HORIZONTAL VERTICAL IN ALL DIRECTIONS.
June 4, 1999

PennzEnergy Exploration and Production, L.L.C.
C/O J. Connor Consulting, Inc.
16225 Park Ten Place
Suite 500
Houston, Texas 77084

Attention: Ms. Wendy DesOrmeaux

Reference: PennzEnergy’s Proposed Installation of a 6-inch Bulk Oil Pipeline with Associated Umbilical from Block 161 to Block 72 in the Garden Banks, Area in the Gulf of Mexico.

Dear Madam:

Flextrend Development Company, L.L.C. (“FDC”) was notified by your May 13, 1999 transmittal of PennzEnergy Exploration and Production, L.L.C. (“PennzEnergy”) plan to install the above referenced pipeline and umbilical. This pipeline crosses FDC’s Leases in Garden Banks Block 72 and 117 and parallels FDC’s Right of Way OCS-G 15983 in Garden Banks Blocks 72, 73 and 117. FDC has no objection to the installation of PennzEnergy’s pipelines as proposed in your above mentioned letter, subject to the following conditions:

1. PennzEnergy shall notify the undersigned at (713) 420-2131 at lease seven (7) days in advance of installing its pipeline crossing the referenced lease. PennzEnergy shall reimburse FDC for the employment of a representative on board PennzEnergy’s installation vessel to witness the complete pipeline installation.

2. PennzEnergy agrees that all work done on the referenced leases and in the vicinity of the referenced Right of Way shall be done in accordance with accepted industry practice and all applicable permits and governmental regulations.

3. Prior to move in of marine construction equipment, PennzEnergy will physically locate and buoy FDC’s existing pipelines through the potential anchor spread corridors. Such buoys will be set at a maximum of 1,000 feet spacing along the pipelines and will be maintained for so long as the marine construction equipment is in the area. This is not required if a “real time positioning system” is on the marine construction equipment, which includes the anchor-handling tug.
4. PennzEnergy’s anchor-handling tug will have a satellite positioning system accurate to within five meters. When setting and weighing anchors, anchor position will be plotted to determine the extent of anchor slippage. All anchors placed across FDC’s pipelines will be located a minimum perpendicular distance of 1,000 feet from FDC’s pipelines, and all anchors not crossing FDC’s pipelines will be located a minimum perpendicular distance 500 feet from FDC’s pipelines. All anchors shall be weighed vertically from their stationary positions to a height of not less than one-half the distance between the ocean floor and sea level before the anchors move laterally.

5. PennzEnergy agrees to furnish FDC with an “as built” plat to scale of 1” - 1000’ within 60 days of completion of the pipeline installation.

6. PennzEnergy shall defend, indemnify and hold harmless FDC, its parent, associated and affiliated companies, its and their agents, employees, officers, directors, insurers, successors and assigns from and against any loss, damage, claim, suit liability, judgement and expense (including attorneys, fees and other costs of litigation), and any fines, penalties and assignments arising out of injury, disease or death of persons (including that of employees of PennzEnergy or FDC or their contractors and subcontractors), damage to or loss of any property (including that of PennzEnergy or FDC or their contractors and subcontractors), lost product and/or lost business due to interference with FDC’s pipelines, and any environmental harm, or damages to natural resources, caused by, arising out of or resulting from, either directly or indirectly, the activities of PennzEnergy and its contractors in the construction, operation and maintenance of PennzEnergy’s pipeline and umbilical in the vicinity of FDC’s pipelines, but excepting any injury, death or damages caused by the sole negligence of FDC.

By copy of this letter to Minerals Management Service’s (MMS) Mr. Alex Alvarado, FDC is informing MMS that FDC will not object to PennzEnergy’s proposed pipeline route, provided that PennzEnergy agrees to the above-stated FDC requirements.

If PennzEnergy is agreeable to the foregoing, please have the proper authority indicate acceptance thereof by dating, executing and returning one of the originals of this letter to my attention at the above address.

Best Regards,

FLEXTREND DEVELOPMENT COMPANY, L.L.C.

[Signature]

Bart Heijermans,
Vice President
cc: Alex Alvarado  
Minerals Management Service  
1201 Elmwood Park Blvd.  
New Orleans, LA  70123-2394

AGREED TO ACCEPTED this___________day of ____________, 1999.

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

By _________________

Name _________________

Title _________________

Date _________________

APPROVED: Flextrend Development Company, L.L.C.

By: __________________

Name: BAER HEISERMAN

Title: Vice President.
TO: Minerals Management Service  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123

ATTN: Michael Barton

RE: PennzEnergy Exploration and Production, L.L.C.  
6" Bulk Oil Right-of-Way Pipeline Applications  
Garden Banks 161 - East (Segment No. 12247, R-O-W G-21049)  
Garden Banks 161 - West (Segment No. 12244, R-O-W G-21046)

We are sending you the following information:

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<tbody>
<tr>
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<td>Revised Cover Page of Applications</td>
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</table>

THESE ARE SENT FOR THE PURPOSE INDICATED BELOW:

( X ) For Approval          ( ) For Revision as Needed
( ) For Review and Comments ( ) For Execution
( X ) For Your Files and Use ( ) For Recording

REMARKS: Michael,

Pursuant to your request, attached are 2 copies of a revised cover page for the above-referenced pipeline applications reflecting the addition of the return address and confirmation of designated operator. Please let me know if you need any additional information.

Signed Wendy DesOrmeaux
May 13, 1999

Mr. Donald C. Howard  
Regional Supervisor  
Office of Field Operations  
U. S. Department of the Interior  
Minerals Management Service  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Attention: Mr. Alex Alvarado  
Mail Stop 5232

RE: Application for a 6-Inch Bulk Oil Right-of-Way Pipeline (WEST) with Associated Control/Chemical Umbilical to be Installed In and/or Through Blocks 161, 117, 73 and 72, Garden Banks Area (Garden Banks 161 Subsea Development Prospect), OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana

Gentlemen:

Pursuant to the authority granted in Section 5 (e) of the Outer Continental Shelf Lands Act (67 Stat. 462) (43 U.S.C. 1331), as amended (92 Stat. 629), and in compliance with the regulations contained in Title 30 CFR, Part 250, Subpart J, PennzEnergy Exploration and Production, L.L.C. (PennzEnergy), as designated applicant/operator of the subject pipeline, is filing this application in quadruplicate (original and three copies) for a right-of-way easement two hundred feet (200') in width for the construction, maintenance and operation of an 6-Inch bulk oil right-of-way pipeline with associated control/chemical umbilical to be installed in and/or through Blocks 161, 117, 73 and 72, Garden Banks Area, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana. PennzEnergy agrees that said right-of-way, if approved, will be subject to the terms and conditions of said regulations.

The proposed pipeline will be used to transport bulk oil from PennzEnergy's proposed Flowline End Termination (FET) in Garden Banks Block 161 (Lease OCS-G 13367) to Flextrend Development Company, L.L.C. (Flextrend's) existing Platform "A" in Garden Banks Block 72 (Lease OCS-G 13363). A separate control/chemical injection umbilical will also be installed along the approximate route of the right-of-way pipeline, originating at the host platform and terminating at the applicable Umbilical Termination Structure (UTS). An additional application is being submitted under separate cover which provides for the 6" rigid jumper between the subsea well head (Lease OCS-G 13367, Subsea Well No. 001) and the FET, both being located in Garden Banks Block 161.
May 13, 1999

Mr. Donald C. Howard
Regional Supervisor
Office of Field Operations
U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

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Mail Stop 5232

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The proposed pipeline/umbilical route will cross a designated shipping fairway in Garden Banks Blocks 161 and 117. A separate application is being submitted to the U. S. Army Corps of Engineers for the portion of this pipeline/umbilical route within the designated shipping fairway.

Water depths along the proposed pipeline/umbilical route range from 1015 feet in Garden Banks Block 161 at the subsea well, to 520 feet at the host platform in Garden Banks Block 72. Due to the water depths along the proposed route, the pipeline/umbilical will be laid on the seafloor bottom.

The proposed pipeline route will cross a proposed fiber optic cable within the area, and will parallel the Flextrend 18-Inch and two 3-Inch umbilicals. These lines lie to the southwest about 300 feet from the proposed route at the northern end and 600 feet from the proposed route at the southern end. Additionally, the proposed pipeline/umbilical may cross a fiber optic cable in Garden Banks Block 161 which is being proposed by Petroleum Communication, Inc.

The pipeline will be installed by Global’s “Chickasaw” reel lay barge to the wellhead area. The pipeline and riser system will be hydrotested from the host platform after connection of the pipeline to the riser. An ROV will be used to install the rigid jumper. The umbilical will be installed utilizing an Oceaneering intervention type vessel. Installation will start with pull-in to an existing j-tube on the host platform then lay away from the platform to the target area at the wellhead. The umbilical will be installed from the DP DSV initiating at the wellhead with pull-in at the platform.

The proposed construction operations will be supported by an ROV/Survey vessel, a crewboat and tugboat. The ROV/Survey vessel and tugboat will remain on location during the duration of the project. The crewboat will make approximately five (5) trips from the onshore facility located in Intracoastal City, Louisiana.

PennzEnergy anticipates commencing pipeline and umbilical installation as early as July 9, 1999 and August 20, 1999, respectively. Overall completion of the project, including pipeline hook-up and testing, is estimated at 30 days. Pre-installation of crossings will occur prior to umbilical and pipeline installation.

This application (and any amendments made hereto) is made with our full knowledge and concurrence with the OCS Lands Act (43 U.S.C. 1331, et. seq.), as amended (P.L. 95-372), including the following: Sec. 5(e) addressing pipeline rights-of-way, requirements of the Federal Energy Regulatory Commission relating to notice of hearing, transportation and purchase of oil and gas without discrimination; Sec. 5(f)(1) addressing operation of pipelines in accordance with competitive principles, including open and nondiscriminatory access to both owner and non-owner shippers; Sec. 5(f)(2) which may allow exemption of the requirements in Sec. 5(f)(1); Sec. 5(e) addressing the assuring of maximum environmental protection, including the safest practices for pipeline installation; and Sec. 5(f)(1)(B) which may require expansion of throughput capacity of any pipeline except for the Gulf of Mexico or the Santa Barbara Channel.
Additionally, PennzEnergy expressly agrees that if any site, structure, or object of historical or archaeological significance should be discovered during the conduct of any operations within the permitted right-of-way, we shall report immediately such findings to the Director, Gulf of Mexico OCS Region, and make every reasonable effort to preserve and protect the cultural resource from damage until said Director has given directions as to its preservation.

In accordance with applicable regulations, PennzEnergy has forwarded information regarding the proposed project by certified mail, return receipt requested, to each designated oil and gas lease operator, right-of-way or easement holder whose lease, right-of-way or easement is so affected. A list of such designated operators, right-of-way or easement holders is included as Attachment "A" and copies of the return receipts showing date and signature as evidence of service upon such operators, right-of-way or easement holders will be forwarded to your office when received.

In order to expedite the permit process, PennzEnergy has requested a letter from the operator, right-of-way or easement holder expressing no objection to the proposed project. When obtained, these letters will be forwarded to your office. The proposed right-of-way does not adjoin or subsequently cross state submerged lands.

PennzEnergy agrees to be bound by the foregoing regulations, and further agrees to comply with the applicable stipulations as set forth in Title 30 CFR 250 (Subpart J) and that certain Letter to Lessees dated April 18, 1991.

In support of our application and for your review and use, the following maps, drawings and documents are enclosed herewith and made a part hereof:

1. Originally signed copy of Nondiscrimination in Employment Stipulation is attached to each copy of the application.
2. Designated Oil & Gas Lease Operators and Right-of-Way Holders (Attachment "A")
3. General Pipeline Information & Calculations
4. Umbilical Information
5. Departure Requests
6. Vicinity Map and Proposed Pipeline Route Maps (Sheets 1 through 5)
7. Vicinity Map and Proposed Umbilical Route Maps (Sheets 1 through 5)
8. Pipeline/Platform Safety Flow Schematic (Drawing No. PEN-20047-0016)
9. PetroCom Cable Crossing Schematic (Drawing No. PEN-20047-0017)
10. Jacket Elevation (Drawing No. 5104)
11. J-Tube Section and Details (Drawing No. 5149)
12. Preliminary Field Layout (Drawing No. 20047-0001)
13. Well Layout with Flowline Termination Sleds (Drawing No. 20047-0003 and 0004)
14. Flowline End Termination Sled General Assembly (Drawing No. 20047-0005)
15. Oil Spill Financial Responsibility Worst-Case Discharge Calculations
16. John E. Chance & Associates, Inc. Pipeline Route Pre-Lay Survey Report (3 Copies) and Diskette (1 Copy)

15. Check in the amount of $2470.00 of which, $2350.00 covers the application fee and $120.00 covers the first year rental on 7.76 miles of right-of-way

For more information regarding this application, please contact:

Wendy DesOrmeaux
J. Connor Consulting, Inc.
16225 Park Ten Place, Suite 500
Houston, Texas 77084
Telephone: (281) 578-3388

"PennzEnergy Exploration & Production, L.L.C. hereby agrees to keep open at all reasonable times for inspection by the Minerals Management Service, the area covered by this right-of-way and all improvements, structures, and fixtures thereon and all records relative to the design, construction, operation, maintenance, and repairs, or investigations on or with regard to such area."

Please refer to your New Orleans Miscellaneous File No. 2332 for a copy of a resolution approved by the Board of Directors authorizing the undersigned to sign for and on behalf of PennzEnergy Exploration and Production, L.L.C.

PennzEnergy Exploration and Production, L.L.C. has an approved $300,000 Right-of-Way Grant Bond on file with MMS, covering installation of right-of-way pipelines in Federal Waters, Gulf of Mexico, and additionally, agrees to modify our Regional Oil Spill Response Plan to include said pipeline at the next scheduled update.

In accordance with regulations contained in Title 30 Part 253 and that certain Notice to Lessees (NTL) 99N-01, PennzEnergy will be submitting an application to include the proposed right-of-way pipeline under the current Oil Spill Financial Responsibility (OSFR) Application on file with the Minerals Management Service.
PennzEnergy Exploration and Production, L.L.C.
Minerals Management Service
6-Inch Bulk Oil R-O-W Pipeline with Associated Umbilical
May 13, 1999

Page 5

If the above information meets with your approval, we would appreciate your issuing the necessary decision for the right-of-way at your earliest convenience. Inquiries concerning this application should be directed to our regulatory consultant, J. Connor Consulting, Inc., Attention: Wendy DesOrmeaux at 16225 Park Ten Place, Suite 500, Houston, Texas 77084, (281) 578-3388.

Sincerely,

PENNZENERGY EXPLORATION AND PRODUCTION, L.L.C.

William A. Van Wie
Senior Vice President and General Manager
Offshore

WAVW:CJG
Attachments and Enclosures
cc:

Flextrend Development Company, L.L.C.
1001 Louisiana Street, 26th Floor
Houston, Texas 77002
Attention: Mark Thompson
(Certified Mail No. P 556 294 470)

Mariner Energy, Inc.
580 WestLake Park Blvd., Suite 1300
Houston, Texas 77079
Attention: Wanda Hignight
(Certified Mail No. P 556 294 442)

Poseidon Oil Pipeline Company
1001 Louisiana Street, 26th Floor
Houston, Texas 77002
Attention: Bart Heijermans
(Certified Mail No. P 556 294 443)

Stingray Pipeline Company
One Allen Center
500 Dallas Suite 1000
Houston, Texas 77002
Attention: Linda Moore
(Certified Mail No. P 556 294 444)

Petroleum Communications, Inc.
5600 Northwest Central Drive
Suite 100
Houston, Texas 77092
Attention: John W. Payne
(Certified Mail No. Z 257 508 400)
**ATTACHMENT “A”**

The following Designated Oil & Gas Lease Operators and Right-of-Way Holders have been furnished information regarding the proposed pipeline installation by Certified Mail, Return Receipt Requested. *(Note: The status of block(s) listed below is current, per research of MMS records by J. Connor Consulting, Inc.)*

### GARDEN BANKS AREA

#### BLOCK 161

<table>
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<tr>
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<td>Petroleum Communications, Inc.</td>
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#### BLOCK 72

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<td>Poseidon Oil Pipeline Company</td>
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<tr>
<td>Stingray Pipeline Company</td>
<td>OCS-G 15993</td>
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</table>
UNITED STATES
DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE

NONDISCRIMINATION IN EMPLOYMENT

As a condition precedent to the approval of the granting of the subject pipeline right-of-way, the
grantee, PennzEnergy Exploration and Production, L.L.C. hereby agrees and consents to the
following stipulation which is to be incorporated into the application for said right-of-way.

During the performance of this grant, the grantee agrees as follows:

During the performance under this grant, the grantee shall fully comply with
paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended
(reprinted in 41 CFR 60-1.4(a)), which are for the purpose of preventing
discrimination against persons on the basis of race, color, religion, sex or national
origin. Paragraphs (1) through (7) of section 202 of Executive Order 11246, as
amended, are incorporated in this grant by reference.

________________________
Signature

May 13, 1999
Date
PENNZENERGY EXPLORATION AND PRODUCTION, L. L. C.

6-INCH BULK OIL & ASSOCIATED CONTROL/CHEMICAL UMBILICAL

GARDEN BANKS BLOCK 161, UMBILICAL TERMINATION STRUCTURE
FOR SUBSEA WELL NO. 001 TO
GARDEN BANKS BLOCK 72, PLATFORM A

DEPARTURE REQUESTS

1. PennzEnergy hereby requests a waiver from NTL 98-20, Section IV.B; which requires the buoying of all existing pipeline(s) and other potential hazards located within 150 meters (490) feet of the proposed operations. PennzEnergy will employ an on-board graphic system during the construction phase in lieu of utilizing buoys. PennzEnergy feels that the High Resolution Geophysical Survey Report prepared by John E. Chance & Associates for the proposed route, adequately outlines the area, whereby any potential hazards will be avoided.
PennzEnergy

Garden Banks Block 161 Development

MINERALS MANAGEMENT SERVICE (MMS)

Permit Application Document

PN-HC-122-413, Rev. 1

Project #20,047
20th April 1999

Mentor Subsea technology services, Inc.

801 N. Eldridge
Houston, Texas 77079
Telephone: 281/870-5443
Facsimile: 281/870-5324
1.0 INTRODUCTION

1.1 Project Overview

PennzEnergy has two (2) subsea wells in 972 ft water depth in Garden Banks Block 161 in the Gulf of Mexico. PennzEnergy plans to produce the two (2) wells through two (2) 6.625” O.D. x 0.718” W.T. API 5L X65 flowlines insulated with polypropylene foam to Flextrend Development Company’s Garden Banks Block 72 platform, in 520 ft water depth approximately 7.78-miles away. The pipelines will board the platform as 6.625” O.D. x 0.864” W.T. API 5L X65 risers through existing J-tubes. At the subsea end, the flowlines will be brought together in a single Flowline End Termination (FET) manifold with round-trip pigging capability. As production from the two wells diminishes, PennzEnergy intends to complete a third well, which will produce through one (1) of the 6.625” flowlines. The original two (2) wells will be commingled and produced through the remaining 6.625” flowline. Figure PEN-20047-0001, in Appendix B, illustrates the planned field layout.

The maximum shut-in-wellhead-pressure (SIWHP) is 8,281 psi. The maximum flowline operating temperature is 163-deg Fahrenheit. The ambient temperature at the deepest location along the route (1,200 ft) is 48° Fahrenheit. For short periods during initial start up, the temperature inside the pipe close to the subsea wells will be as low as (-) 62° Fahrenheit.

1.2 Scope of Document

This document contains the technical specification for the Minerals Management Service’s permit submittal for the two (2) 6.625” OD Production Pipelines for the PennzEnergy Garden Banks Block 161 Project.

1.3 Abbreviations

Table below lists the abbreviations used.
<table>
<thead>
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<td>FBE</td>
<td>Fusion Bonded Epoxy</td>
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<td>FET</td>
<td>Flowline End Termination</td>
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<td>GB</td>
<td>Garden Banks</td>
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<td>Minerals Management Service</td>
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   1.2 Scope of Document ............................................................................................................. 2  
   1.3 Abbreviations ..................................................................................................................... 2  

2.0 TECHNICAL ATTACHMENT FOR MMS PERMIT SUBMITTAL ............................................. 4  

3.0 DRAWINGS ............................................................................................................................... 6  

APPENDICES  

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2.0 TECHNICAL ATTACHMENT FOR MMS PERMIT SUBMITTAL

The design criteria for the GB Block 161 two 6 inch NB production pipelines is as follows:

1. The description of the GB Block 161 two 6 inch NB production pipelines and risers is as follows:

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<th>Risers</th>
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<td>Material Grade</td>
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<td>API 5L X65</td>
</tr>
<tr>
<td>Coating Type</td>
<td>FBE (for corrosion)</td>
<td>FBE (for corrosion)</td>
</tr>
<tr>
<td></td>
<td>PP (for insulation)</td>
<td>PP (for insulation)</td>
</tr>
<tr>
<td>Coating Thickness</td>
<td>FBE=0.010 inch</td>
<td>FBE=0.010 inch</td>
</tr>
<tr>
<td></td>
<td>PP=1.516 inch</td>
<td>PP=1.555 inch</td>
</tr>
<tr>
<td>Weight in Air (Void)</td>
<td>57.33 lb/ft</td>
<td>65.60 lb/ft</td>
</tr>
<tr>
<td>Weight in Water (Void)</td>
<td>24.77 lb/ft</td>
<td>32.53 lb/ft</td>
</tr>
<tr>
<td>Weight in Water (Fluid Filled)</td>
<td>32.70 lb/ft</td>
<td>39.60 lb/ft</td>
</tr>
<tr>
<td>Start Coordinates</td>
<td>X=1,800,817.60 ft</td>
<td>X=1,784,404.28 ft</td>
</tr>
<tr>
<td></td>
<td>Y=10,099,773.39 ft</td>
<td>Y=10,132,932.62 ft</td>
</tr>
<tr>
<td>End Coordinates</td>
<td>X=1,784,404.28 ft</td>
<td>X=1,784,505.21 ft</td>
</tr>
<tr>
<td></td>
<td>Y=10,132,932.62 ft</td>
<td>Y=10,132,926.08 ft</td>
</tr>
</tbody>
</table>

2. Valves and flanges:

All valves and flanges will be 6 inch API 6A 10,000# rated.
3. Internal coating:

No internal coating is provided. The contents of the products will be monitored and preventive measures such as pigging, blowdown and/or inhibiting will be employed as necessary.

A corrosion allowance of 0.1181 inches is available for the line pipe. A corrosion allowance of 0.0787 inches is available for the riser pipe.

4. The specific gravity of the oil is anticipated to be around 0.865.

5. The maximum allowable operating pressure (MAOP) = 8,281 psi.

Design capacity of each pipeline = 25,000 bfpd.

Maximum Operating Pressure = 4,820 psi.

6. All pipeline interface facilities are rated for design pressure of 8,281 psi.

The pipelines are rated for design pressure of 8,281 psi and all ancillary components are rated to API 6A 10,000#.
3.0 DRAWINGS

The drawings listed below are contained within Appendix B.

<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Rev.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>John E. Chance &amp;</td>
<td></td>
<td>Proposed (West) 6 5/8&quot; Oil Production Flowline</td>
</tr>
<tr>
<td>Associates Inc.</td>
<td></td>
<td>Block 161-Well #1 F.E.T. To 72-Str 'A'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sheets 1, 2, 3, 4 and 5 of 5, 4\13\99</td>
</tr>
<tr>
<td>John E. Chance &amp;</td>
<td></td>
<td>Proposed (East) 6 5/8&quot; Oil Production Flowline</td>
</tr>
<tr>
<td>Associates Inc.</td>
<td></td>
<td>Block 161-Well #1 F.E.T. To 72-Str 'A'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sheets 1, 2, 3, 4 and 5 of 5, 4\13\99</td>
</tr>
<tr>
<td>PEN-20047-0001</td>
<td>E</td>
<td>Preliminary Field Layout</td>
</tr>
<tr>
<td>PEN-20047-0003</td>
<td>D</td>
<td>Well Layout Flowline Termination Sleds:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sheet 1</td>
</tr>
<tr>
<td>PEN-20047-0004</td>
<td>B</td>
<td>Well Layout Flowline Termination Sleds:</td>
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<tr>
<td></td>
<td></td>
<td>Sheet 2</td>
</tr>
<tr>
<td>PEN-20047-0005</td>
<td>1</td>
<td>Flowlines End Termination Sled General Assembly</td>
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<td>Sheet 1 of 9</td>
</tr>
<tr>
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<td>24&quot; J-Tubes Sections &amp; Details (Sheet No. 5149)</td>
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<td>PETRO-MARINE</td>
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<td>Jacket Elevation Column Row &quot;2&quot; (Sheet No. 5104)</td>
</tr>
</tbody>
</table>
APPENDICES

Appendix “A”  Calculations
Appendix “B”  Drawings
Appendix “A”

Calculations
Maximum Allowable Operating Pressure (MAOP)

The following formula has been used for MAOP estimations.

$$P = \frac{2s(t-CA)}{D} \quad \text{MAOP} = (P)(F)(E)(T)$$

Where:

- $P =$ Internal design pressure at 100% S.M.Y.S (psi).
- $s =$ Specified minimum yield strength.
- $t =$ Nominal wall thickness (inches).
- $CA =$ Corrosion allowance (inches).
- $D =$ Nominal pipe outside diameter (inches).
- $F =$ Construction design factor. 0.72 for submerged components and 0.60 for riser pipe.
- $E =$ Longitudinal joint factor. 1 for API 5L seamless (SMLS) and electric resistance welded (ERW) pipe as obtained from Table 841.115A of ANSI B31.8.
- $T =$ Temperature de-rating factor. 1 for temperature of 250 °F or less as obtained from Table 841.116A of ANSI B31.8.

Line Pipe

6.625 inch Outside Diameter and 0.718 inch Wall Thickness API 5L X65 SMLS

$$P = 2(65,000)(0.718-0.1181)/6.625 = 11,772 \text{ psi}$$

$$\text{MAOP} = (11,772)(0.72)(1)(1) = 8,476 \text{ psi}$$
Risers

6.625 inch Outside Diameter and 0.864 inch Wall Thickness API 5L X65 SMLS

\[
P = 2(65,000)(0.864-0.0787)/6.625 = 15,410 \text{ psi}
\]

MAOP = (15,410)(0.60)(1)(1) = 9,246 psi

Hydrostatic Test Pressure (HTP)

Hydrostatic Test Pressure is defined by the following formulae:

\[\text{HTP} = (1.25)(\text{Design Pressure})\]

Test medium will be sea water. Test period will be 8 hours.

Line Pipe and Risers

\[\text{HTP} = (1.25)(8281) = 10,351 \text{ psi}\]
The analysis concluded that a single anode geometry will suffice for all burial conditions, and that the anode spacing is also standard, typically at 1 anode every 12 pipe joints. Anode dimensions for a 10 and 20 year design life are presented below.

<table>
<thead>
<tr>
<th></th>
<th>10 Year Design Life</th>
<th>20 Year Design Life</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anode Alloy:</strong></td>
<td>Aluminum-Zinc-Indium, e.g. Galvalum III</td>
<td>Aluminum-Zinc-Indium, e.g. Galvalum III</td>
</tr>
<tr>
<td><strong>Anode Configuration</strong></td>
<td>Tapered Bracelet Anode</td>
<td>Tapered Bracelet Anode</td>
</tr>
<tr>
<td><strong>Nominal Alloy Weight:</strong></td>
<td>20 kg</td>
<td>32 kg</td>
</tr>
<tr>
<td><strong>Nominal Anode Length</strong></td>
<td>350 mm</td>
<td>325 mm</td>
</tr>
<tr>
<td><strong>Anode Thickness</strong></td>
<td>30 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td><strong>Anode ID</strong></td>
<td>238 mm</td>
<td>238 mm</td>
</tr>
<tr>
<td><strong>Anode Spacing</strong></td>
<td>12 pipe joints</td>
<td>12 pipe joints</td>
</tr>
</tbody>
</table>

With respect to cathodic protection of the J-tube, it is recommended that the J-tube annulus be sealed and filled with inhibitor to protect the J-tube internal surfaces, and that the flowlines be electrically isolated from both the topside piping and J-tube. Elsewhere within the flowline system, it is recommended that full electrical connectivity be maintained, from riser through to wellhead structure on the assumption that all components are cathodically protected in accordance with DnV RP B401 recommendations.
## Appendix “B”

### Drawings

<table>
<thead>
<tr>
<th>Description</th>
<th>Reference</th>
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<tr>
<td>Proposed (West) 6 5/8” Oil Production Flowline</td>
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<td>Blk 161-Well #1 F.E.T. To 72-Str ‘A’</td>
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<td>Proposed (East) 6 5/8” Oil Production Flowline</td>
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<tr>
<td>Preliminary Field Layout</td>
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<tr>
<td>Well Layout Flowline Termination Sleds:</td>
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<tr>
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<tr>
<td>Flowlines End Termination Sled General Assembly</td>
<td>PEN-20047-0005 1</td>
</tr>
<tr>
<td>Sheet 1 of 9</td>
<td></td>
</tr>
<tr>
<td>24” J-Tubes Sections &amp; Details (Sheet No. 5149)</td>
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</tr>
<tr>
<td>Jacket Elevation Column Row “2” (Sheet No. 5104)</td>
<td>PETRO-MARINE 3</td>
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UMBILICAL DESIGN INFORMATION

A single electro-hydraulic umbilical will be laid between the host platform and the subsea wells. The umbilical is comprised of ten 3/8" ID, 10,000 psi thermoplastic hoses (1 x high-pressure hydraulic supply, 2 x low-pressure hydraulic supply, 2 x methanol supply, 4 x inhibitor supply and 1 x annulus monitor/bleed) surrounding an electrical cable consisting of four #10 AWG twisted, shielded pairs (2 x power and 2 x communication). The hoses/cable will be housed in a thermoplastic sheath and double armored for protection and stability on the seabed.

The subsea end of the umbilical will terminate in an umbilical termination structure (UTS) that distributes the electrical power and signal and hydraulic and chemical injection supply between the trees/control pods. The UTS will be laid into a target box approximately 25 - 50 feet from the subsea wells. ROV installed flying leads will be used to connect the hydraulic/chemical injection supply lines and annulus monitor/bleed line to the subsea trees. Separate electrical flying leads will connect the UTS directly to the control pods on the trees.

Simultaneous to completion operations (after the trees are installed) the flowline jumpers and umbilical flying leads will be installed from the rig and connected between the trees, Flowline End Termination (FET) and UTS, respectively. The methanol, inhibitor and control system will be commissioned from the host platform. Pressure from the rig against the flowline isolation valves on the FET will be used to test the flowline jumpers.

The umbilical does not contain any spare lines, but the UTS is configured for four wells, such that there is a complete spare connection point for an umbilical jumper. In addition, all umbilical lines are the same size and pressure rating, and therefore any line can be used to spare any other line. The two low-pressure hydraulic supply lines are connected in parallel, but the system can operate on only one, if necessary. If the high-pressure line was damaged, one of the low-pressure lines could be used for the high-pressure line. The change can be made by retrieving the flying lead and reconnecting the individual hoses in the revised configuration. Similarly, the methanol lines, inhibitor lines and annulus monitor/bleed line can be used to spare each other, although in a slightly reduced capacity. The electrical cable in the umbilical and the electrical flying leads are fully redundant, having two pairs for power and two pairs for communication.
PENNZENERGY

Garden Banks Block 161 Development

Permit Application Document
For Electro-Hydraulic Umbilical

PN-HC-122-465 Rev. 0
Project #20,047
29 April 1999

Mentor Subsea
801 N. Eldridge
Houston, Texas 77079
Telephone: 281/870-5443
Facsimile: 281/870-5324
**Project #20,047**

<table>
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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Project Overview ......................................................... 2
1.2 Scope of Document .......................................................... 2
1.3 Abbreviations ................................................................... 3

2.0 TECHNICAL ATTACHMENT FOR MMS PERMIT SUBMITTAL .......... 4

3.0 DRAWINGS ....................................................................... 6

APPENDIX

Drawings'
1.0 INTRODUCTION

1.1 Project Overview

PennzEnergy has two (2) subsea wells in 972 ft water depth in Garden Banks Block 161 in the Gulf of Mexico. PennzEnergy plans to produce the two (2) wells through two (2) 6.625" O.D. x 0.718" W.T. API 5L X65 flowlines insulated with polypropylene foam to Flextrtrend Development, Company’s Garden Banks Block 72 platform, in 520 ft water depth approximately 7.5-miles away. The pipelines will board the platform as 6.625" O.D. x 0.864" W.T. API 5L X65 risers through existing J-tubes. At the subsea end, the flowlines will be brought together in a single Flowline End Termination (FET) manifold with round-trip pigging capability. As production from the two (2) wells diminishes, PennzEnergy intends to complete a third well which will produce through one (1) of the 6.625" flowlines. The original two (2) wells will be commingled and produced through the remaining 6.625" flowline. Figure PEN-20047-0001, in Appendix, illustrates the planned field layout.

The maximum shut-in-wellhead-pressure (SIWHP) is 8,281 psi. The maximum flowline operating temperature is 163-deg Fahrenheit. The ambient temperature at the deepest location along the route (1,200 ft) is 48° Fahrenheit. For short periods during initial start up, the temperature inside the pipe close to the subsea wells will be as low as (-) 62° Fahrenheit. Wax and hydrate inhibitors will be delivered to the wells from the host platform through an Electro-hydraulic Umbilical.

1.2 Scope of Document

This document contains the technical specification for the Minerals Management Service’s permit submittal for one (1) Nominal 4.4" OD Electro-hydraulic Umbilical for the PennzEnergy Garden Banks Block 161 Project.
### 1.3 Abbreviations

Table below lists the abbreviations used.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>GB</td>
<td>Garden Banks</td>
</tr>
<tr>
<td>FET</td>
<td>Flowline End Termination</td>
</tr>
<tr>
<td>GB</td>
<td>Garden Banks</td>
</tr>
<tr>
<td>MMS</td>
<td>Minerals Management Service</td>
</tr>
<tr>
<td>NB</td>
<td>Nominal Bore</td>
</tr>
<tr>
<td>OD</td>
<td>Outside Diameter</td>
</tr>
<tr>
<td>UTH</td>
<td>Umbilical Termination Head</td>
</tr>
<tr>
<td>UTM</td>
<td>Umbilical Transverse Mercator</td>
</tr>
<tr>
<td>WT</td>
<td>Wall Thickness</td>
</tr>
</tbody>
</table>
2.0 TECHNICAL ATTACHMENT FOR MMS PERMIT SUBMITTAL

The design criteria for the GB Block 161 Nominal 4.4" OD Electro-hydraulic Umbilical is as follows:

1. The route of the proposed Electro-hydraulic Umbilical, the water depth along the route, and the profile of the umbilical in relation to the natural bottom is shown on ‘4" Umbilical Alignment Sheets’, Drawing Number PEN-20047-0014, Sheets 1, 2 and 3 of 3 in Appendix.

2. The description of the GB Block 161 Electro-hydraulic Umbilical is as follows: A cross section of the Electro-hydraulic Umbilical is shown on Drawing No. 5011 in Appendix.

<table>
<thead>
<tr>
<th>Description</th>
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<tr>
<td>Inner Sheath Coating Type</td>
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</tr>
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<td>Inner Sheath Coating Thickness</td>
<td>0.130 inch</td>
</tr>
<tr>
<td>Outer Sheath Coating Type</td>
<td>Polyethylene</td>
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<tr>
<td>Outer Sheath Coating Thickness</td>
<td>0.160 inch</td>
</tr>
<tr>
<td>Weight in Air (Hoses filled, interstices dry)</td>
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</tr>
<tr>
<td>Weight in Water (Hoses filled, interstices flooded)</td>
<td>8.60 lb/ft</td>
</tr>
<tr>
<td>Minimum Bend Radius (Storage)</td>
<td>40 inch</td>
</tr>
<tr>
<td>Minimum Bend Radius (Operating)</td>
<td>53 inch</td>
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<tr>
<td>Minimum Bend Radius @ Maximum Working Load</td>
<td>84 inch</td>
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<tr>
<td>Start Coordinates</td>
<td>X=1,784,507.78   Y=10,133,105.65</td>
</tr>
</tbody>
</table>
3. Break strength and working load:

   Approximate Break Strength = 95 tons

   Maximum Working Load = 24 tons

4. The material and type of the 3/8 inch chemical injection hoses are BESNO P40 TLO and 6H10 respectively.

5. The hoses within the umbilical (3/8 inch) are rated to ANSI 10,000 psi.
3.0 DRAWINGS

The drawings listed below are contained within Appendix.

<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Rev.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>John E. Chance &amp;</td>
<td>-</td>
<td>Proposed 4&quot; Electro-hydraulic Umbilical</td>
</tr>
<tr>
<td>Associates</td>
<td></td>
<td>Blk 161-Well #1 F.E.T. To 72 Str ‘A’</td>
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<tr>
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<td></td>
<td>Sheets 1, 2, 3, 4, 5 of 5. Dated 4/13/99.</td>
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<tr>
<td>5011</td>
<td>1</td>
<td>Electro-hydraulic Umbilical Cross Section</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oceaneering - Multiflex</td>
</tr>
<tr>
<td>PEN-20047-0001</td>
<td>E</td>
<td>Preliminary Field Layout</td>
</tr>
<tr>
<td>PEN-20047-0003</td>
<td>D</td>
<td>Well Layout Flowline Termination Sleds:</td>
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<td>Sheet 1</td>
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<td>PEN-20047-0004</td>
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<td>Sheet 2</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Sheets 1, 2 and 3 of 3</td>
</tr>
</tbody>
</table>
APPENDIX

Drawings
Drawings

John E. Chance & - Proposed 4” Electro-hydraulic Umbilical
Associates

Blk 161-Well #1 F.E.T. To 72 Str ‘A’

Sheets 1, 2, 3, 4, 5 of 5. Dated 4/13/99.

5011 1 Electro-hydraulic Umbilical Cross Section

Oceanering - Multiflex

PEN-20047-0001 E Preliminary Field Layout

PEN-20047-0003 D Well Layout Flowline Termination Sleds:

Sheet 1

PEN-20047-0004 B Well Layout Flowline Termination Sleds:

Sheet 2

PEN-20047-0014 D 4” Umbilical Alignment

Sheets 1, 2 and 3 of 3
PENN-ZENERGY COMPANY

6-INCH BULK OIL & ASSOCIATED CONTROL/Chemical UMbilical

GARDEN BANKS BLOCK 161, UMbilical Termination STRUCTURE
FOR SUBSEA WELL NO. 001 TO
GARDEN BANKS BLOCK 72, PLATFORM A

DEPARTURE REQUESTS

1. PennzEnergy hereby requests a waiver from NTL 98-20, Section IV.B; which requires the buoys of all existing pipeline(s) and other potential hazards located within 150 meters (490) feet of the proposed operations. PennzEnergy will employ an on-board geographic system during the construction phase in lieu of utilizing buoys. PennzEnergy feels that the High Resolution Geophysical Survey Report prepared by John E. Chance & Associates for the proposed route, adequately outlines the area, whereby any potential hazards will be avoided.
PROPOSED 4" ELECTROHYDRAULIC UMBILICAL

GARDEN BANKS AREA

PENNZ ENERGY COMPANY

PROPOSED 4" ELECTROHYDRAULIC UMBILICAL
BLK 161-WELL #1 F.E.T. to BLK 72-STR "A"
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE
& ASSOCIATES, INC.

GOODWIN DATUM: M.D. 1927
PROJECTION: U.T.M. 15
GRID UNITS: FEET

Scale: 1" = 30,000' (30')

Drawn: MGK

Job No.: 99-7097
Date: 4/13/99

Sheet: 1/5

Ortho 03/16/99

EAST CAMERON AREA

VERMILION AREA
PROPOSED 4" ELECTROHYDRAULIC UMBILICAL

TOTAL LENGTH = 38,732.49' = 7.34 MI.

GB161
OCS-G-13367
PENNZOIL

GB162
OCS-G-12631
FLEXTREND

GB117
GB118

PLAN
SCALE: N FEET
0 - 2,000'

FAIRWAY
UMBILICAL ON BOTTOM

PROPOSED 4" ELECTROHYDRAULIC UMBILICAL

DEPTH
-920'
-940'
-1020'
-1100'
-1140'
-1180'
-1220'

PROFILE
SCALE: N FEET
0 - 100'
0 - 2000'

FAIRWAY
UMBILICAL ON BOTTOM

THE RIGHT OF WAY OF THE PROPOSED PIPELINE IS ACCURATELY REPRESENTED.

STATE OF LOUISIANA

ROBERT J. CHAMPAGNE
Reg. No. 309
REGISTERED PROFESSIONAL
LAND SURVEYOR

PENN Z ENERGY
COMPANY
PROPOSED
4" ELECTROHYDRAULIC UMBILICAL
BLOCK 161-WELL #1 F.E.T. TO BLK 72-STR. "A"
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE
& ASSOCIATES, INC.

GEOGRAPHIC DATUM: WAD 1927
PROJECTION: U.T.M. 15
GRID UNITS: FEET

SCALE AS SHOWN

Job No.: 99-7087  Date: 4/13/99  Drawn: SCN  Chart: 01

Job File: H:\1999\997087\CAD\WARIN\997087

2 5
GB72
OCS-G-13363

GB73
OCS-G-13364

PROPOSED 4" ELECTROHYDRAULIC UMBILICAL

PLAN

PROFILE

PENNZ ENERGY
COMPANY

PROPOSED
4" ELECTROHYDRAULIC UMBILICAL

BLOCK 161-WELL #1 F.E.T. to BLK 72-STR "A"
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE
& ASSOCIATES, INC.

GEODESIC DATUM: NAD 1983
PROJECTION: U.T.M. 15
GRID UNITS: FEET

Job No.: 99-7097  Date: 4/13/99  Drawn: SCN  Chart: 51

5

\[ \text{N.B.S. 55° 04' W} \]

\[ \text{P.T.} \]

\[ \text{387+32.49 Blk 72} \]

\[ \text{Str. "A"-B.O.R.} \]

\[ \text{X} = 1,784,505.21 \]

\[ \text{Y} = 10,132,925.08 \]

\[ \text{Lon. 92° 33' 13.156" W} \]

\[ \text{Probo.} \]

\[ \text{3,075 00"} \]

\[ \text{Delta} \]

\[ \text{50° 14' 48"} \]

\[ \text{Tangent Length} \]

\[ \text{2,698.70} \]
## Calculations for ROW Pipelines

<table>
<thead>
<tr>
<th></th>
<th>Example (BBLs)</th>
<th>Actual Calculations (BBLs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Add the pipeline system detection time to the shutdown response time assuming automatic shutdown (enter hrs. in decimals) (10min = .167 hrs)</td>
<td>0.167</td>
</tr>
<tr>
<td>2</td>
<td>Multiply by the highest measured oil flow rate over the preceding 12 month period (for new pipelines used predicted oil flow rate) (1000 bbls per hr x .167)</td>
<td>167</td>
</tr>
<tr>
<td>3</td>
<td>Add the total volume of oil that would leak from the pipeline after it is shut in (consider effects of hydrostatic pressure, gravity, frictional wall forces, length of pipeline segment, tie-ins with other pipelines, etc.) (100 bbls)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>267</td>
</tr>
</tbody>
</table>
1. The Attached Flowline Jumper and Flying Lead will be installed when Well #2 is completed.
2. For subunits not shown on this drawing refer to DWG # PEH-20047-0003
<table>
<thead>
<tr>
<th>INVDATE</th>
<th>INVOICE NUMBER</th>
<th>GROSS</th>
<th>DISCOUNT</th>
<th>NET</th>
<th>VOUCHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999/04/23</td>
<td>0017112</td>
<td>2470.00</td>
<td>0.00</td>
<td>2470.00</td>
<td>17112</td>
</tr>
</tbody>
</table>

**TOTAL: $2,470.00**

---

**NOTE:** THIS CHECK HAS BEEN PRINTED WITH A BROWN BACKGROUND

MINERALS MANAGEMENT SERVICE
PUBLIC INFORMATION
1201 ELMWOOD PARK BLVD
NEW ORLEANS LA 80123-2394

NATIONAL BANK OF GEORGIA, N.A.
ATLANTA, DEKALB COUNTY, GA 30333

**$2,470.00**

SEE REVERSE SIDE FOR OPENING INSTRUCTIONS
Operations Division
Western Evaluation Section

SUBJECT: WS-19-990-2385

PennzEnergy Company
Post Office Box 2967
Houston, Texas 77252

Gentlemen:

Enclosed is a permit dated this date, subject as above, authorizing work under the Department of the Army permit program.

You are again reminded that any work not in accordance with the plans is subject to removal regardless of the expense and the inconvenience that such removal may involve and regardless of the date when the discrepancy is discovered.

Your attention is directed to all the terms and conditions of the approval, especially those conditions relative to supervision and approval of work by the District Engineer. In order to have the work finally approved and declared legal, all terms and conditions of the permit and plans shown on the drawings attached thereto, must be rigidly adhered to.

It is necessary that you notify the District Engineer, Attention: Regulatory Branch, Western Evaluation Section, in writing, prior to commencement of work and also upon its completion. The notification must include the permittee's name, as shown on the permit, and the permit number. Please note the expiration date on the permit. Should the project not be completed by that date, you may request a permit time extension. Such requests must be received before, but no sooner than, six months before the permit expiration date and must show the work completed and the reason the project was not finished within the time period granted by the permit.

The enclosed Notice of Authorization, ENG Form 4336, is to be conspicuously displayed at the site of work.

Sincerely,

Ronald J. Ventola
Chief, Regulatory Branch

Enclosure
DEPARTMENT OF THE ARMY PERMIT

Permittee PennzEnergy Company

Permit No. WS-19-990-2385

Issuing Office New Orleans District

NOTE: The term “you” and its derivatives, as used in this permit, means the permittee or any future transferee. The term “this office” refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Install, maintain and operate dual six inch bulk oil pipelines with associated umbilical for the transport of produced hydrocarbons, in accordance with drawings attached in ten sheets, dated April 13, 1995.

Project Location: In the Gulf of Mexico, approximately 110 miles south of the Louisiana coast, crossing a shipping fairway through Garden Banks blocks 161 and 117 of OCS federal waters.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on June 30, 2004. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

   See Special Conditions on Page 4.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

   (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

   ( ) Section 404 of the Clean Water Act (33 U.S.C. 1344).


2. Limits of this authorization.

   a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

   b. This permit does not grant any property rights or exclusive privileges.

   c. This permit does not authorize any injury to the property or rights of others.

   d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

   a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

   c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

   d. Design or construction deficiencies associated with the permitted work.
e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 326.5 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Wendy D. Linnear
(PERMITTEE) 7/9/99 (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Ronald J. Ventola
(DATE) 9 July 99

Ronald J. Ventola, Chief, Regulatory Branch
for William L. Conner, District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) (DATE)
7. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

8. You must install and maintain, at your expense, any safety lights, signs and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on your authorized facilities.

9. If in the judgment of the Chief of Engineers, you do not at all times exercise due caution in the handling of oil, gas, or other pollutive, noxious, or lethal substances, to prevent condition deleterious to health or seafood, or hazardous to navigation, or dangerous to persons or property engaged in commerce or otherwise on said waters, or fails on demand to remove promptly any structure or structures or parts thereof, no longer used for the purpose for which they are constructed, this permit may be revoked and all operations authorized by it may be terminated.

10. The National Ocean Service (NOS) has been notified of this authorization. You must notify NOS and this office in writing at least two weeks before you begin work and upon completion of the activity authorized by this permit. Within 30 days of completion of the pipeline, 'as built' drawings certified by a professional engineer registered in Louisiana or by a registered surveyor shall be furnished to this office, to the U.S. Coast Guard Waterways Safety Office, 1440 Canal street, New Orleans, Louisiana 70112, and to the Director, National Ocean Service (N/CG222), Rockville, MD 20852. The plans must include the location, configuration and actual burial depth of the completed pipeline project.

11. No hydrocarbons, substances containing hydrocarbons, or toxic substances shall be allowed to enter adjacent waterways.
EAST CAMERON AREA

VERMILION AREA

PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE

GARDEN BANKS AREA

PENN Z ENERGY
COMPANY

PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE
BLK 161-WELL #1 F.E.T. to BLK 72-STR "A"
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE & ASSOCIATES, INC.

GEOGRAPHIC DATUM: NAD 1927
PROJECTION: U.T.M. 15
GRID UNITS: FEET

SCALE 0 -- 30,000'
IN FEET

Job No.: 99-7087
Date: 4/15/99
Drawn: WKG
Chart: Ot

Format: Mar 1999, 997087g (CAD), MARINE, 7087COVR
GB117
OCS-G-12631
FLEXTREND

PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE

FAIRWAY

PLAN

FAIRWAY

PROFILE

PENNZ ENERGY COMPANY

PROPOSED (WEST) 6 5/8" OIL PRODUCTION FLOWLINE
BLOCK 161-WELL 1 F.E.T. to BLK 72-STR. "A"
GARDEN BANKS AREA
GULF OF MEXICO

JOHN E. CHANCE & ASSOCIATES, INC.

GEODETIC DATUM: NAD 1927
PROJECTION: U.T.M., 15
GRID UNITS: FEET

SCALE AS SHOWN

Scale: 1:20,000  Drafted: 4/14/99
Alex,

NMFS has reviewed Pipeline Permit Application OCS-G 21046 (dated July 1, 1999), Pennzoil Exploration and Production Co. for Garden Banks Areas 161, 117, 73, and 72 offshore Texas. We find there should not be any impact to essential fish habitat on or around McGrail Bank from the laying of the pipeline.
Geophysical Review of Pipeline

Reviewer: RCK
Review Date: 7/6/99

Segment
12244
12247
12270

Comments on
Natural Hazards: Water depth: 520'-1120'; fault scarp
Made Hazards: Parallel lines, wells

General Comments: Pennzoil Energy Exp. ROW two 8 5/8" oil and uniblical GB 161-1 to GB 72-A (7.79 miles) mb #12244, 12247, 12270
No burial, revised route.

Possible Hazards Identified in the Shallow Hazards Analysis and/or Maps

<table>
<thead>
<tr>
<th>Possible Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a fault scarp along pipeline route which may cause pipeline spanning. The scarp relief is 15 feet.</td>
</tr>
<tr>
<td>There are rock outcrops and/or pinnacles near potential anchor locations which may interfere with the placement of anchors.</td>
</tr>
<tr>
<td>There is a well site near the proposed pipeline route that should be avoided.</td>
</tr>
<tr>
<td>There are well sites near potential anchor locations that should be avoided.</td>
</tr>
<tr>
<td>There are pipelines near potential anchor locations that could be damaged during or after anchor placement.</td>
</tr>
</tbody>
</table>

Recommendations: Approval recommended based on the assumption of accuracy in the company submission.