**Exhibit 4.1**

**Execution Version**

**AMENDMENT NO. 2**

     This Amendment No. 2 dated as of January 11, 2010 (this “Agreement”) is among Stone Energy Corporation, a Delaware corporation (“Borrower”), Stone Energy Offshore, L.L.C., a Delaware limited liability company (“Guarantor”), the financial institutions party to the Credit Agreement described below as Banks (“Banks”), and Bank of America, N.A., as Agent for the Banks (“Agent”) and as Issuing Bank (“Issuing Bank”).

**INTRODUCTION**

     A. The Borrower, the Banks, the Issuing Bank, and the Agent have entered into the Second Amended and Restated Credit Agreement dated as of August 28, 2008, as amended by Amendment No. 1 dated as of April 29, 2009 (as so amended, the “Credit Agreement”).

     B. The Guarantor entered into that certain Guaranty dated as of August 28, 2008, as amended by Amendment No. 1 dated as of April 29, 2009 (as so amended, the “Stone Offshore Guaranty”).

     C. The Borrower plans to issue up to $300,000,000 in unsecured senior notes due 2017 pursuant to the Indenture to be entered into by the Borrower, the Guarantor, and The Bank of New York Mellon Trust Company, N.A, as Trustee (the “2010 Indenture”).

     D. The parties hereto desire to amend the Credit Agreement to permit the issuance of up to $300,000,000 in unsecured senior notes pursuant to the 2010 Indenture.

     E. The Guarantor wishes to reaffirm its guarantee of the Obligations as amended by this Agreement.

     THEREFORE, in fulfillment of the foregoing, the Borrower, the Guarantor, the Agent, the Issuing Bank, and the Banks hereby agree as follows:

     Section 1. Definitions; References. Unless otherwise defined in this Agreement, each term used in this Agreement which is defined in the Credit Agreement has the meaning assigned to such term in the Credit Agreement.

     Section 2. Amendment. Upon the satisfaction of the conditions specified in Section 6 of this Agreement, and, unless otherwise specified, effective as of the date set forth above, the Credit Agreement is amended as follows:

          (a) A new definition of “2010 Indenture” shall be added in Section 1.1 of the Credit Agreement to read in its entirety as follows:

     “2010 Indenture” means the Indenture to be entered into by the Borrower, the Guarantor, and The Bank of New York Mellon Trust Company, N.A., as Trustee, relating to the issuance of unsecured senior notes due 2017.

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          (b) Section 2.2(a) of the Credit Agreement shall be amended to read in its entirety as follows:

          (a) The Borrowing Base has been set by the Banks and acknowledged by the Borrower as $425,000,000 as of the date of this Agreement. On the date of any issuance of Debt under the 2010 Indenture, the Borrowing Base shall be reduced automatically by an amount equal to 40% of the excess, if any, of (A) all Debt outstanding under the 2010 Indenture after giving effect to such issuance over (B) $200,000,000. The automatic reduction described in this Section 2.2(a) shall not be deemed to take the place of regularly scheduled or other redeterminations of the Borrowing Base in accordance with this Section 2.2.

          (c) The references in Section 6.3 of the Credit Agreement to the “2001 Indenture and the 2004 Indenture” shall be deleted and replaced with references to the “2001 Indenture, the 2004 Indenture and the 2010 Indenture”.

          (d) Schedule 6.2 of the Credit Agreement shall be replaced with Schedule 6.2 attached hereto.

     Section 3. Reaffirmation of Liens.

          (a) Each of the Borrower and the Guarantor (i) is party to certain Security Documents securing and supporting the Borrower’s and Guarantor’s obligations under the Credit Documents, (ii) represents and warrants that it has no defenses to the enforcement of the Security Documents and that according to their terms the Security Documents will continue in full force and effect to secure the Borrower’s and Guarantor’s obligations under the Credit Documents, as the same may be amended, supplemented, or otherwise modified, and (iii) acknowledges, represents, and warrants that the liens and security interests created by the Security Documents are valid and subsisting and create an Acceptable Security Interest in the Collateral to secure the Borrower’s and Guarantor’s obligations under the Credit Documents, as the same may be amended, supplemented, or otherwise modified.

          (b) The delivery of this Agreement does not indicate or establish a requirement that any Guaranty or Security Document requires the Borrower’s or any Guarantor’s approval of amendments to the Credit Agreement.

     Section 4. Representations and Warranties. The Borrower represents and warrants to the Agent and the Banks that:

          (a) the representations and warranties set forth in the Credit Agreement and in the other Credit Documents are true and correct in all material respects as of the date of this Agreement (except to the extent such representations and warranties relate to an earlier date, in which case such representations and warranties shall be true and correct in all material respects as of such earlier date); ***provided that*** such materiality qualifier shall not apply if such representation or warranty is already subject to a materiality qualifier in the Credit Agreement or such other Credit Document;

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          (b) (i) the execution, delivery, and performance of this Agreement are within the corporate power and authority of the Borrower and have been duly authorized by appropriate proceedings and (ii) this Agreement constitutes a legal, valid, and binding obligation of the Borrower, enforceable against the Borrower in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, or similar laws affecting the rights of creditors generally and general principles of equity; and

          (c) as of the effectiveness of this Agreement and after giving effect thereto, no Default or Event of Default has occurred and is continuing.

     Section 5. Reaffirmation of Guaranty**.** The Guarantor hereby ratifies, confirms, and acknowledges that its obligations under the Stone Offshore Guaranty are in full force and effect and that the Guarantor continues to unconditionally and irrevocably guarantee the full and punctual payment, when due, whether at stated maturity or earlier by acceleration or otherwise, of all of the Obligations (subject to the terms of the Stone Offshore Guaranty), as such Obligations may have been amended by this Agreement. The Guarantor hereby acknowledges that its execution and delivery of this Agreement do not indicate or establish an approval or consent requirement by the Guarantor under the Stone Offshore Guaranty in connection with the execution and delivery of amendments, modifications or waivers to the Credit Agreement, the Notes or any of the other Credit Documents.

     Section 6. Effectiveness. This Agreement shall become effective as of the date hereof, and the Credit Agreement shall be amended as provided herein, upon the occurrence of all of the following: (a) the Majority Banks’, the Borrower’s, and the Guarantor’s duly and validly executing originals of this Agreement and delivery thereof to the Agent, (b) the representations and warranties in this Agreement being true and correct in all material respects before and after giving effect to this Agreement, (c) the Borrower’s having made a prepayment of Advances, and if the Advances have been repaid in full, made deposits into the Cash Collateral Account to provide cash collateral for the Letter of Credit Exposure, in an aggregate amount equal to the amount of any Borrowing Base Deficiency that would exist immediately after giving effect to the reduction of the Borrowing Base specified in Section 2(c) of this Agreement, and (d) the Borrower’s having paid all costs, expenses, and fees which have been invoiced and are payable pursuant to Section 9.4 of the Credit Agreement or any other written agreement.

     Section 7. Effect on Credit Documents. Except as amended herein, the Credit Agreement and the Credit Documents remain in full force and effect as originally executed, and nothing herein shall act as a waiver of any of the Agent’s or Banks’ rights under the Credit Documents, as amended. This Agreement is a Credit Document for the purposes of the provisions of the other Credit Documents. Without limiting the foregoing, any breach of representations, warranties, and covenants under this Agreement may be a Default or Event of Default under other Credit Documents.

     Section 8. Choice of Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Texas.

     Section 9. Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original.

-3-

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**THIS WRITTEN AGREEMENT AND THE CREDIT DOCUMENTS, AS DEFINED IN THE CREDIT AGREEMENT, REPRESENT THE FINAL AGREEMENT AMONG THE PARTIES AND MAY NOT BE CONTRADICTED BY EVIDENCE OF PRIOR, CONTEMPORANEOUS, OR SUBSEQUENT ORAL AGREEMENTS OF THE PARTIES. THERE ARE NO UNWRITTEN ORAL AGREEMENTS BETWEEN THE PARTIES.**

     EXECUTED as of the date first set forth above.

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|  |  | STONE ENERGY CORPORATION | | | | |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ David H. Welch    David H. Welch |  |  |
|  |  | Title: |  | President and Chief Executive Officer |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Kenneth H. Beer    Kenneth H. Beer |  |  |
|  |  | Title: |  | Senior Vice President and  Chief Financial Officer |  |  |
|  |  |  |  |  |  |  |
|  |  | **GUARANTOR:** | | | | |
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|  |  | STONE ENERGY OFFSHORE, L.L.C. | | | | |
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|  |  | By:  Name: |  | /s/ David H. Welch    David H. Welch |  |  |
|  |  | Title: |  | President and Chief Executive Officer |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Kenneth H. Beer    Kenneth H. Beer |  |  |
|  |  | Title: |  | Senior Vice President and  Chief Financial Officer |  |  |

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|  |  | **AGENT AND ISSUING BANK:** | | | | |
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|  |  | BANK OF AMERICA, N.A., as Agent and Issuing Bank | | | | |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Ronald E. McKaig    Ronald E. McKaig |  |  |
|  |  | Title: |  | Senior Vice President |  |  |
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|  |  | **BANKS:** | | | | |
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|  |  | BANK OF AMERICA, N.A. | | | | |
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|  |  | By:  Name: |  | /s/ Ronald E. McKaig    Ronald E. McKaig |  |  |
|  |  | Title: |  | Senior Vice President |  |  |

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|  |  | BNP PARIBAS | | | | |
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|  |  | By:  Name: |  | /s/ Douglas R. Liftman    Douglas R. Liftman |  |  |
|  |  | Title: |  | Managing Director |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Edward Pak    Edward Pak |  |  |
|  |  | Title: |  | Vice President |  |  |

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|  |  | NATIXIS | | | | |
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|  |  | By:  Name: |  | /s/ Donovan C. Broussard    Donovan C. Broussard |  |  |
|  |  | Title: |  | Managing Director |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Louis P. Laville, III    Louis P. Laville, III |  |  |
|  |  | Title: |  | Managing Director |  |  |

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|  |  | THE BANK OF NOVA SCOTIA | | | | |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ David Mills    David Mills |  |  |
|  |  | Title: |  | Managing Director |  |  |

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|  |  | CAPITAL ONE, N.A. | | | | |
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|  |  | By:  Name: |  | /s/ Paul D. Hein    Paul D. Hein |  |  |
|  |  | Title: |  | Vice President |  |  |

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|  |  | TORONTO DOMINION (TEXAS) LLC | | |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Debbi L. Brito    Debbi L. Brito |  |  |
|  |  | Title: |  | Authorized Signatory |  |  |

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|  |  | ALLIED IRISH BANKS p.l.c. | | |  |  |
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|  |  | By:  Name: |  | /s/ Edward M. Fenk    Edward M. Fenk |  |  |
|  |  | Title: |  | Vice President |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ James Giordano    James Giordano |  |  |
|  |  | Title: |  | Assistant Vice President |  |  |

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|  |  | BARCLAYS BANK PLC | | |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Ann E. Sutton    Ann E. Sutton |  |  |
|  |  | Title: |  | Vice President |  |  |

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|  |  | REGIONS BANK | | |  |  |
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|  |  | By:  Name: |  | /s/ William A. Philipp    William A. Philipp |  |  |
|  |  | Title: |  | Vice President |  |  |

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|  |  | U.S. BANK NATIONAL ASSOCIATION | | |  |  |
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|  |  | By:  Name: |  | /s/ Daria Mahoney    Daria Mahoney |  |  |
|  |  | Title: |  | Vice President |  |  |

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|  |  | WHITNEY NATIONAL BANK | | |  |  |
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|  |  | By:  Name: |  | /s/ Will Jochetz    Will Jochetz |  |  |
|  |  | Title: |  | Lending Officer |  |  |

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|  |  | JPMORGAN CHASE BANK, N.A. | | |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Jo Linda Papadakis    Jo Linda Papadakis |  |  |
|  |  | Title: |  | Vice President |  |  |

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|  |  | SUMITOMO MITSUI BANKING CORPORATION | | |  |  |
|  |  |  |  |  |  |  |
|  |  | By:  Name: |  | /s/ Masakazu Hasegawa    Masakazu Hasegawa |  |  |
|  |  | Title: |  | General Manager |  |  |

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SCHEDULE 6.2

**PERMITTED EXISTING DEBT**

1. Prior to the date that is 45 days after the initial issuance of Debt under the 2010 Indenture, $200 million of unsecured Debt related to the 2001 issuance of 8.25% senior subordinated notes due 2011 pursuant to the 2001 Indenture.

2. $200 million of unsecured Debt related to the 2004 issuance of 6.75% senior subordinated notes due 2014 pursuant to the 2004 Indenture.

3. Up to $300 million of unsecured Debt related to the 2010 issuance of senior notes due 2017 pursuant to the 2010 Indenture.