

**GUARANTY
BY TINUUM GROUP, LLC**

This Guaranty is executed this 30th day of July, 2018 by Tinuum Group, LLC, a Colorado limited liability company (the “**Guarantor**”), in favor of Louisville Gas and Electric Company, a Kentucky corporation (the “**Beneficiary**”). Guarantor and the Beneficiary are sometimes individually referred to herein as a “**Party**” and collectively as the “**Parties**.”

RECITALS

WHEREAS, [REDACTED] a Colorado limited liability company (“**Obligor**”), is a wholly-owned subsidiary of the Guarantor;

WHEREAS, on the date hereof, the Obligor and the Beneficiary have entered into that certain Operation Agreement of even date herewith for the production, sale and delivery by Obligor of Refined Coal (as defined therein) to Beneficiary upon the terms and subject to the limitations set forth therein (as amended, modified or supplemented from time to time, the “**Operation Agreement**”);

WHEREAS, the Beneficiary is willing to enter into the Operation Agreement and undertake the transactions contemplated thereby on the condition, among others, that the Obligor’s obligations under the Operation Agreement are guaranteed by the Guarantor, on the terms and subject to the limitations set forth herein; and

WHEREAS, the Guarantor, as the indirect parent of Obligor, anticipates that it will receive substantial economic benefit as a result of the transactions contemplated by the Operation Agreement and the entry by Beneficiary and Obligor into, and performance by Beneficiary and Obligor of, the Operation Agreement.

NOW, THEREFORE, to induce the Beneficiary to enter into the Operation Agreement, and for good valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Guarantor enters into this Guaranty (referred to herein as the “**Guaranty**”) and hereby agrees as follows:

1. **Guaranty.**

(a) The Guarantor hereby absolutely, irrevocably and unconditionally guarantees, as a primary obligor and not merely as a surety, to the Beneficiary (and its successors and permitted transferees and assigns) the timely and complete payment, in dollars of the United States of America, and performance when due of the “**Guaranteed Obligations**” (as hereinafter defined) in accordance with their respective terms. “**Guaranteed Obligations**” shall mean all payment, performance, indemnification and reimbursement obligations of the Obligor under the Operation Agreement as and when the same are due and owing to or for the benefit of the Beneficiary, and any indemnification obligations of the Obligor under the Operation Agreement as and when the same are due and owing to any other person or entity entitled to indemnification thereunder.

(b) The Guaranteed Obligations include interest or other charges that accrue on any portion thereof pursuant to the terms of the Operation Agreement or that would have accrued on any portion thereof pursuant to the terms of the Operation Agreement but for the commencement of any bankruptcy or insolvency proceedings, regardless of whether such obligations arise or accrue before, on or after the date of this Guaranty. This Guaranty is a continuing guaranty and a guaranty of payment and performance and not merely collection.

2. **Waiver.** Subject to Section 4 below, Guarantor hereby waives: (a) notice of acceptance of this Guaranty, and of the creation, renewal, extension, accrual, modification or existence of any of the Guaranteed Obligations and of any action by the Beneficiary in reliance hereon or in connection herewith; (b) presentment, demand for payment, notice of dishonor or nonpayment, protest and notice of protest with respect to the Guaranteed Obligations; (c) all other guarantors' defenses generally; (d) any defenses associated with Obligor's formation or organization, its status or standing in its jurisdiction of formation or organization, or its authority to transact business generally or to execute or perform the Operation Agreement; (e) any rights or defenses specifically waived by Obligor or limited pursuant to the Operation Agreement; and (f) any requirement that suit be brought against, or any other action by the Beneficiary be taken against, or any notice of default or other notice be given to, or any demand be made on, Obligor, the Guarantor or any other person or entity, or that any other action be taken or not taken, as a condition to Guarantor's liability for the Guaranteed Obligations or as a condition to the enforcement of this Guaranty against Guarantor.

3. **Termination.** This Guaranty shall remain in full force and effect until the earlier of (a) the date that the Operation Agreement is terminated in accordance with its terms and all of the Guaranteed Obligations thereunder (including without limitation, those that may survive that termination) have been satisfied in full and (b) the date of a permitted assignment by Obligor of all of its rights and obligations under the Operation Agreement to a "Permitted Transferee" (as defined in the Operation Agreement) in accordance with the terms of the Operation Agreement (as applicable, the "**Termination Date**"). Notwithstanding the foregoing, in no event shall this Guaranty be terminated as to any Guaranteed Obligations required to be paid by Obligor prior to the Termination Date.

4. **Guarantor Defenses.** Notwithstanding anything in this Guaranty to the contrary, Guarantor reserves to itself all defenses and rights to set off that the Obligor is or may be entitled to that arise out of the Operation Agreement, except for any of those defenses that are based upon the insolvency, bankruptcy, reorganization or similar proceeding involving the Obligor. This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Guaranteed Obligations is rescinded or must otherwise be returned by the Beneficiary upon the insolvency, bankruptcy, or reorganization of the Obligor, Guarantor or any other guarantor or otherwise, all as though such payment had not been made. Guarantor acknowledges that time is of the essence with respect to Guarantor's obligations under this Guaranty.

5. **Default.** In addition to Beneficiary's other rights and remedies pursuant to this Guaranty or under applicable law, in the event of a breach or default by the Obligor in performance or payment of any undertakings, indebtedness, liabilities, or any part thereof or breach of any term or condition of the Operation Agreement, or any other document executed in connection with the

Operation Agreement, including, but not limited to, anticipatory breach, insolvency, inability to pay debts as they mature, or assignments for the benefit of creditors or institution of similar proceedings by or against Obligor alleging any of these events, Guarantor shall immediately pay or perform (as applicable) all Guaranteed Obligations that are obligations of Obligor.

6. **Representations and Warranties.**

(a) Guarantor is a limited liability company, duly organized, validly existing, and in good standing under the laws of the jurisdiction of its formation, and has full power, authority and legal right to execute, deliver, and perform this Guaranty.

(b) The execution, delivery, and performance of this Guaranty have been and remain duly authorized by all necessary action and do not contravene any provision of law or of Guarantor's organizational or governing documents or any contractual restriction binding on Guarantor or its assets.

(c) All consents, authorizations, and approvals of, and registrations and declarations with, any governmental authority necessary for the due execution, delivery, and performance of this Guaranty have been obtained and remain in full force and effect and all conditions thereof have been duly complied with, and no other action by and no notice to or filing with any governmental authority is required in connection with the execution, delivery, or performance of this Guaranty.

(d) This Guaranty has been duly executed and delivered by Guarantor and constitutes the legal, valid, and binding obligation of Guarantor enforceable against Guarantor in accordance with its terms, subject, as to enforcement, to bankruptcy, insolvency, reorganization, and other laws of general applicability relating to or affecting creditors' rights and to general equity principles.

7. **Notice.** All notices, requests, consents and other communications or deliveries hereunder shall be in writing and (a) delivered in person or by courier, (b) mailed certified first class mail, postage prepaid, return receipt requested, (c) sent by facsimile transmission, or (d) sent by email to the appropriate Party at the following addresses:

if to Guarantor:

Tinum Group, LLC
5251 DTC Parkway, Suite 825
Greenwood Village, CO 80111
Attention: General Counsel
Fax: (303) 751-9210
Email address: notice@tinumgroup.com

with a copy to:

Davis Graham & Stubbs LLP
1550 Seventeenth Street, Suite 500
Denver, CO 80202

Attention: Brian Boonstra / Randy Hubbard
Fax: (303) 893-1379
Email address: brian.boonstra@dgsllaw.com or
randy.hubbard@dgsllaw.com

if to the Beneficiary:

Louisville Gas and Electric Company
220 West Main Street
Louisville, Kentucky 40202
Attention: Corporate Fuels and By-Products Director
Fax: 502-627-2194

with a copy to:

LG&E and KU Energy LLC
Legal Department
220 West Main Street
Louisville, Kentucky 40202
Attention: General Counsel, Chief Compliance Officer and Corporate
Secretary
Fax: (502) 627-3367

or such other address as a Party may designate to the other Party by notice given as provided herein. Such notices shall be effective and deemed received (i) if delivered in person or by courier, upon receipt by the intended recipient or an employee that routinely accepts packages or letters from couriers or other persons for delivery to personnel at the address identified above (as confirmed by, if delivered by courier, the records of such courier), (ii) if mailed, upon the date of delivery as shown by the return receipt therefore, (iii) if sent by facsimile transmission, when the sender receives confirmation from the sending facsimile machine that such facsimile transmission was transmitted to the facsimile number of the addressee, or (iv) if emailed, upon confirmation of receipt.

8. **Election of Remedies.** Each and every right, power and remedy herein given to the Beneficiary, or otherwise existing, shall be cumulative and not exclusive, and be in addition to all other rights, powers and remedies now or hereafter granted or otherwise existing. Each and every right, power and remedy whether specifically herein given or otherwise existing may be exercised, from time to time and as often and in such order as may be deemed expedient by the Beneficiary.

9. **Successors and Assigns.** This Guaranty may not be assigned or transferred by either Party without the prior written consent of the other Party, such consent not to be unreasonably withheld, conditioned or delayed.

10. **No Third Party Beneficiaries.** Except as expressly provided herein, none of the provisions of this Guaranty, express or implied, is intended to provide any rights or remedies to any person other than the Beneficiary, its successors and permitted assigns.

11. **Governing Law.** This Guaranty shall be governed by and construed in accordance with the laws of the State of New York without regard to principles of conflicts of law.

12. **Severability.** If any term or other provision of this Guaranty or of any of the instruments evidencing part or all of the Guaranteed Obligations is invalid, illegal, or incapable of being enforced by any rule of applicable law, or public policy, all other conditions and provisions of this Guaranty shall nevertheless remain in full force and effect so long as the economic or legal substance of the transactions contemplated herein are not affected in any manner materially adverse to the Beneficiary or Guarantor, Upon such determination that any term or other provision is invalid, illegal, or incapable of being enforced, such term or provisions shall be reformed, construed and enforced as if such provision had never been contained herein and there had been contained in this Guaranty instead a valid, legal and enforceable provision as would most nearly accomplish the intent of such invalid, illegal or unenforceable term or provision.

13. **Entire Agreement.** This Guaranty constitutes the entire agreement among Guarantor and the Beneficiary with respect to the subject matter hereof and shall supersede and revoke all previous and prior guarantees with respect to the Operation Agreement and the transactions contemplated thereby issued by Guarantor on behalf of the Obligor to the Beneficiary prior to the date hereof, if any.

14. **Amendment.** This Guaranty may not be modified, amended, terminated or revoked, in whole or in part, except by an agreement in writing signed by the Beneficiary and Guarantor. No waiver of any term, covenant or provision of this Guaranty, or consent given hereunder, shall be effective unless given in writing by the Beneficiary.

15. **Counterpart Execution.** This Guaranty may be executed in any number of counterparts, each of which, whether an original or a copy of such original, when so executed and delivered, shall be deemed an original by all parties hereto, but all of which shall together constitute one and the same agreement. Transmission by facsimile or email or other form of electronic transmission of an executed counterpart of this Guaranty shall be deemed to constitute due and sufficient delivery of such counterpart.

[Signature Page Follows]

IN WITNESS WHEREOF, the foregoing instrument is executed as of the date first written above.

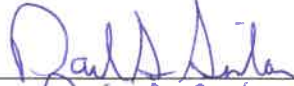
GUARANTOR:

Tinum Group, LLC

By: 
Name: Ron Eller
Title: CEO

BENEFICIARY:

Louisville Gas and Electric Company

By: 
Name: David S. Sinclair
Title: VP Energy Supply & Analysis 