

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4658442

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	PATENT SECURITY AGREEMENT
<b>SEQUENCE:</b>	2

**CONVEYING PARTY DATA**

Name	Execution Date
CHARAH, LLC	10/25/2017

**RECEIVING PARTY DATA**

<b>Name:</b>	CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH, AS COLLATERAL AGENT
<b>Street Address:</b>	ELEVEN MADISON AVENUE, 9TH FLOOR
<b>City:</b>	NEW YORK
<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10010

**PROPERTY NUMBERS Total: 2**

Property Type	Number
<b>Patent Number:</b>	7328805
<b>Application Number:</b>	14813052

**CORRESPONDENCE DATA**

**Fax Number:** (714)755-8290

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 714-540-1235

**Email:** ipdocket@lw.com

**Correspondent Name:** LATHAM & WATKINS LLP

**Address Line 1:** 650 TOWN CENTER DRIVE, SUITE 2000

**Address Line 4:** COSTA MESA, CALIFORNIA 92626

<b>ATTORNEY DOCKET NUMBER:</b>	029032-0062
<b>NAME OF SUBMITTER:</b>	ANNA T KWAN
<b>SIGNATURE:</b>	/atk/
<b>DATE SIGNED:</b>	10/25/2017

**Total Attachments: 6**

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS PATENT SECURITY AGREEMENT, dated as of October 25, 2017 (“Patent Security Agreement”), is made by each of the entities listed on the signature pages hereof (each a “Grantor” and, collectively, the “Grantors”), in favor of Credit Suisse AG, Cayman Islands Branch (“CS”), as Collateral Agent for the Secured Parties (as defined in the Credit Agreement referred to below) (in such capacity, together with its successors and permitted assigns in such capacity, the “Collateral Agent”).

WITNESSETH:

WHEREAS, pursuant to the Credit Agreement, dated as of October 25, 2017 (as the same may be amended, restated, amended and restated, extended, refinanced, supplemented or otherwise modified from time to time, the “Credit Agreement”), by and among Charah, LLC, a Kentucky limited liability company (“Charah”), Allied Power Management, LLC, a Delaware limited liability company (“Allied” and together with Charah, each a “Borrower”, and collectively, the “Borrowers”), Charah Sole Member LLC, a Delaware limited liability company (“Charah Parent”), Allied Power Sole Member, LLC, a Delaware limited liability company (“Allied Parent” and together with Charah Parent, each a “Parent”, and collectively, “Parents”) and as Guarantors thereunder, the other Credit Parties (as defined in the Credit Agreement) from time to time party thereto, Credit Suisse AG, Cayman Islands Branch, as Administrative Agent and as Collateral Agent, and the Lenders from time to time Party thereto, the Lenders have severally agreed to make extensions of credit to the Borrowers upon the terms and subject to the conditions set forth therein;

WHEREAS, each Grantor has agreed, pursuant to a Guaranty and Security Agreement dated as of even date herewith in favor of the Collateral Agent (and such agreement may be amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “Guaranty and Security Agreement”), to guarantee the Guaranteed Obligations (as defined in the Guaranty and Security Agreement) and to secure the Secured Obligations (as defined in the Guaranty and Security Agreement) as provided therein; and

WHEREAS, all of the Grantors are party to the Guaranty and Security Agreement pursuant to which the Grantors are required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Lenders, the Administrative Agent and the Collateral Agent to enter into the Credit Agreement and to induce the Lenders to make their respective extensions of credit to the Borrowers thereunder, each Grantor hereby agrees with the Collateral Agent, for the benefit of the Secured Parties, as follows:

SECTION 1. Defined Terms. Capitalized terms used herein without definition are used as defined in the Guaranty and Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. Each Grantor, as collateral security for the prompt and complete payment and performance when due (whether at stated maturity, by acceleration or otherwise) of the Secured Obligations of such Grantor, hereby grants

to the Collateral Agent for the benefit of the Secured Parties a continuing lien on and security interest in, all of its present and future right, title and interest in, to and under the following Collateral of such Grantor (the "Patent Collateral"), *provided, however*, notwithstanding the foregoing or any other provision hereof or of any other Loan Document, no lien or security interest is hereby granted in, and the Collateral shall not include, any Excluded Property; *provided, further*, that if and when any personal property of the type described in Section 3.1 of the Guaranty and Security Agreement shall cease to be Excluded Property, a lien on and security in such personal property shall be granted therein pursuant hereto:

(a) all of its rights, title and interests, arising under any Requirement of Law or otherwise, in or relating to letters patent and applications therefor, including, without limitation, those United States Patents referred to on Schedule 1 hereto;

(d) all reissues, reexaminations, continuations, continuations-in-part, divisions, renewals and extensions of, the foregoing, and, in each case, all rights to obtain any of the foregoing and all rights to claim priority therefrom;

(e) all income, royalties, damages and payments now or hereafter due or payable under or with respect to the foregoing, including payments under all licenses entered into in connection therewith and damages and payments for past, present or future infringements or other violations or impairments thereof;

(f) all rights to sue or otherwise recover at law or in equity for any past, present and future infringement, violation or other impairment thereof; and

(g) all other rights of any kind accruing thereunder or pertaining thereto throughout the world.

**SECTION 3. Guaranty and Security Agreement.** The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent pursuant to the Guaranty and Security Agreement and each Grantor hereby acknowledges and agrees that the rights and remedies of the Collateral Agent and the other Secured Parties with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Guaranty and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein.

**SECTION 4. Grantor Remains Liable.** Each Grantor hereby agrees that, anything herein to the contrary notwithstanding, such Grantor shall assume full and complete responsibility for the prosecution, defense, enforcement or any other actions are, in the reasonable business judgment of the Grantor, necessary or desirable in connection with its Patents subject to a Lien and security interest hereunder.

**SECTION 5. Counterparts.** This Patent Security Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one

and the same agreement. Signature pages may be detached from multiple separate counterparts and attached to a single counterpart.

**SECTION 6. Governing Law and Jurisdiction.** The laws of the State of New York shall govern all matters arising out of, in connection with or relating to this Patent Security Agreement including, without limitation, its validity, interpretation, construction, performance and enforcement (including, without limitation, any claims based in contract or tort law arising out of the subject matter hereof and any determinations with respect to post-judgment interest).

Any legal action or proceeding with respect to this Patent Security Agreement shall be brought exclusively in the courts of the State of New York located in the City of New York, Borough of Manhattan, or of the United States of America for the Southern District of New York and, by execution and delivery of this Patent Security Agreement, each Grantor and each other party hereto hereby accepts for itself and in respect of its Property, generally and unconditionally, the jurisdiction of the aforesaid courts; *provided* that nothing in this Patent Security Agreement shall limit the right of any party to commence any proceeding in any court of any other jurisdiction to the extent such party determines that such action is necessary or appropriate to exercise its rights or remedies under any Loan Document. The parties hereto hereby irrevocably waive any objection, including any objection to the laying of venue or based on the grounds of *forum non conveniens*, that any of them may now or hereafter have to the bringing of any such action or proceeding in such jurisdictions.

Each of the parties hereto hereby irrevocably waives personal service of any and all legal process, summons, notices and other documents and other service of process of any kind and consents to such service in any suit, action or proceeding brought in the United States of America with respect to or otherwise arising out of or in connection with this Patent Security Agreement by any means permitted by applicable Requirements of Law, including by the mailing thereof (by registered or certified mail, postage prepaid) to the address of such party specified herein (and shall be effective when such mailing shall be effective, as provided therein). Each party hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

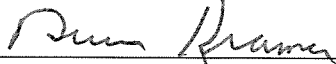
Nothing contained in this Section 6 shall affect the right of any party hereto to serve process in any other manner permitted by applicable Requirements of Law or commence legal proceedings or otherwise proceed against any party hereto in any other jurisdiction.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

Charah, LLC, as Grantor

By:   
Name: Bruce Kramer  
Title: Chief Financial Officer and  
Treasurer

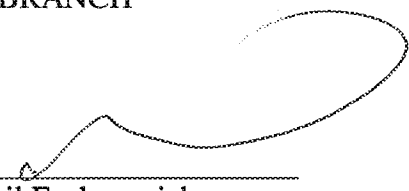
[Signature Page to Patent Security Agreement]

**PATENT**  
**REEL: 044292 FRAME: 0943**

ACCEPTED AND AGREED  
as of the date first above written:


CREDIT SUISSE AG,  
CAYMAN ISLANDS BRANCH  
as Collateral Agent

By:



\_\_\_\_\_  
Name: Mikhail Faybusovich  
Title: Authorized Signatory

By:



\_\_\_\_\_  
Name: Warren Van Heyst  
Title: Authorized Signatory

[Signature Page to Patent Security Agreement]

**PATENT**  
**REEL: 044292 FRAME: 0944**

SCHEDULE 1  
TO  
PATENT SECURITY AGREEMENT

Patent Registrations

<u>Grantor</u>	<u>Title</u>	<u>Filing Date/Issued Date</u>	<u>Status</u>	<u>Application/ Registration No.</u>
Charah, LLC	METHOD AND SYSTEM FOR BENEFICIATING GASIFICATION SLAG	February 12, 2008	Live	7,328,805 B2
Charah, LLC	ASH MANAGEMENT TRENCH	July 29, 2015	Live	14/813,052