The Hydroprocessing Associates (HPA) team of experienced supervisors and specialized technicians undergo rigorous and progressive training to keep up with the specific knowledge necessary to carry out the precise tasks associated with catalyst change-outs and reactor maintenance.

Our technicians have worked all over the globe accumulating knowledge of different reactor designs and refinery safety permit systems. Through this experience, HPA has completed major turnarounds safely and ahead of schedule. These maintenance turnarounds have included catalyst change-outs in HCR’s, CCR’s, HDS’s, and Ammonia Convertors as well as the retrofit of the internals on HCU’s.

Working closely as a team and partner with our clients, our dedicated professionals have achieved industry-leading turnaround times while maintaining an excellent safety record. The result has been extended run times and an improved bottom-line for our clients.

HPA is always looking for the next opportunity, and we look forward to developing a relationship with you as your partner and one stop shop for safe and efficient reactor turnarounds. Please feel free to contact us using the form on one of our websites (www.hpa-usa.com / www.hpa.sg) or stop by any of our four locations world wide, and we will be glad to discuss our services further with you and your collegues.

Sincerely,

Peter W. Thew
HPA Global Holdings
HPA (S) PTE LTD / Hydroprocessing Associates, LLC
President & CEO
228-475-2971 Office
888-371-1490 Fax
sales@hpa-usa.com
**Pre-Qualification Form**

**Business Name (as reported to the U.S. Government):** Hydroprocessing Associates, LLC

**E-mail ID:** peter@hpa-usa.com  
**DUNS No.:** 82-463-6083

**Business Address:**

<table>
<thead>
<tr>
<th>Street Address</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>6016 Highway 63</td>
<td>Moss Point</td>
<td>MS</td>
<td>39563</td>
</tr>
</tbody>
</table>

**Contact Person:** Peter Thew  
**Title:** President / Operating Partner

**Phone & Fax Nos.:** 228-475-2971 / 888-371-1490

**Business Classification (See definition on reverse side of this form):**

In accordance with Government regulations and prime contract requirements, we are required to verify the business size and classification of our suppliers and potential suppliers. The responsibility of determining classification type for your business is yours. If you have any questions, please contact your U.S. Small Business Administration (SBA) office (www.sba.gov). Please check all appropriate boxes in sections A through C.

**NOTE:** If you are not a business concern, this form was sent to you in error. Please write NOT APPLICABLE across the form and return in the attached envelope. We apologize for any inconvenience this may have caused.

**SECTION A: Business:**  
- ☒ Small Business  
- ☐ Large Business

**SECTION B: Organization/Organization Data:**

- ☐ Woman-Owned  
- ☐ Minority-Owned (fill out Section C)  
- ☐ Veteran-Owned  
- ☐ Service-Disabled Veteran Owned  
- ☐ Small Disadvantaged Business  
- ☐ SBA 8(a)  
- ☐ HUB Zone  
- ☐ LGBT

**SECTION C: Minority Groups:**

- ☐ Alaska Native Corporation/Indian Tribes  
- ☐ African American  
- ☐ Hispanic-American  
- ☐ Asian-Pacific American  
- ☐ Native American  
- ☐ Other per SBA g/l

This will certify that I have read the requirements and definitions cited on the reverse and the company classification I have selected is true and correct. Under 15 U.S.C.A., Section 645(d), any person who misrepresents the status of any concern or person as a "small business concern" or "small business concern owned and controlled by socially and economically disadvantaged individuals", sometimes referred to herein as a "small disadvantaged business concern", or a "small business concern owned and controlled by women", in order to obtain for itself or another person any subcontract that is to be included as part or all of a goal contained in a subcontracting plan required pursuant to Section 8(d) of the Federal Small Business Act (the "Act"), Section 637(d) of 15 U.S.C.A., or any other provision of Federal law that specifically references Section 8(d) of the Act for a definition of program eligibility, shall –

(A) be punished by imposition of a fine, imprisonment, or both;  
(B) be subject to administrative remedies, including suspension and debarment; and  
(C) be ineligible for participation in programs conducted under the authority of the Act (FAR 52.219-1) (DFARS 252.219-7000)

I will notify the appropriate person if our classification should change.

**Business (Type or Print):** Partnership / Limited Liability Company

**Certified by:**

**Signature Required:**

**Printed Name:** G. Brad Alidor

**Title:** General Manager / Financial Controller  
**Date:** 05/01/2016  
**(MM / DD / YYYY)**

For Office Use Only: Remit To Vendor #: 

Page 1 of 11  
Revised 05/01/16
Supplier Diversity/Small Business Categories

SMALL BUSINESS CONCERN
As defined by the Small Business Association (SBA) (www.sba.gov) a small business concern is one that is independently owned and operated, is organized for profit, with a place of business located in the United States, and is not dominant in its field. Together with its affiliates, it must meet the numerical size standards as defined in the Small Business Size Regulations, 13 CFR 121.

Refer to SBA size standards home page (www.sba.gov/size/indexetableofsize.html) based on your business type or North American Industry Classification System (NAICS) code.

Depending on the industry, size standard eligibility is based on the average number of employees for the preceding twelve months or on sales volume averaged over a three-year period. Examples of SBA general size standards include the following:

- Manufacturing: Maximum number of employees may range from 500 to 1500, depending on the type of product manufactured;
- Wholesaling: Maximum number of employees may range from 100 to 500 depending on the particular product being provided;
- Services: Annual receipts may not exceed $2.5 to $21.5 million, depending on the particular service being provided;
- Retailing: Annual receipts may not exceed $5.0 to $21.0 million, depending on the particular product being provided;
- General and Heavy Construction: General construction annual receipts may not exceed $13.5 to $17 million, depending on the type of construction;
- Special Trade Construction: Annual receipts may not exceed $7 million; and
- Agriculture: Annual receipts may not exceed $0.5 to $9.0 million, depending on the agricultural product.

SMALL BUSINESS ADMINISTRATION (SBA) CERTIFICATION PROGRAMS
The SBA administers two particular business assistance programs for small disadvantaged businesses (SDBs). These programs are the 8(a) Business Development Program and the Small Disadvantaged Business (SDB) Certification Program. While the 8(a) Program offers a broad scope of assistance to socially and economically disadvantaged firms, SDB certification strictly pertains to benefits in federal procurement. 8(a) firms automatically qualify for SDB certification.

8(a) - A firm must be a small business, must be unconditionally owned and controlled by one or more socially and economically disadvantaged individuals who are of good character and citizens of the United States, and must demonstrate potential for success.

Small Disadvantaged Business - Qualifications for the program are similar to those for the 8(a) Business Development Program. A small business must be at least 51% owned and controlled by a socially and economically disadvantaged individual or individuals: African Americans, Hispanic Americans, Asian Pacific Americans, Subcontinent Asian Americans, and Native Americans are presumed to qualify. Other individuals can qualify if they show by a “preponderance of the evidence” that they are disadvantaged. All individuals must have a net worth of less than $750,000, excluding the equity of the business and primary residence. Successful applicants must also meet applicable size standards for small businesses in their industry.

HUBZone - A firm can be found to be a qualified HUBZone concern, if it is small, located in an “historically underutilized business zone” (HUBZone), owned and controlled by one or more U.S. Citizens, and at least 35% of its employees reside in a HUBZone. Refer to SBA HUBZone home page for further info https://eweb1.sba.gov/hubzone/internet.

LARGE BUSINESS CONCERN – a firm that exceeds the small business size code standards established by the SBA as set forth in code of Federal Regulation, Title 13, Part 121.

DISABLED VETERAN CONCERN – a veteran or a group of veterans must have 51% ownership and control of the business. A similar 51% rule is applied to businesses owned by service-disabled veterans. Refer to web site for specific eligibility requirements http://www.vetbiz.gov

WOMEN-OWNED BUSINESS ENTERPRISE – is a firm that is 51% owned, managed and controlled by a woman or group of women. Refer to Women’s Business Enterprise (WBENC) web site for certification eligibility requirements http://www.wbenc.org.

MINORITY BUSINESS ENTERPRISE – is a firm that is 51% owned, managed and controlled by an individual or group of individuals who is/are members of one of the following groups: African-American, Asian Indian American, Asian-Pacific American, Hispanic American or Native American. Refer to National Minority Supplier Development Council Inc. (NMSDC) web site for certification eligibility requirements http://www.nmsdcus.org.
1. Company Name: **Hydroprocessing Associates, LLC**  
   Telephone: **228-475-2971**  
   Fax: **888-371-1490**

2. Federal Tax I.D. **51-0541115**
   
   **Street Address:**  
   6016 Highway 63  
   Moss Point, MS 39563
   
   **Mailing Address:**  
   P.O. Box 621  
   Grand Bay, AL 36541
   
   **Pay-to Address:**  
   6016 Highway 63  
   Moss Point, MS 39563

3. **Officers:**
   
   **President:** **Peter Thew**  
   **Vice President:**  
   **Treasurer:**

4. **Years With Company**  
   Small Business ___  
   Minority-Owned ___  
   Woman-Owned ___  
   Small Disadvantaged ___  
   HUB Zone ___

5. **How many years has your organization been in business under your present firm name?**  
   8

6. **Parent Company Name:**
   
   **City:**  
   **State:**  
   **Zip:**

   **Subsidiaries:**

7. **Under Current Management Since (Date):**  
   **March 25, 2005**

8. **Contact for Insurance Information:**
   **Brad Alidor**
   
   **Title:**  
   **Financial Controller**  
   **Telephone:** **228-475-2971**  
   **Fax:** **228-475-2974**

9. **Insurance Carrier(s):**  
   **Sara Hollis**  
   **Agent**  
   **Hancock Insurance**  
   **251-665-1646**
   
   **Name**  
   **Type of Coverage**  
   **Telephone**
   Chartis Specialty Insurance Company  
   General Liability / Umbrella Liability  
   908-679-3625
   Commerce and Industry Ins. Co.  
   Automobile Liability  
   212-770-7000
   National Union Fire Ins Co Pittsburgh PA  
   Workers Compensation  
   800-221-0651

10. **Are you self-insured for Worker's Compensation Insurance?**  
    No

11. **How many of your employees are TWIC (Transportation Worker Identification Credential) Certified?**  
    121

Please be advised that TWIC was established by Congress through the Maritime Transportation Security Act (MTSA) and the program is administered by the Transportation Security Administration (TSA) and U.S. Coast Guard. Anyone requiring access to the refinery, west of Highway 611, will require a TWIC card effective September 25, 2008.

12. **Contact for Requesting Bids:**
    **Peter Thew**
    
    **Title:**  
    **President**  
    **Telephone:** **228-475-2971**  
    **Fax:** **888-371-1490**

13. **PQF Completed By:**
    **Brad Alidor**
    
    **Title:**  
    **Chief Financial Officer**  
    **Telephone:** **228-475-2971**  
    **Fax:** **888-371-1490**
**11. Form of Business:** Sole Owner  
**Partnership**  
**Corporation**  

**12. Percent Minority/Female Owned:** 0.0%  
**EEO Category:**

**13. Describe Services Performed:**  
- Construction  
- Construction Design  
- Original Equipment Manufacturer and Installer  
- Project Maintenance  
- Maintenance  
- Service work (e.g., janitorial, clerical, etc.)  
- Manpower and Resource  
- **X** Other-Catalyst Handling/Reactor Maintenance

**SIC Code:**  
- Original Equipment Manufacturer and Maintenance  
- X Service work (e.g., janitorial, clerical, etc.)  
- Manpower and Resource  
- X Other-Catalyst Handling/Reactor Maintenance

**14. Describe Additional Services Performed:**  
- Reactor Maintenance: Tray Installation, Welding, High Pressure Water Blasting, and Vapor Blasting

**15. List other types of work within the services you normally perform that you subcontract to others:** **None**

**16. Attach a list of major equipment (e.g., cranes, JLGs, forklifts) your company has available for work at this facility and the method of establishing competency to operate.**  
Specialized Vacuum Equipment, Dense Loading Machines, and Life Support Equipment, TLE & LTC HP Water blasting for cleaning of exchangers, Vapor Blast unit for water over sand blasting for inspection welds, among other specialized refinery maintenance equipment. (See Attachment). Training established by means of in-house training, testing, and certification along with all site specific training for plant entry.

**17. Do you normally employ?**  
- **Union Personnel**  
- Non-Union Personnel **X**
  
If union, list tradelocals:

**18. Company Paid Benefits - Do you have or provide:**

- **a. Health Insurance** Yes **X** No
- **b. Dental Insurance** Yes **X** No
- **c. Paid vacation** Yes **X** No
- **d. Paid holidays** Yes **X** No
- **e. Paid sick leave** Yes **X** No
- **f. Educational reimbursement program** Yes No **X**
- **g. Employee profit sharing** Yes No **X**

**19. Annual Dollar Volume for the Past Three Years:**  
<table>
<thead>
<tr>
<th>Year</th>
<th>Available upon request</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
</tr>
</tbody>
</table>

**20. Largest Job During the Last 3 Years:**  
2.1 - 4.1 Million

**21. Your Firm's Desired Project Size:**  
- Maximum 10 M +  
- Minimum 30 K

**22. D & B Financial Rating:**  
- **D&B # 82-463-6083 Rating 3A1**  
- Annual Sales $  
- Available upon request  
- Net Worth $  
- Available upon request
RELIABILITY REVIEW
COMPANY WORK HISTORY

23. Major jobs in progress:

<table>
<thead>
<tr>
<th>Customer/Location</th>
<th>Type of work</th>
<th>Size</th>
<th>Customer Contact</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP Cherry Point, Washington</td>
<td>2015 TAR Catalyst RFP</td>
<td>AR</td>
<td>Available upon request</td>
<td>Available upon request</td>
</tr>
<tr>
<td>BP Cherry Point, Washington</td>
<td>2016 TAR Catalyst Change Out</td>
<td>AR</td>
<td>Available upon request</td>
<td>Available upon request</td>
</tr>
</tbody>
</table>

24. Major jobs completed in the past three years:

<table>
<thead>
<tr>
<th>Customer/Location</th>
<th>Type of work</th>
<th>Size</th>
<th>Customer Contact</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chevron Pascagoula MS</td>
<td>CK1 1st and 2nd Stage Isomax Unit 12 Plant Catalyst</td>
<td>AR</td>
<td>Available upon request</td>
<td>Available upon request</td>
</tr>
<tr>
<td>Chevron Pascagoula MS</td>
<td>RDS 81A, 81B, 81C Catalyst Change Out</td>
<td>AR</td>
<td>Available upon request</td>
<td>Available upon request</td>
</tr>
<tr>
<td>Chevron El Segundo CA</td>
<td>ISO R-610, R-620 Catalyst Change Out</td>
<td>AR</td>
<td>Available upon request</td>
<td>Available upon request</td>
</tr>
</tbody>
</table>

25. Are there any judgments, claim or suits pending or outstanding against your company?  
If yes, please attach details.  
Yes [X]  No  

26. Are you now or have you ever been involved in any bankruptcy or reorganization proceedings?  
If yes, please attach details.  
Yes [X]  No  

27. Workers Compensation Experience Modification Rate (EMR) Date  
   a. EMR is:  
      X Interstate rate  
      In intrastate rate  
      Monopolistic State rate  
      Dual rate  
   b. EMR for last three years:  
      2013: .79  
      2014: .77  
      2015: .80  
   c. State of Origin: MS  
   d. EMR Anniversary Date: 7/2/16
28. Injury and Illness Data:
   a. Employee hours worked last three years (excluding subcontractors)

<table>
<thead>
<tr>
<th>Hours/Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field</td>
<td>198,282</td>
<td>183,370</td>
<td>216,489</td>
</tr>
<tr>
<td>Total</td>
<td>198,282</td>
<td>183,370</td>
<td>216,489</td>
</tr>
</tbody>
</table>

   b. Provide the following data (excluding subcontractor) using your OSHA 200 Forms from the past three (3) years.

<table>
<thead>
<tr>
<th>Injury related fatality</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lost workday case injuries involving days away from work, or days of restricted work activity, or both.</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Injuries involving medical treatment only.</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total OSHA Recordable Injury Rate</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illness related fatality</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lost workday case illnesses involving days away from work, or days of restricted work activity, or both.</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lost workday case illnesses involving days away from work.</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illnesses not involving lost workdays or restricted workdays</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total OSHA Recordable Illness Rate</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total OSHA Recordable Injury/Illness Rate</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate = Total X 200,000</td>
<td>No.:</td>
<td>Rate:</td>
<td>No.:</td>
</tr>
<tr>
<td>Total Employee Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: (1) Data should be the best available data applicable to the work in this region or area.

(2) If your company is not required to maintain OSHA 200 forms, please provide information from your Worker's Compensation insurance carrier itemizing all claims for the last three years.
29. Have you received any regulatory (EPA, OSHA, etc.) citations or been involved in any court litigation related to HES incidents or noncompliance in the last three years?
   If yes, please attach copies.  
   Yes  
   No X

30. Highest ranking safety/health professional in the company: Tommy Bradford
   Title: Global QEHS  
   Manager  
   Telephone:228-475-2971 ex. 1009  
   Fax:888-371-1490

31. Do you have or provide:
   a. Full time Safety/Health Director  Yes X  
   b. Full time Site Safety/Health Supervisor  Yes X  
   c. Full time Job Safety/Health Coordinator  Yes X  

32. Do you have or provide:
   a. Safety/Health incentive program  Yes X  
   b. Company paid safety/health training  Yes X  

33. Do you have a written Safety and Health Program?  Yes X  
   Does the program address the following key elements?
   * Management commitment and expectations  Yes X  
   * Employee participation  Yes X  
   * Accountabilities and responsibilities for managers, supervisors, and employees  Yes X  
   * Resources for meeting safety & health requirements  Yes X  
   * Periodic safety and health performance appraisals for all employees  Yes X  
   * Hazard recognition and control  Yes X  

34. Does the program include work practices and procedures such as:
   a. Equipment Lockout and Tagout (LOTO)  Yes X  
   b. Confined Space Entry  Yes X  
   c. Injury & Illness Recording  Yes X  
   d. Fall Protection  Yes X  
   e. Personal Protective Equipment  Yes X  
   f. Portable Electrical/Power Tools  Yes X  
   g. Vehicle Safety  Yes X  
   h. Compressed Gas Cylinders  Yes X  
   i. Electrical Equipment Grounding Assurance  Yes X  
   j. Powered Industrial Vehicles (Crane, Forklifts, JLGs)  Yes X  
   k. Housekeeping  Yes X  
   l. Accident/Incident Reporting  Yes X  
   m. Unsafe Condition Reporting  Yes X  
   n. Emergency Preparedness, including evacuation plan  Yes X  
   o. Waste Disposal  Yes X  

Page 7 of 11  Revised 05/01/16
35. Do you have written programs for the following:
   a. Hearing Conservation  Yes \(\times\)  No
   b. Respiratory Protection  Yes \(\times\)  No

   Where applicable, have employees been:
   Trained \(\times\)
   Fit tested \(\times\)
   Medically approved \(\times\)
   c. Hazard Communication  Yes \(\times\)  No
   d. Program to support the contractor requirements of
      the OSHA Process Safety Management of Highly
      Hazardous Chemicals; Explosives and Blasting
      Agents Standard (29 CFR 1910).  Yes \(\times\)  No

36. Do you have a substance abuse program?  Yes \(\times\)  No
   If yes, does it include the following?
   * Pre-placement Testing  Yes \(\times\)  No
   * Random Testing  Yes \(\times\)  No
   * Testing for Cause  Yes \(\times\)  No
   * DOT Testing  Yes \(\times\)  No

37. Do your employees read, write and understanding English such that they can perform their job tasks safely without an interpreter?  Yes \(\times\)  No

38. What type of background checks do you perform on your direct employees and subcontractors? **TWIC**

39. Medical
   
   a. Do you conduct medical examinations for:
      * Pre-placement  Yes \(\times\)  No
      * Pre-placement Job Capability  Yes \(\times\)  No
      * Hearing Function (Audio-grams)  Yes \(\times\)  No
      * Pulmonary  Yes \(\times\)  No
      * Respiratory  Yes \(\times\)  No
   
   b. Describe how you will provide first aid and other medical services for your employees while on-site.
      
      Specify who will provide this service:
      **Supervisors are First Aid/CPR certified / Follow up with an Occupational Medicine Physician**

   c. Do you have personnel trained to perform first aid and CPR?  Yes \(\times\)  No

40. Do you hold site safety and health meeting for:
   
   Field Supervisors  Yes \(\times\)  No  Frequency Daily
   Employees  Yes \(\times\)  No  Frequency Daily
   New Hires  Yes \(\times\)  No  Frequency Before Starting Work
   Subcontractors  Yes \(\times\)  No  Frequency Before Starting Work
   
   Are the safety and health meetings documented?  Yes \(\times\)  No

41. Personal Protection Equipment (PPE)
   
   a. Is applicable PPE provided for employees?  Yes \(\times\)  No
   b. Do you have a program to assure that PPE is inspected and maintained?  Yes \(\times\)  No
42. Do you have a corrective action process for addressing individual safety and health performance deficiencies? | Yes X | No |
---|---|---

43. Equipment and Materials:
   a. Do you have a system for establishing applicable health, safety and environmental specifications for acquisition of materials and equipment? | Yes X | No |
   b. Do you conduct inspections on operating equipment (e.g., cranes, forklifts, JLFs) in compliance with regulatory requirements? | Yes X | No |
   c. Do you maintain operating equipment in compliance with regulatory requirements? | Yes X | No |
   d. Do you maintain the applicable inspection and maintenance certification records for operating equipment? | Yes X | No |

44. Subcontractors:
   a. Do you use safety and health performance criteria in selection of subcontractors? | Yes X | No |
   b. Do you evaluate the ability of subcontractors to comply with applicable health and safety requirements as part of the selection process? | Yes X | No |
   c. Do your subcontractors have a written Safety & Health Program? | Yes X | No |
   d. Do you include your subcontractors in:
      * Safety & Health Orientation | Yes X | No |
      * Safety & Health Meeting | Yes X | No |
      * Inspections | Yes X | No |
      * Audits | Yes X | No |

45. Inspections and Audits:
   a. Do you conduct safety and health inspections? | Yes X | No |
   b. Do you conduct safety and health program audits? | Yes X | No |
   c. Are corrections of deficiencies documented? | Yes X | No |

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SAFETY & HEALTH TRAINING

46. Craft Training:
   a. Have employees been trained in appropriate job skills? | Yes X | No |
   b. Are employees job skills certified where required by regulatory or industry consensus standards? | Yes X | No |
   c. List crafts which have been certified: Welding and Catalyst Handling

47. Safety & Health Orientation:
   a. Do you have a Short Service Employee (SSE) Program for new hires and newly hired or promoted supervisors? | New Hires: Yes X, No | Supervisors: Yes X, No |
   b. Does program provide instruction on the following:
      * New Worker Orientation | Yes X, No | Yes, No |
      * Written Safe Work Practices | Yes X, No | Yes, No |
      * Safety Supervision | Yes X, No | Yes, No |
      * Toolbox Meetings | Yes X, No | Yes, No |
      * Emergency Procedures | Yes X, No | Yes, No |
      * First Aid Procedures | Yes X, No | Yes, No |
      * Incident Investigation | Yes X, No | Yes, No |
      * Fire Protection and Prevention | Yes X, No | Yes, No |
      * Safety Intervention | Yes X, No | Yes, No |
      * Hazard Communication | Yes X, No | Yes, No |
      * Written Process to report, investigate and record incidents | Yes X, No | Yes, No |
   c. How long is the Orientation Program?
48. Safety & Health Training
   a. Do you know the regulatory safety and health training requirements for your employees? Yes X No Yes No
   b. Have your employees received the required safety and health training and retraining? Yes X No Yes No
   c. Have your employees received the required safety and health training and retraining? Yes X No Yes No
   d. Do you have a behavior based safety process in place? Yes X No Yes No

49. Training Records
   a. Do you have safety and health and crafts training records for your employees? Yes X No Yes No
   b. Do the training records include the following: Employee Identification: Yes X No Yes No

ENVIRONMENTAL PERFORMANCE

Please fill out this questionnaire as completely as possible, if question not applicable; please mark as such and explain why.

1. Does your company have a waste management program in place? (If "yes", please describe the main elements of the program or provide a copy. If "no", please explain why.) No, Hydroprocessing Associates, LLC does not dispose/transport spent catalyst and/or client's waste.
   List name and contact information for the individual responsible for ensuring adherence to this program: Tommy Bradford - QEHS Manager
   How often is this program reviewed and updated? Annually or as needed; if a client requests or anticipates the need for Hydroprocessing Associates, LLC to dispose of or transport spent catalyst a program will be implemented.
   How often do employees receive training consistent with this plan? N/A at this time; if a client requests or anticipates the need Hydroprocessing Associates, LLC to dispose of or transport spent catalyst a program will be implemented along with annual training.

2. Does your company manage, or contract for management, any of the following solid wastes? No Wastewater or Storm water □Solvents □Refrigerants □Paint □Used Motor/Lubricating Oil
   What is the approximate quantity and frequency of generation?
   List any other types of solid waste managed by your company or by a contract service, the quantity and frequency of generation?

3. Please identify any environmental operating permits you have with state and/or federal agencies. None
   Has your company ever been found in non-compliance with any environmental regulations by any agency? (If yes, please describe the resolution of the claim)

4. Does your company have a pollution prevention/waste minimization program in place? (If "yes", please describe the main elements or goals of the program or provide a copy. If "no", please explain why.) (List any government authorized, voluntary pollution prevention/waste minimization programs (such as Green Lights, 33/50, etc.). California PERP registration
   List name and contact information for the individual responsible for ensuring adherence to this program: Kees Ooms, West Coast Branch Manager
   How often do employees receive training consistent with this plan? Annual

5. What materials do you recycle? N/A

6. Describe any recent material substitution, process or work practice changes your company has made to reduce the quantity of emissions or waste generated or decrease the use of toxic materials? N/A

7. Have you ever had a waste minimization assessment or review by an agency or consulting organization? (If yes, please describe the principle findings or attach results) No
INFORMATION SUBMITTAL

Items Below Available Upon Request:

( X ) EMR documentation from your insurance carrier ( Past 3 Years)
( X ) Insurance Certificate(s)
( X ) OSHA 200/300 Logs (Past 3 Years)
( X ) Safety & Health Program
    Safety & Health Incentive Program
( X ) Substances Abuse Program
( X ) Hazard Communication Program
( X ) Respiratory Protection Program

Housekeeping
( X ) Accident/Incident Investigation Procedure
( X ) Unsafe Condition Reporting Procedure
( X ) Safety & Health Inspection Form
( X ) Safety & Health Audit Procedure or Form
( X ) Safety & Health Orientation (Outline)
( X ) Safety & Health Training Program (Outline)
( X ) Example of Employee Safety & Health Training Records
( X ) Safety & Health Training Schedule (Sample)
( X ) Safety & Health Training for Supervisors (Outline)

Note: Owner checks items to be provided with PQF.
COMPANY INTRODUCTION & OVERVIEW
Company Profile

Introduction

Our Company

Hydroprocessing Associates Global is a full service catalyst and reactor maintenance company with facilities strategically located around the world. Our state-of-the-art equipment, trained workforce, and the ongoing improvement of our vacuum units, life support systems, and operating procedures allows for safe project execution in a timely and efficient manner. Over the years we have served countless industries and clients, and in the process we have successfully developed specialized equipment and techniques to effectively unload catalyst for various reactors and reactor processes.

Our prime business focuses on offering specialized equipment and personnel for the purpose of providing niche reactor services to a broad range of industries including oil & gas, exploration & refining, petrochemical, mining, fertilizer plants, power plants, and utilities. As part of the total turnaround management service, HPA offers blinding and bolting services as well as specialized internal repairs, reactor retrofits, and catalyst dense loading services.

With the sole license to a catalyst dense loading device designed by Chevron, further improved by HPA, and registered as the HYDROPAC®, Hydroprocessing Associates has become the preferred vendor for dense loading services throughout the industry. Our works are usually required during plant shutdowns as well as during emergencies and online reactor problems such as high delta pressure. HPA is globally positioned in Singapore and the United States. Therefore, we can offer our services virtually anywhere in the world at a moment’s notice.

Our History

HPA (S) PTE LTD, formerly a reactor maintenance division of VAC-TECH ENGINEERING PTE LTD, built a reputation for completing major Hydrocracker and RDS unit turnarounds faster and safer than previous contractors. As a result of that success, HPA (S) PTE LTD was invited, by Chevron, to unload and dense load a reactor in Texas. This particular reactor had never run at full capacity with due to mal-distribution, which was attributed to an increase in catalyst attrition. However, HPA exceeded everyone’s expectations with this challenging unit, and as they say, “the rest is history.”

Shortly after this impressive feat, HPA (S) PTE LTD teamed up with a local US catalyst handling company, and together they successfully completed turnaround after turnaround with reactor runs to better than expected output. Many of these runs still hold superior today. As a result of these runs HPA became the talk of the industry. Many of the turnaround groups were so impressed with HPA’s success that an article was published in Hydrocarbon Engineering Magazine highlighting HPA’s capabilities. This ultimately set the stage for HPA to enter the US market on its own as Hydroprocessing Associates, LLC.

Our Mission

Hydroprocessing Associates is well positioned within this unique industry. We plan to maintain our highly respected and personal reputation with not only our knowledge and skills, but also our loyalty and business ethics. By constantly broadening and passing on the skills we have acquired through our 20 years of experience in the industry, we have made it our goal to forge a name for ourselves throughout the world which can only be associated with Quality, Safety, Care, and Innovation.

Our Vision

We are committed to the safety of our people, the environment, provision of excellence, sustainable growth and continued employment and development of our staff and surrounding communities. We will strive to maintain and develop our profile as a highly reputable and specialized reactor maintenance company.

“Nothing in the world can take the place of persistence. TALENT will not; nothing is more common than unsuccessful men with talent. GENIUS will not; unrewarded genius is almost a proverb. EDUCATION will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent.” – Calvin Coolidge

Our Business

HPA is a diversified and integrated service provider with an unparalleled reputation for handling all types of reactors in the oil industry throughout not only United States but also Singapore, Malaysia, Korea, Kuwait, and Argentina just to name a few. Our in-depth local knowledge of operating conditions and the candid
HYROPROCESSING ASSOCIATES
SERVICES OVERVIEW
Company Profile

Introduction

ability to develop strong relationships with all local and government bodies ensures your best interests are maintained at all times.

Hydroprocessing Associates is recognized as a leader in the industry, and as such has a long history in catalyst handling and dense loading technology working closely with ChevronTexaco in various locations around the globe, including the United States, Argentina, and Asia. Having worked on catalyst change-outs, in particular the dense loading of Chevron catalysts and Chevron reactor designs, HPA thoroughly understands the strict requirements in catalyst loading.

Our Services

In addition to catalyst loading, HPA offers all reactor turnkey services; from blinds to blinds and mechanical repairs to project planning HPA has a vast portfolio of reactor services. HPA specializes in inert entry using the latest life-support units from BSI. Our catalyst unloading services make use of powerful vacuum units with 26 inches of vacuum, a nitrogen return loop, and soft flow technology to vacuum with minimal attrition to the catalyst for reuse. All catalyst technicians are trained in vessel rescue, first aid, and CPR. HPA has an R stamp from the National Board of Boiler and Pressure Vessel Inspectors giving them the ability to complete vessel welding repairs and inspections.

Primary Services Offered:

- **Reactor Turnkey Services**
  - Project Planning
  - Blinds to Blinds

- **Catalyst Services**
  - Catalyst Change Out & Inert Entry
    - Vessel Unloading
    - Catalyst Screening
    - Vessel Loading
      - HYDROPAC®
      - Sock Loading
      - UNIDENSE™ (Loading of Reformer Tubes)
  - Catalyst Screening
    - CHEP / Cougar Containers
  - Ni-Cool (Liquid Nitrogen Controlled Fast Cooling Of Reactors)
  - CCTV (Video) Inspection Services

- **Mechanical Services**
  - Bolt Tensioning
  - Vessel Repairs
    - ‘R’ Stamp for all vessel repairs (ASME)
  - Reactor Retrofits
    - ‘R’ Stamp for all reactor retrofits (ASME)
  - QA/QC Inspection Services

- **Abrasive Blasting**
  - Abrasive Wet-Blasting
    - The CleanerBlast™ Machine
  - Hydro-blasting
    - Advanced Exchanger Cleaning
Introduction

**OUR SAFETY & QUALITY**

We’re committed to an “incident free work environment”. Through our proactive Safety Program, potential hazards are identified, evaluated, and effectively controlled or eliminated to prevent incidents and related consequences. Hydroprocessing Associates uses statistical performance indicators to measure safety performance and improvement, empowering employee’s to actively participate in the direction of our safety program encouraging “employee ownership”. Safety is our top priority.

Hydroprocessing Associates uses state-of-the-art equipment cameras, communications, and computer programs to ensure optimum results without compromising safety. We are ISO 9001:2008 and OHSAS 18001:2007 accredited for quality-control and Isnetworld and PICS compliant.

All catalyst technicians are trained in vessel rescue, first aid, and CPR. HPA has their R stamp from the National Board of Boiler and Pressure Vessel Inspectors allowing them to do complete vessel welding repairs and inspection.

**OUR EQUIPMENT**

HPA’S Equipment is designed for quick and efficient deployment from reactor to reactor and refinery to refinery. Over the years we have served countless industries and clients, in the process we have successfully developed specialized equipment and techniques to effectively unload catalyst for many various reactors and numerous processes.

- VecLoader® Catalyst Vacuums
- GUZZLER®
- Life Support Units
- BSI Life Support Helmets
- Rescue Equipment
- Video Monitoring Equipment
- Tool Trailers
- Hoppers - Loading & Lifting
- Hoppers - Lifting
- HYDROPAC® Dense Loading Machine
- Various Sized Trucks & 18 Wheelers
- The CleanerBlast™ Machine

**THE HYDROPAC®**

HPA has a catalyst dense loading division focused on bringing a much needed and now required alternative to the Oil & Petrochemical Industry. HPA offers a catalyst dense loading method, designed by Chevron and modified by HPA, called the HYDROPAC®. The HYDROPAC® allows the sprinkling of catalyst in a continually uniform pattern at a rate slow enough to let each particle settle but fast enough for acceptable loading time. There are several dense loading technologies on the market, but few if any, that can match the HYDROPAC® in design and performance.

The key to an optimum catalyst loading profile is to allow the individual catalyst particles to free fall to the bed where they bounce around settling in their lowest energy state. This means that particles fall onto their long axis and form a horizontal mat with the long dimension of the particles aligned with the bed diameter perpendicular to reactor shell so that particle orientation does not affect the oil flow.

HPA’s unique and registered designed, the HYDROPAC®, utilizes a compound disk which is responsible for the fast and even loading profile. The design allows the loader to operate just beneath the trays, and to load to maximum height. The HYDROPAC®’s RPM can easily be adjusted, while loading, to allow the catalyst to land just inside the wall.

It has an adjustable center gap, which ensures that the proper profile also extends to the center of the bed. The HYDROPAC®’s rotation is reversible for loading around transfer tubes and other internal obstructions that may be present eliminating the shadow effect. This function is imperative to avoid maldistribution at the top of the bed.

Unlike other machines that batter the catalyst with whips thus creating a greater risk for attrition and dust, the HYDROPAC®’s unique design allows the catalyst to gently flow onto the plates as it is directed off the disk by centrifugal force causing no attrition. While loading a cylindrical bed or vessel, the
**Company Profile**

**Introduction**

HYDROPAC® will pack the catalyst even with a high angle of repose (Spherical and Extradite Catalysts), uniformly into its optimal density.

The HYDROPAC® has undergone continuous innovations making it THE catalyst density loading device of choice. Using the right catalyst dense loading method is critical to the duration of the run duration and the life of a catalyst bed. Using the HYDROPAC® you will be assured of:

- An optimum load resulting in maximum performance from the catalyst
- More catalyst loaded per bed
- Even distribution of flow
- Prevention of channeling due to loading issues
- Less chance of hotspots due to loading issues
- Catalyst pellets lying flat optimizing reaction
- A bed dense loaded to optimum height beneath the distributor tray
- No need for a technician to walk over the catalyst during loading

**OUR EMPLOYEES**

HPA is dedicated to locating, hiring, and retaining the best talent in the refinery maintenance service industry. We have a long term commitment to employing the best qualified people available to meet and exceed our customer’s expectations. Our employees are dedicated to the philosophies of HPA and believe in our commitment to the customer as well as each other. HPA is a team of terrifically talented people who love this industry and believe in each other.

HPA’s experienced supervisors and catalyst technicians undergo rigorous and continuous training in order to keep up with the ever-evolving and specialized knowledge necessary to carry out the required tasks. Working closely as a team, our dedicated professionals have achieved industry-leading turnaround times while maintaining an excellent safety record.

Our specialized technicians are highly trained, and throughout the years each of them have accumulated valuable knowledge and experience in different design reactors, client operating disciplines, and management systems used worldwide. Our list of accomplishments include safe, ahead of schedule completion on major Turnarounds including Hydrocrackers, CCR, HDS and Ammonia Convertors just to name a few. As a result of this success, many of HPA’s clientele recognize an immediate improvement to their bottom-line.

HPA averaged 131 US based employees and 40 Singapore based employees in 2012 so needless to say international crews are available for immediate travel at a moment’s notice. Professional qualifications include:

- Full Time Safety Engineer/Industrial Management
- Full Time QA/QC Manager Certified Welder Inspector
- Operations & Project Managers with 15+ Catalyst/Refinery Maintenance Experience
- A workforce of highly trained in Confined Space Entrants, Inert Technicians with Rescue Training, Forklift Operators, and Welders

**OUR CLIENTS**

We continue to expand our client list and workforce to meet industry demands. Our client portfolio includes clients who are leaders in their respective fields.

“Hydroprocessing Associates (HPA) Limited continues to impress in the oil and petrochemical industry with its valuable knowledge and experience in catalyst handling, specializing in confined space and inert entry, vacuum unloading of pyrophoric material and catalyst dense loading. They utilize superior video technology. Their safety record is impeccable. They have always performed top notch when called upon on high profile loads/unloads for CLG clients. We do not hesitate to recommend them as our preferred loading company. We have yet to have a client utilize them and be disappointed with the services provided” – Chevron Lummus Global
Company Profile

Introduction

A partial list of satisfied clientele:

- Petronas - Malaysia
- Shell Malaysia
- Petronas Fertilizer
- FCM - Penang
- Exxon Mobil Singapore
- Shell - Bukom
- Lyne - Singapore
- PCS - Singapore
- Celenese
- Singapore Refinery Company
- MRPL - India
- BPCL - India
- Sasol - South Africa
- Hyundai - Korea
- GS Caltex - Korea
- Petron
- Shell Philippines
- Chevron Philippines
- Formosa - Taiwan
- CPC - Taiwan
- Pertamina – Indonesia
- KNPC/CLG-Kuwait
- KPA - Indonesia
- KMI - Indonesia
- Pusri - Indonesia
- Chevron – Salt Lake City, UT USA
- Chevron – Pascagoula, MS USA
- Chevron – El Segundo, CA USA
- Valero – Ohio USA
- Valero – Memphis, TN USA
- Valero – Port Arthur, TX USA
- Premcor - USA
- Repsol - Argentina
- WEPEC - China

OUR FINANCIAL STRENGTH

- We completely own all of our pieces of equipment including VectorLoader® Vacuum Units, Dense Loading Machines, Trucks, Trailers, Custom Life Support Units equipped with the latest Breathing Systems and Monitoring Equipment from Breathing Systems, Inc.

- We are approaching the 10 year mark in both the US and abroad as HPA, and we have strong financial relationships with several larger well known refineries around the world including Chevron, Phillips 66, and BP.

- We are approaching the 10 year mark in both the US and abroad as HPA,

- We have developed strong relationships with numerous vendors, suppliers and subcontractors.

- We have various lines of credit as well as the ability to bond projects.

- Our insurance coverage meets or exceeds the industry standard (Certificate of Insurance).

- In 2015 HPA is looking to open branches in Washington & Canada.

- We have various lines of credit as well as the ability to bond all projects.

- Our Dun & Bradstreet (DUNS #: 82-463-6083) Rating has consistently improved each year. Our current D&B Rating is 3A1. The “3A” portion of the Rating (the Rating Classification) indicates that the company has a revenue from $1 million to $10 million. The “1” on the right (Composite Credit Appraisal) indicates an overall great or “High” credit appraisal.

OUR LOCATIONS

Mississippi:
6016 Highway 63
Moss Point, MS 39563
United States
Phone: 228-475-2971
Fax: 888-371-1490

Texas:
12018 State Highway 146
Dickinson, TX 77539
United States
Phone: 281-559-1100
Fax: 888-371-1490

California:
19122 S. Santa Fe St
Rancho Dominguez, CA 90221
United States
Phone: 310-667-6456
Fax: 888-371-1490

Singapore:
10 Chia Ping Road
Singapore 619978
Singapore
Phone: +65 92965477
Fax: +65 62646973
Company Profile

Services Overview

**REACTOR TURNKEY SERVICES**

- **Project Planning**
  - Utilizing the latest in project management software, we can plan your turnaround from shut down to startup. With the software and experienced planners at HPA, we are able to schedule resources and plan detailed tasks for on-time delivery every time.

- **Blinds to Blinds**
  - Let HPA manage all the tasks and resources required during your turnaround. We can ensure safety, quality, efficiency, on time and within budget.

**CATALYST SERVICES**

- **Catalyst Change Out & Inert Entry**

  - **Vessel Unloading:** With industry leading experience and expertise HPA has built its reputation by utilizing the safest methods for unloading vessels based on their design, type, and location. We service a variety of methods including a combination of methods depending on the vessels’ specs. HPA utilizes a variety of proven methods including wet dumping and dry vacuuming as well as fresh air and inert atmospheres. We are equipped to handle every method available on the market. Our wet dumping techniques, with consideration not only to the safety of personnel involved but also to the environment, is by far the quickest in the industry.

  - **Catalyst screening:** The vibratory screeners we use have low attrition and good cut points giving a clean reusable product that requires no additional handling afterwards. We can screen into any approved catalyst container from drums, CHEP bins and even Cougar containers. Our screening units are easily adjusted to give the optimum-screening rate for the required cut point.

  - **Vessel loading:**
    - **Sock loading:** With conventional sock loading techniques and experienced personnel, a uniform loaded bed can be achieved where the higher densities and startup ΔP of the superior method of dense loading is not practical. Good sock loading techniques can minimize problems that are normally associated with sock loading.

    - **Dense loading:** Dense loading is by far the best loading method available in the industry, and with this particular method, the unit can handle the higher startup ΔP. The advantages of dense loading is well known and well documented.

      - **HYDROPAC® technology** is a HPA designed, owned and operated dense loading system that incorporates all of the required features for a uniform load with none of the disadvantages associated with many of its competitors.

      - **UNIDENSE™ loading technology** is offered for the loading of reformer tubes through a technology partner.

- **Reactor Cool Down**

  - Ni-Cool or controlled rapid cool down of reactors utilizes liquid nitrogen to cool the reactor. HPA will provide this service through a technology partner.
Company Profile

Services Overview

- **CCTV (Video) Inspection Services**
  - With the use of high quality self-leveling video equipment the need to have your inspectors entering the vessel is reduced. All videos are recorded with a date and time stamp and pertinent information can be superimposed on the video with a text writer.

**MECHANICAL SERVICES**

- **Bolt Tensioning & Torqueing**
  - Bolt tensioning and torqueing: all flange integrity needs that you have we can handle, values can be supplied by us or we will tighten your flanges to your specifications. We prefer using Hydrotight equipment but can use any that is specified.

- **Vessel Repairs**
  - HPA is ASME ‘R’ stamp holders for repairs to pressure vessels QAQC and welding plans is setup for your specific needs.

- **Reactor Retrofits**
  - HPA have experience in retrofit installation of the Chevron ISOMIX, SHELL Global and Haldor Topsoe trays. These services include measuring the vessel for retrofit, visiting the manufacturer for quality control purposes, writing and reviewing an installation plan and procedure.

**ABRASIVE BLASTING**

- **Cleaning for Inspection**
  - Hydro-blast: General cleaning with high pressure water blasting from 4,000psi to 20,000psi
  - Abrasive Wet Blasting: Hydroprocessing Associates have teamed up with Cleaner Blast Solutions, as an agent, to offer the most revolutionary, safe, simple and effective alternative to most sand blasting and surface preparation practices. We introduce The CleanerBlast™ Machine.

  "Discover 100% Dust Free contained blasting that only consumes 5% to 10% the equivalent amount of abrasive grit compared with traditional dry blast systems. Less consumption means safer, less material costs, less disposal costs, less mess to clean up, less labor to pay and more profits." - CleanerBlast™ ABRASIVE WET-BLASTING MACHINE.

Where penetrant inspections are required, this is the preferred method because of the white metal finish that can be achieved. The technology uses 10% of the grid compared to traditional grid blasting and has no dust.
MISSISSIPPI BRANCH

Mississippi:
6016 Highway 63
Moss Point, MS 39563
United States
Phone: 228-475-2971
Fax: 888-371-1490

CALIFORNIA BRANCH

California:
19122 S. Santa Fe St
Rancho Domingues, CA 90221
United States
Phone: 310-667-6456
Fax: 888-371-1490
Texas Branch

Texas:
12018 State Highway 146
Dickinson, TX 77539
United States
Phone: 281-559-1100
Fax: 888-371-1490

Washington Branch

Washington:
1420 Pacific Place Suite B
Ferndale, WA 98248
Phone: 228-235-6403
Fax: 888-371-1490
Singapore:  
10 Chia Ping Road  
Singapore 619978  
Singapore  
Phone: +65 92965477  
Fax: +65 62646973
In today’s world of ever tougher and more stringent fuel specs, all aspects of the process must be utilised to the fullest extent for the entire operating cycle. 100% catalyst utilisation is critical. There are numerous external and internal factors that significantly affect unit performance. Internal factors that can affect catalyst utilisation are catalyst type and quality, reactor internals efficiency, and catalyst loading and startup. This article will focus on catalyst loading and its effect on overall unit performance.

Catalyst loading is often taken for granted. Too often the importance and value of catalyst loading is not understood by those responsible for the task. The consequences of ‘getting it wrong’ are also not recognised. More often than not, price is the driving factor when selecting a loading company. There is also a tendency to allow the turnaround budget to set the actual schedule. This is definitely one case where cheapest is not always less costly.

Experience has shown that an improper catalyst load, or a catalyst load that is not optimum, will always have an adverse impact on unit performance. An improper load will prevent the unit from performing to its fullest extent and negate the effects of superior catalyst quality. Product quality, run life, and unit capacity will all be adversely affected. Even if there is no apparent, readily measurable, detrimental effect, a load that is not optimum will result in an under utilised catalyst and failure to meet unit operating objectives, at the very least.

With more and more ULSD units coming online, catalyst utilisation is becoming ever more critical. A small error in loading (such as resulting inconsistent densities) can cause channelling within the catalyst bed, high radials temperature differences, and hot spots. Chevron Lummus Global (CLG) has seen extreme cases where, due to inconsistent densities, a significant portion of the catalyst had apparently never been exposed to hydrocarbons, even after one year of operation. This has been observed and confirmed during the catalyst unloading process. The catalyst was free of carbon and appeared as new. Perhaps most importantly of all, improper catalyst loading can lead to the unit being operated at the edge of safe operation limits, and still being unable to meet operating objectives. Hot spots and thermal excursions for even small unit upsets or feed changes can be a result of improperly loaded catalyst.

Conversely, proper catalyst loading will result in much better use of reactor capacity, longer cycle lengths, lower catalyst attrition, low radial spreads, and the best utilisation of the loaded catalyst.

UNIT DESCRIPTION
The Port Arthur hydrocracker is a CLG design that was commissioned in January 2001. The unit was designed for 35 000 bpsd of a mix of 80% Maya and 20% Arabian light based feeds. Products are heavy naphtha, Kero, diesel, and FCC feed (650°F and unconverted oil). The unit is a two stage recycle configuration. The first stage reactor has seven beds and is one of the largest diameter hydrocracker reactors in the world today. This high severity operation requires full utilisation of the catalyst and reactor hardware to achieve operating objectives and attain maximum profit. The unit is currently in Cycle 3 since original startup in 2001.

PROBLEMS ENCOUNTERED
Shortly after Run 2 startup, high bed outlet radials were observed in the first stage reactor. As the run progressed, it became increasingly difficult to operate. Peak and delta bed temperatures approached the maximum allowable with radial spreads approaching 100°F. Quench moves in certain beds became increasingly unresponsive. Feed rate and severity was limited due to these conditions.

It is significant that despite the poor individual bed distribution, the interbed Nautilus internals were very successful in bringing the bed inlet radials back to within expected design variance. Catalyst retain samples kept from Run 2 loading were carefully examined and no unusual characteristics were observed. All of the catalyst was well within...
design specifications. The startup procedure for Run 2 was reviewed and found to be as required. Startup data was scrutinised and appeared normal. The causes of the high radial temperature differences and hot spots could not immediately be identified.

**PREVENTING A RECURRENCE**

The longstanding and very close working relationship between CLG and Valero (formerly Premcor) facilitated and simplified analysis and diagnosis of the operation. As a result, it was agreed to reload the reactors with fresh catalyst to correct the less than satisfactory operation. To prevent the problem from being repeated, and to help understand what went wrong in Run 2, Valero Port Arthur refinery contracted CLG’s technical service group to manage the catalyst replacement for Run 3. CLG’s responsibilities were to determine the cause of the problems in Run 2, prevent a recurrence, and ensure an optimum catalyst load for Run 3. CLG was also responsible for nominating a catalyst dense loading company that had the experience and dense loading capabilities to ensure an optimum catalyst load. CLG chose VAC-TECH (now known as HPA (S) Pte Ltd) as the loading contractor. CLG and HPA have been working closely together for several years to further develop and perfect the dense loading technology that was used in this catalyst load. A local general catalyst loading company familiar to Port Arthur Refinery was used as support for HPA. CLG representatives were onsite providing 24 hour coverage from the time the unit was shut down until restart. An organisation chart for the reactor turn-round was developed showing areas of responsibility. Names and 24 hour contact information were included.

CLG kept detailed records in the form of video, digital photos, and written documentation throughout the reactor turn-round. The catalyst unloading contractors were required to keep very detailed records of the condition of the reactors throughout the entire unloading process to determine the exact cause of the apparent channeling and maldistribution witnessed during Run 2. Diagrams were made at the end of each shift by the unloading contractors in conjunction with CLG personnel. After careful examination of these records it was determined that the primary cause of the problems in Run 2 was inconsistent loaded densities throughout most of the reactor; predominantly in Beds 3 and 4, where the highest radials were observed during Run 2. This was concluded based on inconsistent catalyst conditions observed while unloading. These inconsistent densities were attributed to improper dense loading, as illustrated in Figure 1.

To prevent a recurrence of Run 2 problems, strict criteria were set for the cleaning, inspection and reload of the reactors. Detailed checklists were developed specific to each bed of both reactors. After unloading was complete, the

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**Table 1. Operating conditions of the Port Arthur hydrocracker**

<table>
<thead>
<tr>
<th>Operating cycle</th>
<th>Feed rate</th>
<th>Radials</th>
<th>Yields</th>
<th>Peak catalyst temps</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run 2</td>
<td>Limited to 88 - 90% as run progressed. Could not run light feed (LGO, LCGO)</td>
<td>Up to 100 °F</td>
<td>Unable to achieve full yield slate due to axial temperature restrictions (100 - 105 °F)</td>
<td>825 °F+, as had one runaway in Bed 4 (R-1000). Restricted temperatures to 800 - 810 °F max.</td>
<td>Reactor unresponsive to quench moves in Bed 2 - 4</td>
</tr>
<tr>
<td>Run 3</td>
<td>Able to achieve 100%+</td>
<td>&lt;10 °F</td>
<td>Normal yields achievable</td>
<td>812 °F in lower beds depending on feed</td>
<td>Reactor responsive to quench moves</td>
</tr>
</tbody>
</table>

---

Figure 1. Agglomerated catalyst map.

Figure 2. Comparison of Cycles 2 and 3.
reactors were cleaned as is standard procedure. After cleaning, the reactors were inspected thoroughly by CLG and Valero personnel. Video and photographic records were made of the reactors. Once all parties accepted that the reactors were clean, mechanical inspections were performed. Some repairs were made to the screens on several beds and at the catalyst support cone at the bottom of the reactor. Packing was installed where needed. Again, detailed checklists were followed and completed during the mechanical inspections. Once all necessary repairs were complete, the reactors were readied for catalyst loading.

**CATALYST LOADING**

As with the cleaning and inspections, detailed loading checklists and loading diagrams were developed and discussed with all parties involved in the loading procedure. Manpower for the loading activity was discussed and agreed upon. Catalyst was spotted onsite. The supersacks were marked with fluorescent paint to identify the catalyst type and sack count. Plans for the frequency of density checks were made and agreed upon. Contingency plans were made in the case of abnormal situations. Catalyst retain samples were taken. The catalyst was field tested to verify previously targeted loading densities. HPA used a laser level for accurate markings on the reactor walls for expected levels of support media and catalyst. The bed thermocouples were mapped out with positions/heights recorded. The Hydropac dense loading machine was selected for use based on its unique design, which provides an even distribution of catalyst to the cross-sectional area of the bed. Due to the machine’s design (it sits below the distributor tray) the beds could be dense loaded to their maximum potential. Utilising state of the art hardware and expertise, CLG was able to avoid the shadow effect (that can occur at reactor obstructions such as internal dumps pipes), which can lead to maldistribution and channelling. Catalyst loading proceeded smoothly and was completed on schedule even during some periods of light rain.

**UNIT RESTART**

Startup procedures were reviewed and modified to help ensure proper catalyst wetting and sulfiding. Detailed records of all aspects of the startup were kept for review and troubleshooting in the event of unexpected occurrences. The startup proceeded smoothly and the unit was brought online without incident. Unit data at startup showed significant improvement in reactor performance. Catalyst bed thermocouples showed even distribution throughout the beds with no signs of channelling, as illustrated in Figure 2, which compares the two cycles.

**CONCLUSION**

At the time of writing the unit has been online for 18 months. It is performing very well and target operating conditions are being consistently met. Valero is now able to operate the unit at or above design conditions and well within safe operating limits, as illustrated in Table 1.

Although CLG had overall responsibility for the reactor turnaround, it was the true team effort with Valero, CLG and the catalyst loading companies that ensured success. Planning, communication and coordination were key success factors.
General Company Description

Our prime business is in offering specialised equipment and personnel in providing niche reactor services to a broad range of industries, including oil & gas, exploration and refining, petrochemical, fertiliser, mining, power plants and utilities. The works are both disciplined and intricate, involving planning, blinds to blinds, inert entry vacuum (nitrogen loop) unloading/welding repairs & retrofits (HPA has our U&R stamp), packaging/screening/Hydropac Catalyst Dense loading of high value catalysts from within reactors and vessels under nitrogen and normal atmospheres. Our works are usually required during plant shutdowns and also during emergencies and online reactor problems such as high delta pressure, etc.

The current environment within the global process industry is on the upward trend within all the major factions: oil & gas, petrochemical, fertiliser, etc. Good margins are again being realised, expansion of existing and new facilities are being erected and money is being well spent on existing plant maintenance. A recent quote from SK Corp Korea stated: “Asian refiners are now rushing to upgrade their plants to produce cleaner, more value-added products, but it requires a lead time of two to three years”. These upgrades will include many reactors and opportunities for niche industrial service contractors.

The industry is continually looking for companies who have ability in providing niche expertise with well-renowned people, allowing comfort in expenditure. The industry is looking for alliances whereby companies remain loyal, to grow together in continued improvement, safety and value-added services.

Hydroprocessing Associates specialises in catalyst handling activities, while also having extensive environmental and waste management expertise. We have provided works within the industry in many countries throughout the world. Collective regions and countries of various experiences include Asia, Australia, New Zealand, Europe, South America, the US, the Far East and the Middle East. We understand the culture and environment of these very different countries and have grown an excellent network of clients and friends who assist in their respective areas in the culmination of providing and offering our services. Our name is well known within the industry, especially in terms of our skills and accomplishments in undertaking and successfully completing arduous activities. We have tackled the complexity in increased demand for planning, allocation and co-ordination of resources and control of performance in completing our set objectives.

We believe our company plays a critical role within our society. We provide a source of identity and developmental opportunities for individuals. Our people are our business. With this concept, HPA has created a depth of experience within a pool of available reactor technicians from countries including the US, Singapore, Australia, New Zealand and South Africa. These technicians are employed as and when needed for projects, are aged between twenty-one and forty-six and have variable lengths of experience in our specialised work. This provides several advantages in respect to availability; response to projects, level of experience, country and culture selection, etc. HPA has established an essential base within the industry and is now fundamentally positioned to collaborate with global partners to combine resources to develop a successful business entity.

Business Objectives

Vision Statement

“We are committed to the safety of our people, the environment, provision of excellence, sustainable growth and continued employment and development of our staff and surrounding communities. We will strive to maintain and develop our profile as a highly reputed, specialised catalyst-handling company.”

In the words of Woodrow Wilson: “Nothing in the world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent. Genius will not: unrewarded genius is almost a proverb. Education will not: the world is full of educated derelicts. Persistence and determination alone are omnipotent!”

Mission Statement

Hydroprocessing Associates is well positioned within this unique industry; we plan to maintain our highly respected personal reputation with not...
only our knowledge and skills, but also our loyalty and business ethics. We have a goal to continually broaden and pass on these skills we have learnt through our experience within the industry over the past 22 years and create a name for ourselves which will be associated with quality and care throughout the world.

**Products and Services**
The current services on offer to clients are as follows:

- Catalyst Handling;
- Inert Entry;
- Catalyst Screening;
- CCTV Inspection Services;
- Reactor Internal Repairs under Inert Atmosphere;
- Specialised Catalyst Dense Loading;
- Project Planning; and
- Blind to Blind Reactor Turnaround.

**Hydropac Catalyst Dense Loading System**
Catalyst loading may be done in either of two ways: sock loading and dense loading.

Sock loading is the simpler loading method, requires both less equipment and less operator training. Catalyst is delivered to the bed being loaded through a flexible sock and is spread and raked to a level condition during loading. The sock loaded catalyst forms a more open bed structure and has both a lower density and lower initial start-of-run (SOR) pressure drop. Over the course of a run, the sock loaded bed tends to slump to a more dense structure. At end-of-run (EOR), a sock loaded bed will often have a pressure drop equal to that of a dense loaded bed. Dense loading fills a reactor with less open volume in the catalyst beds.

The basic principle is to allow the individual catalyst particles to free-fall to the bed where they bounce around, settling in their lowest energy state. This means that the particles fall onto their long axis and form a horizontal mat with the long dimension of the particles aligned with the bed diameter.
The main advantages of dense loading are:

- tighter and more uniform catalyst packing, resulting in better reactant flow distribution in the trickle flow regime as is used in hydroprocessing;
- catalyst beds do not sag/change flow patterns during the course of a run; and
- more catalyst is loaded into each bed because of the higher loading density, resulting in longer runs.

**Hydropac Loader**

HPA is using a dense loading method that is referred to as Hydropac loading. The loader receives catalyst into its internal feed bin by sock from a hopper external to the reactor. The loader channels catalyst to the attached distributor disk, which distributes catalyst evenly across the reactor. Disk speed determines the radial velocity of the particles, while gravity determines the axial velocity. As the bed fills with catalyst, the distance between the distributor and the top of the catalyst bed decreases. The distributor’s rotational speed must then be increased to maintain even catalyst distribution across the reactor.

The Hydropac Loader sits on top of the support screen just above the bed being filled with catalyst. An air motor rotates the distributor. An integral tachometer that has a continuous ½ inch LED display ensures that close speed monitoring can be easily achieved. An integral bubble level has been mounted to the top of the Hydropac Loader catalyst drum, to provide a means to set and ensure that the drive shaft is plumb. The collar can be moved up or down and sets a primary catalyst flow gap. The adjustment position is on a set of stepped adjustment slots and is secured with the hand knob. The drive shaft is encased in a delrin sleeve where catalyst contacts the shaft, to prevent catalyst grinding and attrition by the rotating shaft. A bearing within a bronze bushing has been used on all of the shaft support spiders. This ensures a smoothly turning shaft in a possible dusty environment. The disk speed can be easily adjusted while the air motor operates at high speed, where it generates its greatest torque. It has a second asymmetric disk below the primary asymmetric disk to improve the uniformity of catalyst distribution. A pair of adjustable slots at the bottom of the compound disk allows continuous adjustment of the centreline catalyst flow. Knurled knobs are provided to permit hand tightening and to avoid the need for tools.

**Catalyst Flow Through the Distributor**

Catalyst is delivered to the Hydropac Loader by sock. An integral drum retains a feed supply of catalyst to the disk. Catalyst falls through the annular slot formed by the adjustable sleeve and the primary cone of the disk. Vertical fins on the primary disk throw catalyst outward to the wall and fills an annular region adjacent to the wall. The centre of the cone is hollow and some catalyst falls through the support spider to a second smaller disk below the first. Again, a set of fins is used to throw catalyst to an annular region adjacent to the area covered by the primary disk. The vertical gap between the two asymmetric disks is adjusted to control catalyst flow to the second annular region. The centreline of the Hydropac Loader is fitted with a pair of sliding gates that allow catalyst to fill the centreline of the reactor. The gaps are adjusted to maintain a flat and level catalyst bed throughout the loading process. The clearance between the bottom tube of the Hydropac Loader and the surface of the disk is used for primary flow adjustment.

**Loading Program Calculations**

HPA uses a Hydropac Loader program for the PC to aid loading personnel in establishing a loading schedule (rpm versus bed outage). Inputs to the Hydropac Loader program are:

- reactor geometry;
- catalyst types, sizes and quantities to be loaded; and
- distributor to be used.

The Hydropac Loader program is based on simple physics and a few empirical correlations. As the bed fills and makes the vertical distance shorter, the rotational speed will have to increase to throw the particles to the wall in less time. This then sets the rotational speed of the distributor. The compound disk has three annular zones of catalyst flow. The relative openings of the slots for each zone determine the loading rate in each zone. Each zone is adjusted to give as flat a catalyst bed as possible and to prevent catalyst from forming a mound and then avalanching into an adjacent hole. Avalanched catalyst will not have the dense orientation of non-avalanched catalyst.

**Homogeneous Horizontal Bed Profile**

The catalyst is distributed evenly over the cross-sectional area. There will be no repose angle and consequently no rolling of the catalyst, it is therefore homogeneous. The catalytic bed is made up of horizontally even layers of catalyst. This promotes linear reactive flow without channelling.

**Non-attrition**

Due to the free-fall of the catalyst individually downward, there will be minimal contact between the catalysts. This prevents breakage and attrition from occurring. Since the mass of the individual catalyst is so small, the free-fall speed is never great enough to damage that particular piece of catalyst.

The Hydropac sits just below the trays (6°), enabling the bed to be loaded to its maximum potential height. A droplight can be lowered past it when working to view the bed profile, which is very important when monitoring that the catalyst bed is homogeneous. There is no centre shaft obstructing the catalyst flow to the centre of the bed, which can cause a dip in the bed profile, which will cause the catalyst in the centre to be angled continuously throughout the loading, resulting in the product taking the easiest route through the centre. The Hydropac also has a reversible rotation, critical for loading around transfer tubes and thermocouples.
HYDROPROCESSING ASSOCIATES

MANAGEMENT & LEADERSHIP OVERVIEW
HPA is dedicated to locating, hiring, and retaining the best talent in the refinery maintenance service industry. We have a long term commitment to employing the best qualified people available to meet and exceed our customer’s expectations. Our employees are dedicated to the philosophies of HPA and believe in our commitment to the customer as well as each other. HPA is a team of terrifically talented people who love this industry and believe in each other.

HPA’s experienced supervisors and catalyst technicians undergo rigorous and continuous training in order to keep up with the ever-evolving and specialized knowledge necessary to carry out the required tasks. Working closely as a team, our dedicated professionals have achieved industry-leading turnaround times while maintaining an excellent safety record.

Our specialized technicians are highly trained, and throughout the years each of them have accumulated valuable knowledge and experience in different design reactors, client operating disciplines, and management systems used worldwide. Our list of accomplishments include safe, ahead of schedule completion on major Turnarounds including Hydrocrackers, CCR, HDS and Ammonia Convertors just to name a few. As a result of this success, many of HPA’s clientele recognize an immediate improvement to their bottom-line.

HPA averaged 131 US based employees and 40 Singapore based employees in 2012 so needless to say international crews are available for immediate travel at a moment’s notice. Professional qualifications include:

- Full Time Safety Engineer/Industrial Management
- Full Time QA/QC Manager Certified Welder Inspector
- Operations & Project Managers with 15+ Catalyst/Refinery Maintenance Experience
- A workforce of highly trained in Confined Space Entrants, Inert Technicians with Rescue Training, Forklift Operators, and Welders

At HPA we not only view our client relationships as partnerships but we also view the relationships with our employees as partnerships. In our opinion it is really the only way to ensure a successful turnaround time and time again, which leads us to what we believe is our most important philosophy or equation if you will. This an equation that defines all of our relationships and partnerships throughout the company. The equation is quite simple:

Our Client + HPA as an organization + Our Staff =

A partnership for a SAFE and EFFICIENT reactor turnaround!
After growing up and leaving High School in New Zealand, Peter Thew served as a 9,000 HR automotive engineer apprentice in order to become a certified mechanic. As a result of his efforts, he achieved the trade certificates from the apprenticeship, and then moved to Australia where he lived and worked in this trade until moving to England. From there he moved to London, England to work for Godfrey Davis, a Ford Truck dealership, as a workshop controller of 36 mechanics and four apprentices.

In 1989, Mr. Thew joined Contract Resources Ltd (CR), a young New Zealand company, starting out in their catalyst handling division. Once embedded in the industry, he flew to Holland and completed an ‘Inert Entry’ training course with Mourik International, a Dutch company specializing in the same catalyst handling field. For the next two years Mr. Thew worked mainly for Mourik International, which has locations all over the globe.

From Sweden, to the Middle East, and the Caribbean, Mr. Thew worked with CR while they were getting established and set up in Singapore. During his time with CR, Mr. Thew traveled the world working in many refineries and in several locations. Within a year at CR he became a Supervisor, and shortly after a Project Manager. Over the next fifteen years he completed many major turnarounds, specializing in Hydrocrackers & CCR units for major clients such as Shell, ExxonMobil, BP, Petronas, and Chevron just to name a few.

In 2002 Mr. Thew started a Reactor Division with Vac-Tech a Singapore company owned by Sam Ho. Soon after, in 2005, Mr. Thew purchased the sole rights to the Chevron designed Catalyst Dense Loader and formed Hydroprocessing Associates LLC, with former employer Sam Ho joining him as a 50% partner. Being familiar with operating other known dense loading machines such as UOP and Petroval’s Densicat, Mr. Thew used his experience to modify, patent, and trademark a modification to the Chevron design, which allowed the machine to loaded even better than it had previously loaded (HYROPAC® Tertiary Doors).

After impressing Chevron representatives around the world with their safety, HPA quickly completed turnarounds ahead of schedule, and through their innovation quickly became a solid presence in the industry. HPA was invited to the USA in early 2005, and has since signed a national contract with Chevron for all 5 refineries to maintain their reactors. Just recently Chevron asked and HPA obliged to advise them on their newly designed trays, while also working with other leading global refiners on their retrofits as well (KNPC – Kuwait City, Kuwait: Reactor Retrofit of New Internals of Improved Design for the HCR Reactors R-14-101 & 102).

**AFFILIATIONS**

AICHE: AMERICAN INSTITUTE OF CHEMICAL ENGINEERS
AFPM: AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS
For a diploma holder who started with a salary of S$ 600.00 at 16, Mr. Sam Ho Gim Hai worked his way up to a production manager in Singapore gasket maker for the oil and petro chemical industry Tat Lee (a firm founded by his father) when he was just 20 years old.

In 1995, Mr. Sam Ho brought Vac-Tech Engineering Pte Ltd (an Australian waste management firm) in to Tat Lee and capitalizing on the burgeoning oil industry in the Republic.

Vac-Tech, a specialist in tank cleaning sludge and oil remediation services and having its proprietary technology, has swiftly expanded under Mr. Sam Ho’s management. Further to his accomplishment, Mr. Sam Ho, 48, becomes the managing director of HPA (S) Pte Ltd, a company that provides specialized services in reactor maintenance mainly Catalyst loading and unloading under inert atmosphere in the Oil and Petrochemical Industry.

Together with his business partner, Mr. Peter Thew, HPA has not only established itself on a Global basis, it has also rendered its services to many satisfied customers (Chevron, GS Caltex, Petronas, WEPEC, Shell, etc) and ventured into oil refineries around the world – Argentina, China, Korea, India, Indonesia, Malaysia, Philippines, Singapore, Taiwan, and Borneo.

HPA currently has two (2) service centers in the United States, and is looking at further expansion in the near future.

HPA is also looking at expansion in to Canada in Q1 of 3013.

**AFFILIATIONS**

AICHE: American Institute of Chemical Engineers
AFPM: American Fuel & Petrochemical Manufacturers
PROFESSIONAL PROFILE

Andrew Russell is the Chief Operating Officer for Hydroprocessing Associates (HPA) Global Operations located principally in Moss Point, Mississippi.

Andrew is a senior business leader who draws upon multinational work experience, strong business acumen and people leadership skills to respond energetically and effectively to business challenges.

Prior to joining HPA, Andrew gained experience across a broad range of industries and in a variety of roles, including Petroleum, Chemical, High Technology, Pharmaceutical, & Medical Device Manufacturing. Roles varied from General Management to working as an Electrical Engineer, Planner, Financial Analyst and in Business Development roles. Andrew’s most recent experience as General Manager and Company Director of Breathing Systems Inc. (USA) has resulted in his thorough understanding of the NIOSH and CE approved life support systems used by catalyst handling contractors in inert entry work.

Andrew has experience in risk management and compliance with stringent regulatory and quality requirements. Andrew has a responsibility to ensure all HPA employees maintain current and up-to-date certifications required to work at HPA client worksites and to ensure that the Company is compliant with all applicable laws and regulations. Andrew is a certified ISO internal auditor.

Andrew holds a Diploma in Electrical Engineering and advanced certificates in Industrial Electronics and PLC programming from TAFE, Australia.

Andrew holds a Bachelor of Business (Major in Finance and Management Consulting) from the University of Technology Sydney in Australia. After graduating, Andrew relocated to the United Kingdom to complete the Advanced Diploma in Management Accounting from the Charted Institute of Management Accountants. Andrew is a Member of CIMA; a Charted Global Management Accountant in the USA through AICPA; and a member of CPA Australia by mutual recognition. Andrew also completed a Certificate in Supply Chain Management through the American Production and Inventory Control Society.

AFFILIATIONS/CREDENTIALS

ACMA:  CHARTED INSTITUTE OF MANAGEMENT ACCOUNTANTS
AICPA:  CHARTED GLOBAL MANAGEMENT ACCOUNTANTS
G. Brad Alidor
Chief Financial Officer

Office Address:
Hydroprocessing Associates, LLC
6016 Highway 63
Moss Point, MS 39563

Office Phone:
228-475-2971

Office Fax:
888-371-1490

Cell Phone:
251-709-9119

Email Address:
balidor@hpa-usa.com

Website:
www.hpa-usa.com

Citizenship:
USA

PROFESSIONAL PROFILE

G. Brad Alidor is the Financial Controller for Hydroprocessing Associates, LLC’s (HPA) Global Operations located primarily in Moss Point, MS but also Rancho Dominguez, CA, Texas City, TX, and Singapore. As Financial Controller, Mr. Alidor is responsible for executing all of the company’s internal and external reporting as well as ensuring that these documents comply with Generally Accepted Accounting Principles. Additionally, he assumes responsibility for maximizing the return on HPA’s financial assets through detailed job costing, project planning and analysis. He is also in charge of establishing the financial policies, procedures and reporting systems globally. He carries 7 years experience in accounting and financial reporting.

Prior to joining HPA, Mr. Alidor served as the Financial Controller for IGT Networks, Inc., formally Infinity Global Technology, Inc., a global information technology and networking firm located in Mobile, Alabama. Also prior to HPA, he served as the Financial Controller for the Collins Group of Companies, which included a real estate development partnership and multiple retail outlets. Through his experiences with both organizations, Mr. Alidor acquired financial reporting knowledge for a wide range of entities including IT services, real estate development, and retail sales.

Mr. Alidor graduated from the University of South Alabama in Mobile, Alabama in 2002 with a Bachelor of Arts and Sciences in Psychology and Communications. Shortly after graduating, he began to pursue a Master’s Degree in Accounting (MAcc) from the University of South Alabama’s Mitchell College of Business. Mr. Alidor is six courses shy of completing his MAcc. He has also successfully completed all of the requirements to sit for the CPA exam in Alabama including the Becker’s CPA review course, and he is currently an eligible candidate for the CPA exam. He plans on sitting for the CPA exam in the near future, but for now his time and focus is on ensuring HPA is financially sound through its early stages of growth both domestically and worldwide.

WORK HISTORY

Hydroprocessing Associates, LLC
• Financial Controller
2009 – Current

Collins Group of Companies
• Financial Controller
2008 – 2009

IGT Networks, Inc.
• Financial Controller
2005 – 2008

AFFILIATIONS/CREDENTIALS

USA:
• UNIVERSITY OF SOUTH ALABAMA ALUMNI GROUP - ALUMNI
PKS:
• PHI KAPPA SIGMA – ALUMNI ASSOCIATION
LIBCG:
• BUSINESS CONTROLLER GROUP MEMBER
JCCC:
• JACKSON COUNTY CHAMBER OF COMMERCE – MEMBER
MACC:
• MOBILE ALABAMA CHAMBER OF COMMERCE – MEMBER
OGJ:
• OIL & GAS JOURNAL
PP6:
• GLOBAL PROJECT MANAGEMENT, LLC CERTIFICATE OF SUCCESSFUL TRAINING IN PLANNING & SCHEDULING WITH PRIMAVERA P6
Global Project Management, LLC
Certificate of Successful Training

is hereby granted to:

Brad Alidor

to certify a satisfactory completion of training in

Planning and Scheduling with Primavera P6

September 17 - 19, 2012

Trey Miller
Trey Miller, PMP, Instructor
HYDROPROCESSING ASSOCIATES

SAFETY OVERVIEW
We are committed to an “incident free work environment”. Through our proactive Safety Program, potential hazards are identified, evaluated, and effectively controlled or eliminated to prevent incidents and the subsequent consequences related to those incidents. Hydroprocessing Associates uses statistical performance indicators to measure safety performance and improvement, empowering employee’s to actively participate in the direction of our safety program encouraging “employee ownership”. Safety is our top priority.

Hydroprocessing Associates Global is committed to protect the health and safety of our employees, our customers, and the community. We will strive to provide the necessary training, equipment and Standard Operating Procedures in order to ensure a safe work place. We are committed to comply with all applicable legal requirements as well as other requirements to which the organization subscribes with regards to its OH&S hazards. We will comply with the law and will strive to continuously improve our health, safety, and environmental performance. Our QEHS Policy is the filter we use for making each and every decision as it relates to the company and our employees.

Our policy is to maintain financial stability by providing service in an effective manner, while pursuing the prevention of injury and illness with a continual improvement of the management system in connection with HPA’s overall performance.

In accordance with this policy Hydroprocessing Associate Global will perform the following activities.

1. Work on the principle that all incidents can be prevented and promote the highest Standard of QHS&E awareness, discipline, and individual accountability.

2. Keep employees, customers, contractors, and affiliates appropriately informed of hazards that might affect them or the public.

3. Develop safe work plans with our customers in order to safely handle their catalyst change-out and repairs.

4. Set meaningful goals for QHS&E performance that is measureable and track progress against these goals.

5. Meet applicable QHS&E regulations: adhere to our Standard Operating Procedures and foster QHS&E awareness in our employees, contractors, and customers.

6. Encourage constructive dialogue with communities and others with regard to QHS&E.

7. Employees hold the right and responsibility to refuse work if they believe that imminent danger exists at the work site.

Administrative Staff, Supervisors, Managers, and Officers are responsible for implementing Hydroprocessing Associates, LLC/HPA(S) Pte. Ltd. QHS&E Policy with respect to employees and operations under their direction. An employee who believes that an unsafe act or condition exists should bring the matter to the attention of his or her supervisor and/or directly to the Safety section of the organization. Peter Thew, the Managing Director and President of Hydroprocessing Associates Global, along with his management team, have made it their primary responsibility to coordinate the implementation of the policy throughout the Company.
Hydroprocessing Associates took safety to whole new level by erecting a “RESCUE TRAINING MODULE” at the Home Office in Mississippi (United States) as well as Singapore (Singapore).

With this unique tool Hydroprocessing Associates is able to provide hands on training for its catalyst removal services in a controlled environment before entering an actual refinery.

The RESCUE TRAINING MODULE also provides a unique opportunity for safety training. Emergency and Rescue Procedures can be performed in the controlled environment to prepare the technicians for unexpected situations.
HYDROPROCESSING ASSOCIATES

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HYDROPRESSING ASSOCIATES
EXPERIENCE MODIFICATION RATE LETTERS
February 18, 2014

Hydroprocessing Associates, LLC
6016 Hwy 63
Moss Point, MS 39563

Worker’s Compensation Experience Ratings on file from NCCI effective 07/02/2013 for the previous two years are as follows:

2013: .79
2012: .78

Please review and advise if you need anything further.

Kind regards,

Sara Hollis
Account Manager
Hancock Insurance Agency
Sara.Hollis@hancockinsuranceagency.com
HYDROPROCESSING ASSOC

Risk ID 913220447
Rating Eff Date 07/02/2014
Production Date 04/23/2014

Mod Factor 0.77
Status Final

<table>
<thead>
<tr>
<th>ARAP</th>
<th>FLARAP</th>
<th>SARAP</th>
<th>MAARAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments
RATING REFLECTS A CLASS CODE CHANGE IN THE STATE OF MISSISSIPPI FROM 4828 TO 4740.
<table>
<thead>
<tr>
<th>HYDROPROCESSING ASSOCIATES LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk ID</strong></td>
</tr>
<tr>
<td><strong>Rating Eff Date</strong></td>
</tr>
<tr>
<td><strong>Production Date</strong></td>
</tr>
</tbody>
</table>

| Mod Factor | 0.80 |
| Status | Final |

| ARAP | FLARAP | SARAP | MAARAP |
| 1.00 | 1.00 | | |

**Comments**  
RATING REFLECTS A CLASS CODE CHANGE IN THE STATE OF MISSISSIPPI FROM 4828 TO 4740.
### OSHA's Form 300 (Rev. 01/2004)
#### Log of Work-Related Injuries and Illnesses

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

---

**Establishment name**

Hydroprocessing Associates, LLC

**City**

Moss Point

**State**

MS

---

<table>
<thead>
<tr>
<th>(A) Case No.</th>
<th>(B) Employee's Name</th>
<th>(C) Job Title (e.g., Welder)</th>
<th>(D) Date of Injury or Onset of Illness (mo./day)</th>
<th>(E) Where the event occurred (e.g., Loading dock north end)</th>
<th>(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g., Second degree burns on right forearm from acetylene torch)</th>
<th>(G) Days away from work</th>
<th>(H) Job transfer or restriction (days)</th>
<th>(I) Other recordable cases</th>
<th>(J) On job transfer or restriction (days)</th>
<th>(K) Away From Work (days)</th>
<th>(L) Injured or ill worker was:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CHECK ONLY ONE box for each case based on the most serious outcome for that case: Death</td>
<td>Days away from work</td>
<td>Remaining at work</td>
<td>Away From Work (days)</td>
<td>On job transfer or restriction (days)</td>
<td>Injured or ill worker was:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Death</td>
<td>Days away from work</td>
<td>Remaining at work</td>
<td>Away From Work (days)</td>
<td>On job transfer or restriction (days)</td>
<td>Injured or ill worker was:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td>Days away from work</td>
<td>Remaining at work</td>
<td>Away From Work (days)</td>
<td>On job transfer or restriction (days)</td>
<td>Injured or ill worker was:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>Days away from work</td>
<td>Remaining at work</td>
<td>Away From Work (days)</td>
<td>On job transfer or restriction (days)</td>
<td>Injured or ill worker was:</td>
<td></td>
</tr>
</tbody>
</table>

---

**Attention:** This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

---

**Page totals**

0 0 0 0 0 0 0 0 0 0 0 0

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.
## OSHA's Form 300A (Rev. 01/2004)

### Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA’s Recordkeeping rule, for further details on the access provisions for these forms.

### Number of Cases

<table>
<thead>
<tr>
<th>Total number of deaths</th>
<th>Total number of cases with days away from work</th>
<th>Total number of cases with job transfer or restriction</th>
<th>Total number of other recordable cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Number of Days

<table>
<thead>
<tr>
<th>Total number of days away from work</th>
<th>Total number of days of job transfer or restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Injury and Illness Types

<table>
<thead>
<tr>
<th>Total number of...</th>
<th>(M)</th>
<th></th>
<th>(G)</th>
<th>(H)</th>
<th>(I)</th>
<th>(J)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Injury</td>
<td>0</td>
<td>(4) Poisoning</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Skin Disorder</td>
<td>0</td>
<td>(5) Hearing Loss</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Respiratory Condition</td>
<td>0</td>
<td>(6) All Other Illnesses</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Employment Information

- **Your establishment name**: Hydroprocessing Associates, LLC
- **Street**: 6016 Highway 63
- **City**: Moss Point
- **State**: MS
- **Zip**: 39563
- **Industry description (e.g., Manufacture of motor truck trailers)**: Catalyst Handling
- **Standard Industrial Classification (SIC), if known (e.g., SIC 3715)**: 5629
- **North American Industrial Classification (NAICS), if known (e.g., 336212)**: 137

### Public Reporting Burden

The estimated annual burden for this collection of information is 414,040 hours for reviewing instructions, searching and gathering, and completing and reviewing the collection of information. Persons are not required to respond to this collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

### Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to this collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

- **Sign here**

  - **X**

  **Knowingly falsifying this document may result in a fine.**

  I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

  - **Brad Aldor**: General Manager
  - **Phone**: 228-475-2971
  - **Date**: 1/31/2014
OSHA Form 300
Log of Work Related Injuries and Illnesses

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.5 through 1904.12. Feel free to use two rows for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure if a case is recordable, call your local OSHA office for help.

<table>
<thead>
<tr>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
<th>(D)</th>
<th>(E)</th>
<th>(F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case #</td>
<td>Employee's Name</td>
<td>Job Title</td>
<td>Date of Injury or Illness (Month/Day)</td>
<td>Where the event occurred (e.g. Loading dock, north end)</td>
<td>Describe injury or illness, parts of body affected, and objects/substance that directly injured or made person ill. (e.g. Second degree burns on right forearm from acetylene torch)</td>
</tr>
<tr>
<td>1</td>
<td>Kevin Warren</td>
<td>Catalyst Tech</td>
<td>3/4</td>
<td>Pascagoula, MS</td>
<td>EE received laceration to left index finger while cutting a hose.</td>
</tr>
</tbody>
</table>

Note: If additional entries are required, just copy rows from the bottom of the case area and paste them back.

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instructions, search and gather data needed, and complete and review the collection of information. Persons are not required to respond to this collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: U.S. Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send completed forms to this office.

### Classify the case

<table>
<thead>
<tr>
<th>(M)</th>
<th>Injury Category</th>
<th>(1) Skin Disorder</th>
<th>(2) Respiratory Condition</th>
<th>(3) Poisoning</th>
<th>(4) Hearing Loss</th>
<th>(5) All Other Illnesses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Death</td>
<td>Days away from work</td>
<td>Job transfer or restriction</td>
<td>Other recordable cases</td>
<td>Away from work</td>
<td>On the job transfer or restriction</td>
</tr>
<tr>
<td>(G)</td>
<td>(H)</td>
<td>(I)</td>
<td>(J)</td>
<td>(K)</td>
<td>(L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
<td>0</td>
<td>0 days</td>
</tr>
</tbody>
</table>

Total: 0 0 0 1 0 0 1 0 0 0 0 0 0

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

<table>
<thead>
<tr>
<th>Injury Category</th>
<th>Respiratory Condition</th>
<th>Poisoning</th>
<th>Hearing Loss</th>
<th>All Other Illnesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>
Summary of Work Related Injuries and Illnesses

Number of Cases

<table>
<thead>
<tr>
<th>Total number of deaths</th>
<th>Total number of cases with days away from work</th>
<th>Total number of cases with job transfer or restriction</th>
<th>Total number of other reportable cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Number of Days

<table>
<thead>
<tr>
<th>Total number of days away from work</th>
<th>Total number of days of job transfer or restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Injury and Illness Types

<table>
<thead>
<tr>
<th>Total number of cases</th>
<th>(1) Injuries</th>
<th>(2) Skin Disorders</th>
<th>(3) Respiratory conditions</th>
<th>(4) Poisonings</th>
<th>(5) Hearing loss</th>
<th>(6) All other illnesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Facility Information

Establishment name: HYDROPROCESSING ASSOCIATES, LLC
Street: 6016 HWY 63
City: MOSS POINT
State: MS
Zip: 35963

Industry description: CATALYST HANDLING

Standard Industrial Classification (SIC) if known OR North American Industrial Classification (NAICS) if known: 532910

Employment Information

Annual average number of employees: 65
Total hours worked by all employees last year: 190862

Sign here

Knownly falsifying this document may result in a fine.
I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate and complete.

Company executive: [Signature]
Title: CHIEF OPERATING OFFICER
Phone: +1 850 268 9507
Date: 01-28-2015

Post this Summary Page from February 1 to April 30 of the year following the year covered by the form.
OSHA's Form 300A (Rev. 01/2004)
Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>(G)</th>
<th>(H)</th>
<th>(I)</th>
<th>(J)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of deaths</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total number of cases with days away from work</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total number of cases with job transfer or restriction</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total number of other recordable cases</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of days away from work</td>
</tr>
<tr>
<td>Total number of days of job transfer or restriction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Injury and Illness Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of... (M)</td>
</tr>
<tr>
<td>(1) Injury</td>
</tr>
<tr>
<td>(2) Skin Disorder</td>
</tr>
<tr>
<td>(3) Respiratory Condition</td>
</tr>
<tr>
<td>(4) Poisoning</td>
</tr>
<tr>
<td>(5) Hearing Loss</td>
</tr>
<tr>
<td>(6) All Other Illnesses</td>
</tr>
</tbody>
</table>

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Establishment Information
- Your establishment name: Hydroprocessing Associate, LLC
- Street: 6016 Hwy 63
- City: Moss Point
- State: MS
- Zip: 36563
- Industry description (e.g., manufacture of motor truck trailers): Cabaret Handling
- Standard Industrial Classification (SIC), if known (e.g., SIC 3715): 1729
- OR North American Industrial Classification (NAICS), if known (e.g., 336212): 562510

Employment Information
- Annual average number of employees: 88
- Total hours worked by all employees last year: 216,468

Sign here
- Knowing that falsifying this document may result in a fine.

Certification:
- I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Signature: [Signature]
Phone: [Phone Number]
Date: [Date]
HYDROPROCESSING ASSOCIATES

SAFETY & QUALITY ASSURANCE CERTIFICATIONS
SCOPE OF REGISTRATION

Refinery Mechanical Work, Welding & Catalyst Services for Petro Chemical Sites

Company Name: Hydroprocessing Associates LLC

Sites Registered:
- 6016 HWY 63, Moss Point MS 39563, USA
- 12018 State Hwy 146, Dickinson, TX 77539, USA
- 19122 South Santa Fe Avenue Compton, CA 90221, USA
- 1420 Pacific Place Ste B Ferndale, WA 98248-8972, USA


EAC:
- 18, 28

Date of Re-Registration: February 24th 2016

Expiry Date: September 15th 2018

Certificate Number: AJA13/16636

Chief Executive - AJA Registrars Ltd
This is to certify that the Management Systems of

Hydroprocessing Associates LLC

have been assessed by AJA Registrars and registered against the requirements of

ISO 9001:2008

Certificate No.: AJA13/16636  Date of Original Registration: March 27th /2013

Expiry Date: September 15th 2018  Date of Re-Registration: February 24th 2016

Chief Executive - AJA Registrars Ltd

This certificate is issued in respect of the locations & scope of registration detailed in the Associated Registration Schedule. This certificate is the property of AJA Registrars Ltd Unit 6 Gordano Court Gordano Gate Business Park Serbert Close Portishead Bristol UK BS20 7FS and must be returned on request. A member of the AJA Group of Companies.
SCOPE OF REGISTRATION

Refinery Mechanical Work, Welding & Catalyst Services for Petro Chemical Sites

Company Name: Hydroprocessing Associates LLC
Sites Registered:
- 6016 HWY 63, Moss Point MS 39563, USA
- 12018 State Hwy 146, Dickinson, TX 77539, USA
- 19122 South Santa Fe Avenue Compton, CA 90221, USA
- 1420 Pacific Place Ste B Ferndale, WA 98248-8972, USA

Standard: OHSAS 18001:2007
EAC: 28, 18
Date of Re-Registration: April 26th 2016
Expiry Date: January 31st 2019
Certificate Number: AJA13/AN1715

This certificate is the property of AJA Registrars Ltd and must be returned on request.
This certificate has been issued by AJA Registrars Ltd Unit 6 Gordano Court Gordano Gate Business Park Serbert Close Portishead Bristol UK BS20 7FS
SCOPE OF REGISTRATION

Refinery Mechanical Work, Welding & Catalyst Services for Petro Chemical Sites

Company Name: Hydroprocessing Associates LLC

Sites Registered:
- 6016 HWY 63, Moss Point MS 39563, USA
- 12018 State Hwy 146, Dickinson, TX 77539, USA
- 19122 South Santa Fe Avenue Compton, CA 90221, USA
- 1420 Pacific Place Ste B Ferndale, WA 98248-8972, USA

Standard: OHSAS 18001:2007

EAC: 28, 18

Date of Re-Registration: April 26th 2016

Expiry Date: January 31st 2019

Certificate Number: AJA13/AN1715

Chief Executive - AJA Registrars Ltd
HYDROPROCESSING ASSOCIATES, LLC

Became a Member of the PICS Consortium on:
7/1/09

This document certifies that the company above is a Member of the PICS Consortium. This company will be an authorized user of the PICS database, as long as a full PICS membership is maintained.

John Moreland, President

Jesse Cota, V.P. Operations
This is to certify that

HYDROPROCESSING ASSOCIATES

Is in good standing with the PEC Safety Management

Contractor Assistance Program

For the subscription year of

2014

Wes Carr - President

June 11, 2014
Date Awarded
The Workplace Safety and Health Council is pleased to certify that

HPA (S) PTE. LTD.

has fulfilled the requirements to attain bizSAFE. Level Star

This certificate will expire on 14/01/2018

Winston Yew
Deputy Director, Industry Capability Building
Workplace Safety and Health Council

Certificate No. E10501
Certificate of Authorization

This is to certify that

HYDROPROCESSING ASSOCIATES, LLC
6016 HIGHWAY 63
MOSS POINT, MISSISSIPPI 39563
UNITED STATES

is authorized to use the "R" SYMBOL in accordance with the provisions of the National Board.

The scope of Authorization is limited as follows:

METALLIC REPAIRS AND/OR ALTERATIONS AT THE ABOVE LOCATION AND EXTENDED FOR FIELD REPAIRS AND/OR ALTERATIONS CONTROLLED BY THIS LOCATION

CERTIFICATE NUMBER: R-7953

ISSUE DATE: MARCH 1, 2013

EXPIRATION DATE: NOVEMBER 18, 2015

Executive Director