

National Chemical Technician Award Candidate Form

Candidate information

Name: David E. Dow **Title:** Senior Technician
Company name: ConocoPhillips
Complete work address: 242-GB, PRC, Bartlesville, OK 74003
Work phone: 918-661-4330 **Email:** David.E.Dow@conocophillips.com

Candidate's immediate supervisor's information

Supervisor's name: Roger L Hudgins **Supervisor's title:** Foreman, Production Lab Services
Work Phone: 918-661-0167 **Email:** Roger.L.Hudgins@conocophillips.com

Nominator's information

Nominator's name: Kay K. Bjornen **Nominator's title:** Supervisor, Production Lab Services
Work Phone: 918-661-5453 **Email:** Kay.K.Bjornen@conocophillips.com

Candidate Eligibility

All three boxes in the Eligible column must be checked for candidate to be eligible.

	Eligible	Ineligible
1. Is the candidate a chemistry-based laboratory technician, process technician, operator, analyst, or other applied chemical technology professional?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. Has the candidate been employed for at least five years as an applied chemical technology professional?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
3. Is the candidate currently a member of the Committee on Technician Affairs Executive Board and/or Advocacy & Public Relations Subcommittee?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes

Candidate's contribution in six areas of award criteria

Make space as necessary under each category. Total packet, including letter(s) of recommendation, must not exceed 6 pages, minimum 10-point font. Do not include proprietary, confidential, or private information..

Technical Achievements (worth 60%)

1. Developed test method for crude oil Mercury analysis on Lumex Mercury Analyzer. The method evaluated effects of sorbents, modes of operation, sample size, and sample preparation.
2. Designed modifications to existing Scale Dynamic Tube Blocking unit for the addition of dedicated Inhibited anion dosing pump and Labview software programming, allowing automated step-down testing of scale inhibitor performance.
3. Designed and tested crude oil mercury passivation testing unit to determine and predict equilibration on new installed field piping and equipment.
4. Designed, constructed, and field tested crude oil samplers to accurately measure mercury concentrations contained in high gas fraction crudes.
5. Modified lab scale stripping column test unit to provide total crude oil return volume. Assembled duplicate system, shipped and field tested crude samples to verify and

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evaluate test parameters, gas fraction volume loss, and stripping efficiency.

6. Developed Raschig Ring column packing method to comply with manufacturer's design requirements.
7. Constructed full-sized, clear plastic stripping column containing supply and discharge pumps, variable frequency drives, ultrasonic level transmitters, and Raschig ring packed section to evaluate fluid flow dynamics, pump flow control, and emergency shut-down programming.
8. Assisted with design, procurement, construction oversight, testing, and commissioning of mercury pilot test skid deployed at overseas business unit.

Other (Considered together to make up the remaining 40%)

Leadership/Mentoring (15%)

1. Responsible for mentoring and training of new-hire Water Solutions Scale technician in operation of all related scale testing equipment and procedures. This includes training on four Dynamic Tube Blocking testing units, synthetic field brine preparation, scale inhibitor dosing calculations, Labview program operations, Quizix pump repair and maintenance, problem solving equipment failures, SOP writing, and chemical inventory maintenance.

Number of communications/publications (5%) Please do not include titles.

1. Presented Safety Moment on hearing protection to Global Production Excellence staff at monthly group meeting.
2. Served on 2014 GPE Safety Stand Down Day Committee. Focus of meeting was to raise safety awareness at work, while traveling and at home. Meeting was structured to include prominent guest speaker on ergonomics, varied group breakout subjects, and detailed discussions regarding current safety policy revisions.

External publications, presentations, patents

Internal presentations, publications Include SOPs, presentation to teams, etc.

Participant at 2013 Offshore Technical Conference.

Contribution to quality, safety, and other initiatives (5%)

Member of VPP Process Safety Gap Analysis team. Member of Power Tool Safety Review team. Member of GPE 2014 Safety Stand-Down committee.

Awards (5%)

Received a Special Recognition Award for extra work required on Mercury Pilot Unit to maintain project schedule.

Professional and community activities (ACS, AIChE, outreach, etc.) (10%)

Letter of Support for David Dow - ACS Technician of the Year Nomination
June 26, 2014

I strongly support David Dow's nomination for ACS Technician of the Year.

David has been an important member of our mercury project team and has made contributions both in the lab and in the field. David fabricated a bench-scale stripping column that was used to demonstrate the viability of a new process technology to our business units. This bench-scale column is still being used by the plant operations group to monitor the effectiveness of the new process on their crude oil streams.

David also fabricated a full scale mock-up of the 4" ID pilot-scale stripping column that was used in the laboratory to develop a customized oil level control algorithm. The mock-up column allowed us to conduct the control algorithm development in parallel with the off-site fabrication of the field test skid unit. When the skid unit was ready for testing we were able to directly apply the lab-based algorithm to the field test unit. This was important because the timeline for the project was very tight.

David developed a good rapport with the business unit lab chemists during several visits to the plant site. It is difficult for R&D projects to gain entry into business unit facilities and a good ambassador such as David is important for developing a solid working relationship. We will be running the field test unit in partnership with the business unit and on-site laboratory support is essential to the success of the project.

David has demonstrated significant versatility in the work he has done on this technology development project and is deserving of this recognition from the Northern Oklahoma ACS organization.

Sincerely,

Charley Lord
Principal Investigator Mercury Project
ConocoPhillips