

Innovation



The Innovation award - delivering breakthrough solutions

Using the creative know-how of our people and the development and application of cutting-edge technology, we seek new opportunities to deliver breakthrough solutions for our customers.



The 2007 winner

Team: Alaska Bright Water® – A bright future for intelligent waterflood sweep

Business segment: Exploration and Production

Country: USA

Issue

Bright Water® started as a BP concept in 1995 when an innovative solution was sought for poor sweep causing significant loss of production rate and reserves. Bright Water® is a thermally sensitive micro-particulate system injected into reservoirs where 'thief zones' cause poor waterflood sweep. The particles were engineered to follow the water through matrix rock, far into the reservoir where they heat up, expand, associate, and block pore throats. Subsequent water injection is diverted to sweep oil from previously poorly-swept zones.

Solution

Bright Water® was taken from an idea via a patent to a technical field trial in four years. Alaska and other trials involved lengthy planning with E&P Technology, operations, an external partner (Nalco), and field co-owners. The technology achieves diversion from an ineffective water flood sweep by injection of deep penetrating particles that react in time with temperature.

Benefits

This technology takes advantage of existing surface and subsurface facilities to generate incremental recovery by diverting water into areas that are being bypassed. This technology targets the same reserves as infill drilling sidetracks without the higher cost. The reservoir "tells the treatment where to go" and after reacting will direct water to an unswept reservoir. Incremental oil to date, from the trials, is over 500,000 barrels, and unlocks a significant oil prize globally.

Bright Water® is a registered mark owned by Nalco.

▶ [Watch a film of the winners story](#)

The 2007 runners up

Bringing rocket science back to Earth – Reinventing the PTA oxidation reactor, Refining & Marketing, USA

The oxidation reactor is the heart of each PTA (purified terephthalic acid) plant, yet very little is known about what goes on inside. In Naperville, BP has developed powerful computational tools to model, and safely visualize, the complex physics and chemistry occurring in an extremely hostile environment. This new understanding is being used to redesign reactors to improve operability, profitability and safety.

Six drops of oil – Immediate on-the-spot crude yield profiling, Refining & Marketing, USA

Knowledge is power when trading and processing crude oil. On the spot, in an instant, at any location – from pipelines to ships, ports and refineries – the small and portable Immediate True Boiling Profile Tool needs only six drops of oil to provide key quality measurements. This enables the business to make the best purchase and processing decisions,

maximizing value for BP.

**Can you hear me now? Finding ultra-small leaks with ultrasound,
Exploration & Production, USA**

The Alaska Wells Team, in partnership with TecWel, has developed a logging technique that identifies ultra-small downhole leaks. Using highly sensitive ultrasound equipment, the team can listen to the 'squeal' created by these leaks. Finding the leaks allows BP to carry out inexpensive remediation work, saving a minimum of \$1.5m per well.



The 2006 winner

Team: Next generation Desalter - revolutionizing refinery operations

Business segment: Refining and Marketing

Country: USA

Cherry Point designed the next generation, high temperature interface level controller to accurately profile fluid density in a desalter. This revolutionizes refinery crude unit operation, optimizing feedstock blending, reducing costs and increasing throughput.

▶ [Watch a film of the winner's story](#)

In this section

▶ [About the Helios Awards](#)

Innovation

▶ [Progressive](#)

▶ [Green](#)

▶ [Performance](#)

▶ [The Partnership award](#)

▶ [The Human Energy award](#)