

# Special Call for Proposals



## Technologies for Well Services 2008

### A Collaborative Approach to Investment in Technology

ITF has an impressive track record in delivering finance to help develop new initiatives for oil and gas technologies from early stage joint industry projects (JIPs) through to field trials and commercialisation. Since 1999 ITF has raised approximately **£31 million** in direct JIP support, with projects linked to an estimated **£20 million** of equity investment, and over **£20 million** in trials funding.

ITF accesses funds from the 19 major oil and gas operating and service companies that are ITF members. Proposals submitted under this call will be reviewed for financial sponsorship by **all ITF members**. This is an excellent opportunity to gain a wide audience in seeking support for your technology.

ITF has contractual arrangements on confidentiality with ALL its members (operators and service companies) and ITF will enter into a parallel agreement with all developers submitting proposal applications. Proposals will be submitted to our members only for the purpose for which they are provided, i.e. assessment for funding support and implementation.

(Note: our members are listed on our website - [www.oil-itf.com](http://www.oil-itf.com))

### An Open Invitation for All Technology Developers and Suppliers

Following specific direction from our Members, **Well Integrity Remediation Systems** and **Retrofit Flow Control** are two significant areas which could benefit from the development of new technologies. Our Members are keen to explore new and innovative ways of addressing these key issues.

This is an open invitation for all organisations seeking sponsorship for **innovative technologies** to submit proposals for **research, development and field trial** of technology in the above areas.

Specific issues relating to these technology challenges are described later in this document.

ITF Member companies have assets and operations throughout the world. We are therefore inviting proposals for technologies that may be applicable to any geographical area.

Those interested in submitting a proposal should respond registering their interest as early as possible by sending an e-mail to [info@oil-itf.com](mailto:info@oil-itf.com).

## Qualifying Technologies

To qualify for this call, your technology must:

- Be applicable to issues identified
- Fulfil at least one of the items within this invitation
- Be novel or innovative
- Demonstrate a clear business case for support
- Have a clear and demonstrable path to commercialisation and implementation

## Qualifying Organisations

Proposals are invited from any SME, university, large organisation, consortium or alliance. Proposals may be submitted by a national or international organisation, and equal opportunities will be extended to all proposers. Please bear in mind however that should your proposal be taken forward, you will be required to partake in meetings and make presentations to interested parties in the United Kingdom and in the English language (teleconference and video conference are acceptable).

## Background to the Technologies for Well Services 2008 Theme

ITF uses a thematic approach working in collaborative participation with its members to identify common areas of interest and technology needs. This Call aims to stimulate proposals from the global development community, which ITF and its members will assess, and our members will fund those of highest interest.

One key issue identified by ITF members is the application of **Technologies for Well Services**. The focus of this theme is to bring forward technologies, with clear benefits to sponsors, which require assistance in **research, development or field trial**.

ITF is also interested in receiving ideas for **feasibility studies**, which will attract a lower level of funding. Please contact us if you are considering a submission of this type and we will advise you how to proceed.

## How the Technology Needs were Defined

A central part of ITF's work is to take views from a number of industry sources, such as end users, service providers, and suppliers, to identify key technology challenges that would bring about a substantial increase in production, improve recovery rates or extend the life of a facility.

In this instance, this special request has been made by consultation directly with our members to address the issues outlined in this Call. As a result of listening to our member's technology drivers and determining the industry requirements, ITF have established a definite interest in collaboration and in seeking proposals with a view to making a commitment to invest. All topics included in this call are therefore attributable to a specific expression of interest by ITF members.

It is not the aim of ITF, or its members, to prescribe specific technology solutions but to stimulate innovative proposals that fit with identified needs. The descriptions for each topic have therefore highlighted key information in order to allow for innovation and flexibility in interpreting the most appropriate technical solutions.

## Process and Schedule

The Proposal Application Form is available for downloading on our website at [www.oil-itf.com](http://www.oil-itf.com). Using the Guidance Notes (also to be found on our website), please complete the form and return it electronically in **MS Word** format (**NOT PDF**) to Keith Mackie at [k.mackie@oil-itf.com](mailto:k.mackie@oil-itf.com) **NO LATER THAN MONDAY 28<sup>TH</sup> APRIL 2008**.

In addition, we request that you complete a two slide PowerPoint presentation as detailed in the Guidance Notes, which backs up your proposal submission in a concise form.

**NB. Please read the Guidance Notes carefully before completing the Proposal Application Form as failure to provide the necessary information in relation to your technology may result in premature disappointment. Proposals received after the deadline may not be processed. Therefore please ensure your submission reaches ITF before the specified deadline.**

## About the Industry Technology Facilitator (ITF)

ITF (The Industry Technology Facilitator) is a not-for-profit organisation owned and supported by 14 major oil & gas operating companies and 5 service companies (the 'members'). ITF is the vehicle through which the members fund joint industry projects that meet the technology needs of the upstream oil and gas industry. ITF has the remit to facilitate the **research, development, and application** of new, high impact technologies that will increase overall hydrocarbon recovery from mature basins.

To date, ITF has launched over 112 Joint Industry Projects representing a direct investment of approximately £31 million.

For further information about ITF click on [www.oil-itf.com](http://www.oil-itf.com).

## ITF Contacts

If you would like to discuss any matters related to this call or any other issue related to ITF, please contact any of the following people:

Contact	Role	E-mail	Telephone
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## Technologies for Well Services 2008 Theme

# Call for Proposals

### Specific Technology Needs

*(Any proposal submitted to ITF must address one or more of these identified needs.)*

#### **Well Integrity Remediation Systems**

**Background:**

*As well stock ages and workover / intervention costs increase, it is progressively more important to have a reliable and cost effective method of resolving well integrity issues to maintain the continuous safe operation of all production and injection wells. Of particular concern is accurate monitoring, reporting, diagnostic and rapid remedial work on failures or breaches.*

*Currently, little focus has been paid on this area of operations, with few products and systems available. The potential for 'game changing' technology solutions is therefore enormous.*

*Examples of the most common well integrity failures are:*

- *tubing – annulus communication*
- *annulus – annulus communication*
- *multiple annulus communication*
- *wellhead seal failure*
- *shallow gas within annuli*
- *annuli content variation – leading to recalculation of maximum allowable surface pressures*

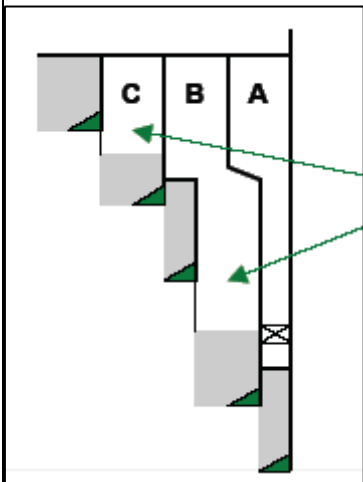
**Requirements:**

*The Members of ITF are seeking technologies surrounding well integrity remedial systems which should address the following applications as a minimum requirement:*

- *surface deployment*
- *pressure containing*
- *side entry accessibility (e.g. via wellhead annulus valves)*
- *fluid deployment capability (including cement and pseudo cement equivalents)*
- *portability, self containment and Zone 1 rated*

*A key to a successful technology would be the ability to react quickly to well integrity issues including deployment offshore of equipment which does not require rig intervention and can be hooked up and operated by a small core of service personnel. Additionally, any proposed solution should be mindful of future abandonment plans and should not complicate the process*

*The figure below illustrates the casing strings and annuli identification and provides additional information that should be considered when submitting a proposal:*



- *Solutions will require to access the 'B' section, either remotely or directly.*
- *The B and C annulus space often inaccessible from the surface and behind several thicknesses of pipe. However, in most cases they are usually accessible via side entry through the wellhead annulus valves*
- *Annular safety valves may be addressed, but are not the primary objective.*
- *Any successful technology should also be applied to onshore wells*

## **Retrofit Flow Control**

### **Background:**

*Retrofit Flow Control (RFC) is a significant technology lever to accelerate reserves and maintain existing field life. RFC has been proposed as a methodology to place in-well flow control into an existing multi zone water injector without the use of a platform rig. The ideal wellbore has a mono-bore profile with only a safety valve and / or flow control nipple through which the RFC system must pass through. Common mono-bore sizes that may accommodate RFC are from 5½" up to 7" Outside Diameter (OD) casing / tubing.*

### **Requirements:**

- **Provide wireless telemetry** to control in-well flow control valves and regulate the distribution of injected water in up to three segregated zones. The wireless telemetry will provide duplex communications to the valves for positioning and will receive valve position feedback along with pressure, temperature and flow meter information for injection allocation. Because the electromagnetic or acoustic signal will travel up the well's tubulars, no control lines or clamps will be required, thus reducing completion expenses as well as reducing the installation risk factor.
- **Reduce the actual costs** associated in working over a platform well in the North Sea by eliminating the need for a conventional rig whether it is a jack-up or platform rig. Deploying RFC through the Xmas Tree will save several million dollars less the actual costs for installing the RFC completion. Additionally, the impact from simultaneous operations (SIMOPS) and HSE issues are mitigated through the use of concentric deployable systems.
- **'Rig less' deployment using traditional well intervention techniques** such as slickline, E-Line, and coiled tubing

*Several key factors will contribute to the success of proposals, including the use of expandable technologies and elastomeric advances to address:*

- *restrictions normally associated with tapered bore completions*
- *locating, locking and sealing criteria for placing chokes, sleeves, control valves or other such hardware / devices in the exiting completion string*

*Several examples of RFC applications are illustrated below:*

