



ISSUE 1
November 2009

The Bowser

A quarterly newsletter for AIP members

THE HIGHLIGHT

Petroleum LNAPL Forum

A "Petroleum LNAPL Forum" was inaugurated in August 2009. The main objective of the forum is to share existing knowledge and information on technologies to remediate LNAPL contaminated soils and groundwater.

The forum will also provide resources to conduct further research on the LNAPLs related issues.

In addition, the forum will also play a significant role in advocacy and policy development.

The current members of the forum include petroleum companies such as BP, Caltex, Mobil, Shell, Reliance and Chevron, other industry players BHP Billiton, Rio Tinto and Department of Defence, and research providers CSIRO and CERAR (UniSA).



From the Managing Director's Desk



I would like to introduce a new quarterly newsletter – *The Bowser*. This newsletter is intended to update the AIP and its member companies on the progress of

CRC CARE's AIP program in the last quarter. In the year 2005, when CRC CARE was established with the AIP as one of its core partners, a separate AIP program was initiated to address the issues specifically related to AIP and its partner companies. The program was initially funded for the first five years with the view to expanding it beyond year 5, should the need be.

During the last few years, the program has addressed a number of issues facing the petroleum industry. The July – September quarter of 2009 in particular saw a significant development in different CRC CARE petroleum projects, most notably the consideration of petroleum HSLs in the revised NEPMs.



AIP Program
Coordinator
Prashant Srivastava

I am sure this newsletter will keep you abreast of the developments at the CRC CARE's AIP Program. Should you have any issues, questions, comments and/or suggestions specifically related to the program, please contact AIP Program Coordinator Prashant Srivastava.

We would be glad to help you address those issues.

Ravi Naidu

Ravi Naidu,
Managing Director, CRC CARE

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IN THE PIPELINE...

CRC petroleum projects

Development of a harmonised national technical guidance document for monitored natural attenuation (MNA) of petroleum hydrocarbons

While there are a number of guidance documents related to the assessment and regulation of monitored natural attenuation (MNA), there is currently no harmonised national approach. The discussions of the PAG had concluded that there was a need for a guidance document that would provide a harmonised national approach to monitored natural attenuation within Australia.

The aim of the guidance document is to provide commentary, rather than being prescriptive, so as to assist both practitioners and regulators (for example, describing why monitoring parameters are important rather than just prescribing a list of parameters).

This CRC CARE project has been undertaken by GHD and, to date, they have submitted 4 draft reports to the PAG for its consideration. While each of these versions has seen an improvement in the technical and stylistic description of the guidance, none have met the PAG's expectations to enable the guidance to be endorsed by the group.

Following a workshop between GHD and the technical working group (TWG) in May 2009, GHD recently submitted the amended version to CRC CARE, and it is currently being reviewed by the TWG. The document will be sent to the PAG after revision based on TWG comments.

Development of health screening levels for petroleum hydrocarbons in soil and groundwater

The HSLs have been informally endorsed by the NEPM review committee, which means a portion of the HSL technical document will become part of the revised NEPMs.

In 2006, CRC CARE engaged GHD to undertake a project on the development of health screening levels (HSLs) for petroleum hydrocarbons in soil and groundwater. The work was related to a series of land use scenarios that could be applied in contaminated site assessments in Australia. The project was conducted through detailed consultation with the Australian Institute of Petroleum and its member organisations, Australian health and environmental regulators, analytical laboratories, research scientists and environmental consultants, and was collectively known as the CRC CARE Petroleum Project Advisory Group (PAG).

The package of work for this project now consists of a set of tables containing health screening levels for soil and groundwater, a technical guidance document which details the derivation of the HSLs and the assumptions used, and an application guidance document on how the HSLs should be applied in practice and the key limitations of their use.

The CRC CARE project team is currently working on preparing a shorter version of the HSLs and brief description of their applications, which were made available to the NEPM review committee. In addition a detailed technical document and other additional documents will also be submitted to the NEPM review committee once the document is endorsed by the PAG in its November 2009 meeting. The project is expected to be finalised by the end of the calendar year 2009.

Developments in 2009

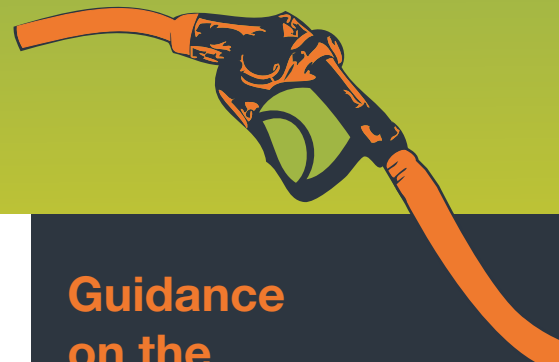
- working draft presented to the PAG – February 2009
- working draft of the technical guidance document

- endorsed by PAG – February 2009
- submitted to the NEPM review committee – February 2009
- sent for peer review to Prof Paul Johnson (Arizona State University, USA) and Jim Weaver (US EPA) – February 2009

- project team met with NEPM Review Committee – March 2009
- additional work on HSLs commissioned to GHD – April 2009
 - application document
 - sensitivity assessment
 - extension model development
- TPH Workshop held in Sydney – May 2009
- TPH Technical Working Group formed – May 2009
- TPH Technical Working Group meetings – May and June 2009
- PAG meeting – June 2009
- review comments from Paul Johnson received – June 2009
- NEPM Review Committee comments received – July 2009: NEPM Review Committee rejected the working draft document as submitted in February 2009 on the basis of HSLs being too conservative
- workshop on extension model beta testing – July 2009
- teleconference meeting and discussions with Paul Johnson – August 2009
- HSLs and technical document revised and submitted to NEPM review committee – September 2009
- comments from NEPM review committee received – September 2009: HSLs acceptable to NEPM review committee subject to some minor amendments
- NEPM review committee requests a shorter version of the document with all the HSLs – September 2009.

IN THE PIPELINE...

CRC petroleum projects



Development of a harmonised national guidance document for characterisation of sites impacted by petroleum hydrocarbons



The main objectives for this project were to develop a harmonised national guidance document for the characterisation of sites potentially impacted by petroleum hydrocarbons. It was intended to cover assessment of petroleum hydrocarbons in soil, water and in the vapour phase and designed to be a 'stand alone' document.

The project was undertaken by CH2M HILL and a final draft of the guidance document was submitted to the PAG, and was subsequently endorsed at its February 2009 meeting. The document was then provided by CRC CARE to the NEPM review committee in June 2009 for their consideration. At this time, no formal correspondence has been received back from the NEPM review committee regarding a decision on the document's adoption. However based on verbal feedbacks from the NEPM review committee, selected portions of the document are highly likely to be adopted into the NEPMs.

A copy of the final report is available on the CRC CARE website and a hard copy has also been printed to be circulated to key stakeholders.

URL: <http://www.crccare.com/publications/downloads/CRC-CARE-Tech-Report-11-FINAL.pdf>

Modelling and field assessment of vapour intrusion threats - review and guidance

The review of the NEPM and other industry and regulatory feedback has driven the need to generate national guidance on the field assessment of vapours in soils/groundwater at contaminated sites, and to achieve a consensus on the modelling of the potential for vapour ingress to buildings built on impacted land. This CRC CARE funded project was focused on review of vapour assessment field procedures and of models of vapour transport. Outcomes from the work included:

- a recommended model or models for use in the development of Health Investigation Levels (HILs) related to potential vapour ingress to buildings
- identification of gaps in knowledge and research related to vapour models and vapour behaviour, and
- updated review and guidance on field procedures for assessing vapour behaviour in close proximity to buildings.

It was envisaged that project outcomes would be fed directly into the revised NEPM, and that modelling outcomes would be used to develop revised HSLs for TPH that might also be incorporated into the NEPM, as part of the aforementioned HSL project.

To date, a report addressing dot points 1 and 2 above has been submitted to CRC CARE and is available from the CRC CARE website. The report on field assessment of vapour intrusion was presented to the NEPM review committee and the PAG to seek its feedback in June 2009. The final report after revision was submitted to CRC CARE in August, endorsed by the CRC CARE Policy Advisory Committee (PAC) in September 2009, and will be submitted to the Policy Committee (PC) before it is submitted to the NEPM Review Committee for formal endorsement.

Guidance on the performance of LNAPL remediation

This project is aimed at developing a formative guidance document for assessing LNAPL remediation in various settings, and providing guidance on what is technically achievable through their application.

The project has arisen from a strong industry and regulatory need for guidance on the selection of LNAPL remediation technologies for meeting appropriate levels of risk. This includes the efficacy and performance of technologies against risk reduction targets as well as cost and net benefit.

It is expected that the guidance document will include metrics, assessment parameters, methodologies and international experience, and will be based around existing knowledge. In this respect, the project will identify the research requirements for addressing gaps to be filled.

To date the project is tracking well under the guidance of a TWG. Colin Johnston (CSIRO), as the project leader, presented a draft report to the PAG at its meeting in June 2009 for comments. The final report is due to CRC CARE in October 2009, and will then be circulated to TWG and PAG for their review.



WHAT'S NEW?

CRC CARE round-up

New Petroleum Program proposed for CRC CARE's extension bid

CRC CARE's current tenure is ending in 2012, and therefore we are preparing for its extension bid. As part of this endeavour we seek support from the AIP and its partner organisations to formulate a new petroleum program, which will address the issues that have not been addressed so far.

SuRF Australia

An Australian node of the Sustainable Remediation Forum (SuRF), which is already in operation in the USA and the UK, was launched at the recently held CleanUp 09 conference. The SuRF Australia will be based at CRC CARE headquarters in Adelaide.

Austerity/cost cutting measures

In the light of the global financial crisis, CRC CARE has been taking cost-cutting measures in various activities. One of the areas where significant costs might be reduced was travel. For example, CRC CARE is booking tickets as early as possible for people to attend the meetings. In addition, CRC CARE is using cheap airlines, accommodation and venues to organise meetings wherever possible.

Training Workshops

A series of workshops was organised during the CleanUp 09 conference to train industry people on various aspects of petroleum related issues, such as health based screening levels of petroleum hydrocarbons, and field assessment of petroleum hydrocarbon vapour intrusion.

Members Area

In February 2009, CRC CARE launched myCRC CARE, an area on the CRC CARE's website which enables documents to be shared with interested CRC CARE participants and project teams. The area is secure with a unique login and a password for individual members. If you want to find a particular document or report on an AIP related topic or project, please log on to the members area to access the material at www.my.crccare.com.

CleanUp 09 conference

CRC CARE hosted the much anticipated CleanUp 09 conference in Adelaide in September 2009. The conference was attended by over 450 delegates from Australia and overseas. A session on the NEPM review was organised where an update on all policy related petroleum projects was presented. The CRC CARE petroleum program projects on policy documents received substantial attention and appreciation.



CleanUp 09 held in September

UPCOMING EVENTS

PAG Meeting

23 November 2009
9:30am – 3:30pm
Board Room (X1-03)
CRC CARE headquarters
University of South Australia
Mawson Lakes Campus
Adelaide

Petroleum LNAPL Forum Meeting

30 November 2009
8:30am – 3:30pm
Board Room
AECOM, 44th Floor
80 Collins Street
Melbourne