Undertaking EIA in Qatar provides the opportunity to improve work practices

A combination of advanced and simple thinking for protecting the environment is being implemented during a project to design a fully operational Aquifer Storage and Recovery (ASR) scheme in northern Qatar. Once implemented the ASR scheme has the potential to be one of the largest ASR schemes in the world.

The ASR Scheme has been proposed by The State of Qatar and Qatar General Electricity and Water Corporation (KAHRAMAA) in response to the Qatar National Vision 2030 with the focus on tackling the issue of water security. The goals include providing safe drinking water in times of emergency and crisis (sufficient for 90 days) and safe irrigation water for food security purposes.

When undertaking the collection of information to inform EIAs we often take for granted the “standard practice” measures that are in place in the UK for minimising environmental effects during these activities. Standard practices in undertaking collection of data and measures that are put in place to protect the environment differs greatly with experience, expectations, guidelines and monitoring and enforcement that are in place in the country where work is being undertaken. While undertaking work in Qatar we have been given a good reminder of this and given the opportunity to implement what we might consider in the UK as standard practices to improve the protection of the environment.

To enable the design of a fully operational ASR Scheme, and to inform the EIA through identification of potentially significant effects, extensive studies have been undertaken to investigate the hydrogeological characteristics of the existing water bearing formations to determine the capacity to receive, move, store and circulate injected water and to determine the degree of efficiency with which it may be removed. These investigations have been undertaken during the feasibility stage of the project.

One of the requirements of the EIA Scope of Works and Terms of Reference for the feasibility stage of the project was that a Construction Environmental Management Plan (CEMP) be prepared to guide the activities to be undertaken to protect the environment during the collection of data to inform the design of the ASR scheme and inform the EIA. The CEMP was prepared based on, and where practical, incorporating standard measures that would normally be undertaken in the UK. A number of these standard measures would not normally have been undertaken by the company contracted to undertake drilling work, but have now been incorporated into their standard operating procedures.

An overview of the some of the practices introduced is provided below:

- Use of fuel spill containment measures – during transport, storage and refuelling fuel containers were transported or stored in bunded containers with capacity greater than the volume of fuel stored.
• Use of oil spill trays and plastic – Plastic was laid beneath drill rigs and drip trays placed on top in areas where potential leaks may occur to mitigate against any potential accidental oil leaks. Spill trays were also used during refuelling.

• Use of bunding to contain drill water – the location of bunds was identified to avoid areas of vegetation that may be affected by the sediment laden water. Bunds were constructed around drills rigs to contain drill water from spreading great distances. The liquid material in the bunds evaporated quickly due to the high evaporation rate experienced in the high temperatures and once the works were completed the bunds were removed and terrain returned to former profiles.

• Designated access routes – use of a single track to bring vehicles to working areas and minimisation off-road driving in order to reduce the effects on local vegetation, wildlife and surface materials encountered that were highly susceptible to damage from vehicle tracking. Vehicles were restricted to designated access routes and “shortcuts” prohibited.

• Tidy site practices – sites were set up to have designated areas for the storage of materials and parking and access for vehicles. Collection and containment of packaging materials was undertaken to avoid windblown litter leaving the site.

This article illustrates how undertaking EIAs in other countries has the opportunity to improve the protection of the environment through all stages of a project. This can be achieved by using experience developed in the UK for the implementation of “standard practice” measures that are routinely adopted.

Amec Foster Wheeler Environment & Infrastructure UK Ltd, April 2015.

For access to more EIA articles, case studies and hundreds of non-technical summaries of Environmental Statements visit: www.iema.net/qmark