



## **Close Proximity & Marine Blasting**

### **General**

In addition to the general bulk blasting operations that Albion Drilling Group Ltd can undertake, the company also specialises in close proximity and marine blasting operations and can demonstrate a wealth of experience in these areas having completed work on sites across all of the UK and Ireland over the past 35 years.

Utilising the latest technology in both software and hardware, together with the latest advancements in explosives technology, Albion Drilling Group Ltd design and complete close proximity blasting whilst giving full consideration to the local surroundings, property and infrastructure to ensure that nuisance from blasting operations can be kept to a minimum.

On marine blasting operations utmost care and consideration is given to the marine environment in order to ensure that flora and fauna are protected as much as possible throughout the operation. This can be achieved through the use of Acoustic Deterrent Devices (ADD's), the provision of Marine Mammal Observers, MMO's, and the likes. Albion are delighted to have completed many projects over the years with no issues being reported.

Albion Drilling Group Ltd are happy to assist their clients from the early planning stages of a project with a view to identifying a viable solution to a problem and are often able to liaise with the relevant third-party offices to ensure compliance with the local restrictions on their clients behalf. In recent years Albion Drilling Group Ltd have acted as a blasting consultant on behalf of key stake holders such as Scottish Power at Middleton Windfarm, for Roadbridge in New Caledonia and for Dragados on the Aberdeen Harbour Project.

### **Design Procedure**

As with all blasting operations, close proximity blasts will be designed in accordance with all relevant standards and legislation to provide the most effective and efficient solution for a project. In most cases with close proximity however, there is the additional requirement to monitor and adjust charges between blasts to ensure that any specified vibration limits are maintained as the works progress towards the critical receptor. To monitor and control this, ADG Ltd use computer regression software to analyse vibration results from previous blasts and then make predictions on permissible charge weights for blasts going forward. This allows the works to commence forward as far as reasonably possible before the contractor has to switch over to other methods of excavation.

For marine operations, blasts will be designed with a suitable initiation sequence to keep the MIC (Maximum Instantaneous Charge) to a minimum which will help control noise and vibration within the water, thus further protecting against the risk to marine wildlife.

## **Marine Blasting Experience**

Below is a list of some previous marine blasting projects which have been completed by Albion Drilling Group Ltd:

### Aberdeen Harbour (Consulting)

Acting as consultant to Dragados for the Marine Blasting works on the South Breakwater

### Holmsgarth Harbour (Shetland)

Pre-Treatment of rock by means of blasting to enable new piling works to take place.

### Forth Road Crossing

Blasting of rock for both road alignment purposes and the formation of tower foundations.

### Montrose Harbour

Drilling and blasting of rock within existing harbour to assist with the formation of a new deep-water berth.

### Raasay Ferry Terminal

Drilling and blasting of rock within the marine environment to assist with the excavation and dredging as require for the formation of a new slipway and ferry terminal.

### BAE Systems, Scotstoun DWB (2007)

Drilling and blasting of rock along the existing quayside on the River Clyde to assist with the formation of a new deep-water berth.

### **Others**

Fraserburgh Harbour (3 Occasions)

Perterhead Harbour (2 Occasions)

Mallaig Harbour

Sky Bridge

Brovig Harbour (Stornoway)

Rossaveal Harbour (Ireland)

### **Close Proximity Blasting**

Below is a list of some previous close proximity blasting projects which have been completed by Albion Drilling Group Ltd:

#### AWPR, Aberdeen

Close Proximity to Residential Properties and Infrastructure including water, gas and a Shell NGL pipeline within 50.0m. Works included the use of the Orica Ikon Electronic Initiation System to give advanced vibration control.

#### Queensferry Crossing, Edinburgh

Blasting next to adjacent motorway (20.0m). Other sections on the works were located just 25m away from listed buildings.

#### A465, Heads of the Valley Section 3 – Brynmawr to Tredegar, Wales

Blasting next to existing carriageway for junction improvements together with local residential properties.

#### Plymstock Quarry, Plymouth

Pre-Split Drilling and Blasting together with bulk operations at 20m away from local industrial estate.

#### Newry Bypass, Newry

Close Proximity to existing adjacent carriageway and railway infrastructure all within 50.0m.