BOUYGUES CONSTRUCTION

Press Release

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BOUYGUES CONSTRUCTION
TO USE WORLD'S BIGGEST TUNNELLING MACHINE
TO BUILD GROENE HART TUNNEL, NETHERLANDS

Bouygues Construction and Framatome subsidiary NFM Technologies are jointly putting the final touches to the largest tunnel boring machine in the world. This "technology concentrate" is to be used by the Travaux Publics subsidiary of Bouygues Construction to drive the Groene Hart tunnel in the Netherlands. The executive agency for the project is the Dutch Transport Ministry and HSL Zuid are responsible for engineering it. The tunnel will extend the high speed train line between Rotterdam and Amsterdam.

• Finalising the world's largest Tunnel Boring Machine (TBM)

The tunnelling machine, currently being finalised at NFM Technologies' Creusot works, has been called a technology concentrate, incorporating real time geological analysis, automated steering system, etc. Trials of the sophisticated 3520 tonne TBM, 15 metres in diameter and 120 metres long, will commence in the next few weeks before it is dismantled, shipped by canal to the Netherlands, and re-assembled to be operational in September to start driving the Groene Hart tunnel.

• Unique TBM for high speed trains

Bouygues Construction and Dutch partner Koop will set the machine to work next September on driving a twin-track tunnel more than 7km long. This was chosen by the Dutch Transport Ministry and Project Engineer HSL Zuid (High Speed Line Zuid) in preference to the two separate tunnels originally being considered, as offering many environmental benefits and satisfactorily meeting safety criteria.

The tunnel will cross the Groene Hart ("Green Heart") conservation area to extend the Rotterdam to Amsterdam high speed train line. By 2005, it will bring Amsterdam within two hours of Paris.
Growth vectors and new organisation

Key growth vectors for Bouygues Travaux Publics, a subsidiary of Bouygues Construction, are:

**High value operations:** Bouygues Travaux Publics offers a comprehensive package covering finance sourcing, design, construction, operation and maintenance, the full project value sequence. It has the capability to manage all stages of major project implementation with sound control of contingencies. This type of project is the natural arena for Bouygues Construction's Travaux Publics subsidiary where it can be the ideal partner for its clients and put its name to showcase projects.

**Innovation and R&D:** The technological and technical innovations developed by the Bouygues Travaux Publics engineering department are key factors in terms of better design, construction and materials. Typical examples are the *Catsby* TBM system, *ACE* structural performance and prestress monitoring process, the *Ductal* range of very high performance concretes, and many others.

**New skills in new areas of engineering:** These skills concern emerging associated areas of expertise such as *infrastructure operation and maintenance*. Bouygues Travaux Publics is committed to contributing to motorway and public transport design, financing and implementation planning and management. The creation in 2000 of *RATP International Investissements (RATP II)*, a joint offshoot of Paris transport authority RATP and electricity utility EDF (Sodetrel), illustrates this commitment to becoming a leading public transport designer and operator on the international scene.

**Continued deployment worldwide:** Bouygues Travaux Publics has been steadily expanding abroad. Today, turnover from foreign operations accounts for more than 75pc of total Public Works business, and stands at 600 million euros (as against some 30pc ten years ago).

As part of its policy of seeking growth and strengthening its innovation capabilities, Bouygues Travaux Publics has **re-organised to better promote corporate strategy**. The new organisation chart has three regional divisions, Western Europe - North America - Middle East, headed by Pierre BOIRAUD, Asia - Africa - South America (Christian GAZAIGNES), and France - Belgium (Armand LE GALLIC), a Growth – BOT (Built Operate Transfer) - Development Department (Olivier BONNIN), an Engineering Department (Charles-Etienne PERRIER) and Central Administration (Jean-Marc KIVIATKOWSKI).