

## United States

### Reduced Yucca Budget

If Congress approves this year's \$336 million budget for Yucca Mountain project, it would be lower than budgets in the last two fiscal years: \$377 million and \$392 million, and about \$255 million less than President Bush wanted.

Yucca Mountain, 145 km northwest of Las Vegas, is the site approved by the Energy Department and President Bush for a national underground repository for 77,000 tons of highly radioactive nuclear waste, now piling up at power plants and Department of Defense sites. Nevada officials oppose the project. The total project cost has been more than \$7 billion so far and could top \$58 billion. The Nuclear Regulatory Commission has not approved the project and construction has not begun. It would not open until 2010 at the earliest. Read E-News Weekly # 20 & 29. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), us/70.

## World Digest of Tunnels Under Planning

**Australia.** A new 6.5 km-long tunnel project from Sydney's northern beaches to the city has been unveiled by NSW opposition leader John Brogden. The four-lane tunnel would run from the Burnt Bridge bypass to the Warringah Expressway, bypassing 19 sets of traffic lights and cutting the trip from Balgowlah to the Harbour Bridge to under 10 minutes. The tunnel would cost A\$950 million and would take five years to construct from 2005/06. Motorists would pay a \$3.50 toll each way.

**Denmark-Sweden.** Swedish prime minister Göran Persson said on 13<sup>th</sup> January that Sweden is committed to the construction of a new bridge or tunnel connecting Helsingør (Denmark) and Helsingborg (Sweden). This would be the second Øresund crossing. The tunnel would require a bored length of about 3 km plus cut-and-cover ramps on either sides for a total of 2.6 km. Freight lorries and trains from Sweden's major industrial areas, as well as the Stockholm region, would save 50-70 kilometres by crossing the Øresund via Helsingør-Helsingborg rather than Copenhagen-Malmö. However, Danish PM Anders Fogh Rasmussen rejected Persson's proposal adding that there was plenty of room for commercial traffic on the existing Øresund crossing between Copenhagen and Malmö. Visit [www.hhsamarbetet.org](http://www.hhsamarbetet.org)



Picture 1: North access near Torre Druso (Druso Tower).



Picture 2: The south portal would be near the San Maurizio church.

hospital. The north entrance will be near Torre Druso (see picture 1) while the south access will be located near the San Maurizio church. The tunnel would be a single tube with two lanes and would cost €50 million.

**Russia-Ukraine.** A railroad tunnel is to be built under the Kerch Strait to connect Crimea (Ukraine) with the Krasnodar

## tunnelbuilder

E-News Weekly  
No. 57 – 23<sup>rd</sup> January 2003

- Projects under planning
- Up-to-the-minute news of bids and awards
- Informed comment on the state of the international tunnelling industry
- Complete spectrum of tunnelling activity
- Innovations and R & D
- Subsurface Development
- Renovation and maintenance
- Useful links

To subscribe to **E-News Weekly**, click on [www.tunnelbuilder.com/enewsform.htm](http://www.tunnelbuilder.com/enewsform.htm), or visit the Sales section at [www.tunnelbuilder.com](http://www.tunnelbuilder.com) and select **E-News Weekly** from the dropdown menu, or contact [e-news@tunnelbuilder.com](mailto:e-news@tunnelbuilder.com)

Further details or advice on our news items may be given, when available, contacting [research@tunnelbuilder.com](mailto:research@tunnelbuilder.com)

Published on Thursdays. 52 issues per year.

Copyright tunnelbuilder Ltd 2003. E-News Weekly may not be reproduced in hard copy without the prior permission of the publisher.

territory (a Russian region). The projected tunnel would consist of three 15 km-long sections. Construction of the tunnel, which would allow to annually transport under the sea bottom up to 150 million tons of cargo, would be carried out at the depth of 90 metres. It is also known that the traffic speed in the tunnel will be 140 km per hour. Several large Japanese and European companies expressed their intention to invest into construction of the tunnel. The total cost of the project will amount to US\$780 million. The agreement to build the tunnel will be signed in February this year by the Russian and Ukrainian governments.

**Switzerland.** The tunnel project under the lake in Zurich to connect the Tiefenbrunnen and Mythenquai areas on either sides has been scrapped. Instead, the Zurich canton opted for a tunnel under the city, from Brunau – southwest of the city – to Neugut, northeast of it. This tunnel is estimated at CHF2.2 billion.

**United Kingdom.** Costs for building the new Tyne tunnel are soaring, a new report has revealed. The controversial project will go to a public inquiry in March following 750 objections but has slipped behind schedule. The Tyne & Wear Passenger Transport Authority had estimated a £5.8 million bill for professional advice on engineering, legal, financial, land and property issues but this is now likely to increase significantly. The cost of the project has risen from £100 million to £139 million partly because of the dredging required for the project which involves sinking a tube into the river bed. Drivers pay £1 to use the present Tyne tunnel and tolls will increase to help pay for the new crossing. The last estimate was between £1.10 and £1.55 but this was at 1999 prices. The new crossing will be built and operated by a private consortium. If ministers give the go-ahead following the inquiry ordered by deputy prime minister John Prescott, work is expected to start in mid-2005 and be complete towards the end of 2008. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), uk/36.

**United States.** A proposed tunnel in California that would run 17.7 km (11 miles) from the San Vicente Reservoir to an aqueduct west of Interstate 15 is stirring up passions among residents of Beeler Canyon. The \$120 million tunnel, which would enclose a water pipe, is part of the San Diego County Water Authority's \$827 million emergency storage project. It would be drilled from 15 to 90 m (50 to 300 feet) below the surface, take about three years to complete and require several access shafts to the surface for TBM and mucking-out equipment.

The route was approved by the water authority in 1997. Not all of the locations of the access shafts have been determined, and that is the focus of the controversy. There are three alternatives for a middle shaft. Two locations – in a quarry or at the edge of the Rancho Encantada subdivision now under construction – would affect residents on Beeler Canyon Road on the south edge of Poway. The third option is on the Goodan Ranch, a wildlife preserve southeast of Poway that is popular with hikers, equestrians, birders and bicyclists. The water authority is expected to choose a site next month, and construction is scheduled to begin late next year.

## World Digest of Bids

**Australia.** Macquarie Infrastructure Group has pulled out of the TunnelLink consortium, which is one of four shortlisted bidders for Sydney's A\$815 million (\$478 million) Lane Cove road tunnel. Macquarie Bank's infrastructure unit is the second company to withdraw from the TunnelLink consortium. Bids for the Lane Cove project, a 3.4 km twin tunnel linking Sydney with its northwestern suburbs, were due 21<sup>st</sup> January. Abigroup and Obayashi remain. Other bidders are the Lane Cove Expressway group comprising Baulderstone Hornibrook, Bilfinger Berger, Commonwealth Bank of Australia and Transurban; the Lane Cove Tunnel Consortium, consisting of Thiess and ABN Amro Holding NV; and Lane Cove Motorway, comprising Leighton Holdings and Deutsche Bank AG. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), au/13.

**France.** Preinformation notice for the dualling of a syphon at the Valenton sewage treatment plant in Créteil. The works will comprise a 460 m-long 3.3 m ID tunnel, a 12 m-diameter start shaft for the TBM, a 6 m x 10 m-diameter exit shaft, several connecting galleries between these shafts and the

existing tunnels and ancillary equipment. Tender value: €13 million. Tenders will be invited in March for work start in June. Visit <http://ted.publications.eu.int/udl?request=Seek-Deliver&language=en&docid=012038-2003>, OJ S 16, or contact SIAAP, Paris, fax +33 144756100.

**Germany.** Open call for bids, deadline 13<sup>th</sup> March, 2003 for construction of a 983 m stretch of road B 277, of which 782 m for the Schlossberg tunnel (615 m bored). Visit <http://ted.publications.eu.int/udl?request=Seek-Deliver&language=en&docid=193472-2002>, OJ S 243, and <http://ted.publications.eu.int/udl?request=Seek-Deliver&language=en&docid=011644-2003>, OJ S 16, or Amt für Straßen- und Verkehrswesen, Dillenburg, fax +49 2771840300.

**Italy.** The three bidders for the concession contract of the 50 km Brescia-Bergamo-Milano highway (Brebemi) from Travagliato to Melzo are Brebemi SpA; the Astaldi / Vianini / Dragados JV; and Bechtel. Twenty seven kilometres will run at grade, 17 km in trenches, 4 km on viaducts and 1.3 km in tunnel. Read E-News Weekly # 9 & 19. Visit [www.brebemi.it](http://www.brebemi.it)

**Portugal.** Open call for bids, deadline 10<sup>th</sup> March, 2003 for construction of the ER 104 bypass in Vila da Ribeira Brava, second phase, section II. The 4 km road section necessitates two tunnels, 175 m and 470 m in length. Tender value: €33.3 million. Visit <http://ted.publications.eu.int/udl?request=Seek-Deliver&language=en&docid=010237-2003>, OJ S 14, or contact Madeira autonomous region, Funchal, fax +351 291225112. Read E-News Weekly # 25 & 30.

**Spain.** Open call for bids, deadline 25<sup>th</sup> February, 2003 for technical assistance and quality control while putting underground 700 m of the C-31 in L'Hospitalet de Llobregat and building an underground station in Amadeu Torner-Fira for the Baix Llobregat light rail. Visit <http://ted.publications.eu.int/udl?request=Seek-Deliver&language=en&docid=012426-2003>, OJ S 16, or contact Consorci per a la Reforma de la Gran Via, L'Hospitalet de Llobregat, fax +34 932640854. E-mail [correu@consorcigvhospitalet.com](mailto:correu@consorcigvhospitalet.com). Read E-News Weekly # 34.

## World Digest of Contract Awards

**Spain.** Ginpro has secured a €1.5 million contract for the work control and supervision of the Albuñol-Adra section of the Mediterranean highway between Cadiz and Gibraltar. There will be two cut-and-cover tunnels (150 and 200 m). Read E-News Weekly # 30, 35 & 47.

**United Kingdom.** Award to First Engineering of a £1.8 million contract to supply and install replace tunnel lighting throughout 10 km of twin tunnels within the Glasgow metro system. Read E-News Weekly # 23.

## World Digest of Ongoing Tunnelling

**Canada.** Construction of metro line 2 extension to Laval in Montreal is making headway. The thunder blows caused by every blast systematically induce a light earthquake, even if the 4.9 m-high x 7.5 m-wide tunnel is 30 metres deep. Operators drill a series of 2 inch-diameter holes. Then, they fill these holes with sticks of ammonium nitrate. This powerful explosive delivers a thrust of two million pounds per square inch. This is almost as strong as the bomb used by terrorist Timothy McVeigh against a federal government building in Oklahoma City in 1995. There are five blasts every day. Each blast extends the tunnel 3 to 3.5 metres, far less than could be accomplished with bigger charges in an unpopulated area.



Picture 3: Work under way at the metro extension to Laval in Montreal.

The site at the future Concorde metro station – the second of three Laval stops – is at the middle of a 1.8 km section of the line, being tunnelled in both directions. Tunnelling is to be finished by the end of 2004, with the metro going into service in 2006. The \$379 million 5.2 km extension is within budget and on schedule. Visit [www.amt.qc.ca/grandsprojets/metrolaval/index.asp](http://www.amt.qc.ca/grandsprojets/metrolaval/index.asp) and [www.tunnelbuilder.com](http://www.tunnelbuilder.com), ca/17.

**France.** A disused well is believed to be the cause of a crater appeared on a car park at Paul Sabatier University in Ranguéil in the night of 13<sup>th</sup> to 14<sup>th</sup> January.

A first incident occurred on 21<sup>st</sup> August when the roadway collapsed at Chemin des Izards in Trois Cocus. Despite core drills done every 15 to 50 m, the TBM encountered an undetected sand and water vein embedded in clay. Drilling through this unforeseen substratum immediately caused a depression that induced the collapse and halted the works for two months. That happened on Lot 2 (Trois Cocus-Victor Hugo).

However, the worst incident happened on 19<sup>th</sup> December when a cave-in seriously damaged two buildings on Boulevard de Strasbourg. Residents were evacuated as the buildings threatened to collapse. Visit [www.smat-metro-toulouse.fr](http://www.smat-metro-toulouse.fr) and [www.tunnelbuilder.com](http://www.tunnelbuilder.com), fr/14.

**Italy.** AEM currently operates seven hydroelectric power plants in Upper Valtellina, Lombardy producing 580 MW. The company is investing to upgrade this capacity to 800 MW. This expansion programme mostly comprises the new Canale Viola and Premadio II projects. The new Canale Viola requires a 15 km headrace tunnel and three drifts. The Premadio II power plant required a 830 m-long 3.9 m-diameter TBM-driven penstock tunnel and a 800 sq m, 30 m-wide x 30 m-high cavern. The cavern was bored using a roadheader which removed 20,000 cubic metres. Read E-News Weekly # 15.

A few weeks ahead of schedule, the Seli / Monti / Collini JV reported the breakthrough of the 12,478 m-long Canale Viola tunnel into the Viola Dam on 22<sup>nd</sup> January, 2003. Progress was 25 to 28 metres a day in the last months. The JV used a Wirth double shield TBM model SM360 E/TS, 210 m in length. The cutterhead has an excavation diameter of 3,60 m and the inner finished diameter is 3.20 m. The cutting head, equipped with 17" cutters, has a speed of up to 14 rev/min. The machine provided a maximum thrust of 5,280 kN. The drive power was 1.120 kW (4 x 280 kW). The tunnel is lined with 55,000 20 cm-thick segments. The TBM drove the tunnel through dolomite, metapelitis and gneiss. The muck was removed from the face by a 120 m-long belt prior to being loaded on track-mounted wagons. The cost is €45.9 million. Read E-News Weekly # 26. Visit [www.selitunnel.com](http://www.selitunnel.com), [www.aem.it](http://www.aem.it) and [www.wirth-europe.com](http://www.wirth-europe.com)



**Spain.** A 2.8 km extension to road TF-142 in Canaries is under construction between Icod de los Vinos and El Guincho, requiring a tunnel in Las Aguas de Garachico. Time frame for construction is two years but the tunnel is behind schedule. In mid-November, progress on the drive was only 15 metres while it should have been 60 m. The contractor is Sacyr. The €15.7 million project is scheduled to end in January 2004. Visit [www.sacyr.com](http://www.sacyr.com)

Picture 4: The El Guincho tunnel portal.

## World Digest of Tunnel Renovation & Maintenance

**Germany.** Open call for bids, deadline 6<sup>th</sup> March, 2003 for renovation of equipment in the Roßstein and Loreley tunnels (252 m and 368 m). Visit <http://ted.publications.eu.int/udl?request=Seek-Deliver&language=en&docid=013109-2003>, OJ S 17, or contact DB ProjektBau, Frankfurt, fax +49 6926523089. E-mail [kathrin.elsner@bku.db.de](mailto:kathrin.elsner@bku.db.de). Read E-News Weekly # 54.