



**Annex 6 to**  
**Determination on Maximum Levels of Airport Charges**  
**at Dublin Airport [CP4/2009]**

BOOZ & CO. UPDATED ASSESSMENT OF POST-2009 CAPEX

December 2009

Commission for Aviation Regulation

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# CIP Ref 6.052: Central Apron Reconstruction

| Information from CIP                                     |                      |
|--|----------------------|
| Cost included in CIP                                     | € 15,000,000         |
| Functional Unit – new apron                              | 42,000m <sup>2</sup> |
| Cost per m <sup>2</sup> (including fees and contingency) | € 357/m <sup>2</sup> |
| Contingency Costs  | 10%                  |

| Comparative cost information – aprons - cost/m <sup>2</sup>   |             |
|---|-------------|
| From previous projects  | € 225       |
| From Davis & Langdon Airports Cost Model  | € 95 - 190  |
| Published price data  | € 100 - 185 |
| Other Sources   | € 215       |
| The range of costs above can be narrowed down by our knowledge of the project at other airports. The cost of the new aprons will be in the region of €9,250,000 at a rate of € 220/m <sup>2</sup> |             |

| Comparative cost information - other items          |                          |
|---|--------------------------|
| AGL   | € 270/m                  |
| Breaking up existing aprons                         | € 30 - 50/m <sup>2</sup> |
| High mast lighting (for approx 8500m <sup>2</sup> ) | € 70,000                 |

## Assumptions made during the cost assessment:

Following the supply of further drawings, the full extent of the AGL installation is clear. It is more extensive than originally assumed and relates to an area of existing aprons rather than to the proposed new apron. In particular, the requirement for saw cutting and breaking up/reinstating apron has now been identified. As a result our assessment of the AGL has increased from €100,000 to €700,000.

Given the nature of the AGL installation, a slightly increased contingency would also be appropriate.

This is still less than the €923,832 CIP breakdown now provided, but that figure does include paint marking (€53,000) which is included in the cost of the new aprons in our assessment.

Allowing for this, the comparison between our AGL assessment and the CIP would be €805,000 and €871,000 respectively, including contingency.

**€14,550,000 (TPS estimate) v**

**€15,000,000 (DAA estimate)**

|   |              |
|---|--------------|
| Breaking up existing aprons @ € 40/m <sup>2</sup> | € 1,700,000  |
| New Apron @ € 220/m <sup>2</sup>                  | € 9,250,000  |
| AGL (Pier A to Piers D)                           | € 700,000    |
| High mast lighting                                | € 350,000    |
|   | € 12,000,000 |
| Fees 10%  | € 1,200,000  |
|   | € 13,200,000 |
| Contingency 10% (15% on AGL)                      | € 1,350,000  |
| Total   | € 14,550,000 |

**This would suggest that the cost in the CIP is more than would be expected.**

**The cost of this project should be in the region of € 14,550,000**

# CIP Ref 7.036: T1 Life Safety System Upgrade

| Information from CIP   |             |
|--|-------------|
| Cost included in CIP   | € 5,000,000 |
| Functional Unit  |             |
| <ul style="list-style-type: none"> <li>• Replacement of Fire Alarm System for Terminal 1 and associated piers</li> <li>• Replacement of existing emergency lighting</li> </ul>   |             |
| Cost /m2   | €n/a        |
| Contingency Costs  | 9%          |
| Detailed design for this element is not yet complete   |             |
| Comparative cost information – cost/m2   |             |
| <b>Comparative cost information – fire alarm system - cost/m2</b>  |             |
| From Davis & Langdon Airports Cost Model   | € 30        |
| Published price data   | € 30        |
| <b>Comparative cost information – emergency lighting system - cost/m2</b>  |             |
| From Davis & Langdon Airports Cost Model   | € 15        |
| Published price data   | € 12        |
| <p>The above costs allow for new works. Given that the works are carried out in an existing terminal, the costs could be in excess of these rates. We note that Supporting Document V supplied with CAR letter 21/9/09 refers to the cost in the CIP allowing for reuse of cables, software and hardware. This seems at odds with parts of the transcript of the CAR meeting 29/5/09 which refers to 'system not really being upgradeable anymore' (p38) and suggests (p167-172) that complete replacement is the ideal. It also says the amount of potential reuse can only be determined by completion of the detailed design, which is not yet complete.</p> <p>Despite this discrepancy, we have taken the assumptions of re-use used in calculating the CIP and used them in the calculation of our assessment. New build rates are appropriate, based on the assumption that the additional costs of working in an existing building are offset by the savings made in re-using elements of the existing installation.</p> |             |

| Assumptions made during the cost assessment  |             |
|--|-------------|
| <ul style="list-style-type: none"> <li>• 106,000m2 of terminal / pier affected.</li> <li>• There will be an element of existing installation (cables, hardware and software) that can re-used.</li> <li>• T2 is complete and operational with passenger numbers in T1 significantly reduced, enabling good access within T1 for this upgrade.</li> <li>• Fire compartmentation costs are based on quantities given to substantiate the works described in page 22 of the Supporting Document V.</li> </ul> |             |
| <b>€7,900,000 (TPS estimate) v €5,000,000 (DAA est.)</b>   |             |
| <b>Summary</b>   |             |
| Fire alarms  | € 3,180,000 |
| Emergency lighting   | € 1,590,000 |
| Fire compartmentation  | € 1,560,000 |
|  | € 6,330,000 |
| Fees @ 10%   | € 640,000   |
|  | € 6,970,000 |
| Contingency (15% on Fire Alarm and<br>Emergency lighting, 10% on Fire<br>Compartmentation)   | € 930,000   |
| Total  | € 7,900,000 |
| <p>Our assessment suggests that the cost in the CIP is less than would be expected.</p> <p>The cost of this project should be in the region of €7,900,000, but it must be emphasised that the assumptions regarding re-use of existing elements and the access to T1 following the occupation of T2 have a significant effect on our assessment. The amount of potential reuse can only be determined by completion of the detailed design which is not yet complete.</p>                                  |             |

To Reamonn Lydon, Commission for Aviation Regulation  
Date 12 October 2009

From Derval Cummins  
City Dublin

Subject Construction Price Indices cc

*MEMO*

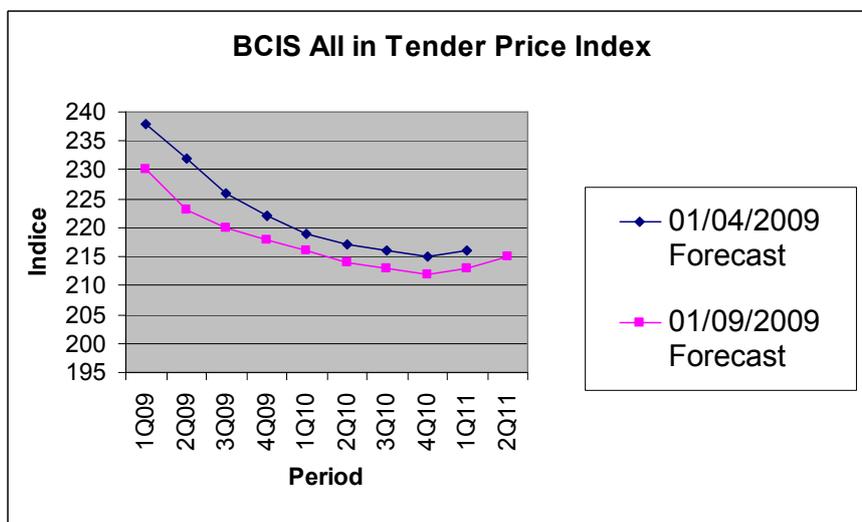
## Original Assessment

In our original assessment, all source costs were adjusted to First Quarter 2009, to be comparable with the costs in the CIP. Our chosen source of updating was the Building Cost Information Services (BCIS) All-in Tender Price Index, which then stood at 238 for 1Q09.

As DAA's Capital Investment Programme (CIP) forecasts are also based at 1Q 09 prices, this enabled a direct comparison to be made between Booz assessments and CIP values.

In September 2009, the BCIS index for 1Q09 had been reduced to 230 (a 3.4% reduction), based upon data from actual tender returns.

Hence, since the assessment was carried out in April 2009, the forecast trend of reduced tender prices has been borne out by actual tenders. The graph shows that the September 2009 forecast is marginally lower than the April 2009 forecast, but both predict the bottom of the market will be in 4Q10. Beyond 2010 both forecasts indicate a marginal increase in tender prices is predicted.



## **Current Construction forecasts/trends**

Recent tender price information produced by the Society of Chartered Surveyors (SCS), based on tenders solely from Ireland, shows a 17.3% fall in tender prices over the last year. The comparable reduction based on BCIS UK tenders shows a reduction of 9.7%. It would appear that the current economic conditions are affecting Irish tender prices more significantly than UK tender prices.

Unfortunately, the SCS does not produce forecast tender price indices but, given the above, it is possible that Irish Tender prices could continue to fall by more than the BCIS predictions and do so beyond 4Q10, when UK tenders are predicted to increase.

Such falls in tender prices would have an effect on the cost of the projects in the CIP. This would be likely to be more significant on smaller and medium sized projects, say, up to €15m as competition for these projects would be high and we would expect this to produce tenders which reflect the current conditions. For larger projects (and particularly specialised projects such as new runway, fuel farm, engine testing) the effects are more difficult to predict due to the scale and specialised nature of the work. For such projects, where only a limited number of contractors are capable of undertaking the work, we would expect the current conditions to have less effect.

Different market sectors are affected differently by the current conditions. The Ulster Bank Construction PMI Report (RoI) for August 2009 reported that the rate of decline in the level of 'activity' across the whole construction industry has been slowing since January 2009. All 3 market sectors they list showed a decline in August, but Civil Engineering activity showed the smallest decline compared to Housing and Commercial activity. The majority of the works included in the CIP would come into the Civil Engineering category, so it is possible that this sector will not show the largest reductions in tender prices.

## **Summary**

Given all the above, our inclination is to use the BCIS Indices as the most familiar and reliable source of information and possibly allow for Irish tenders being more competitively priced.

It is possible that Irish tenders will reduce by more than the BCIS indices, but it should also be noted that forecasting indices and tender prices more than a year into the future increases the level of uncertainty. They can only be a forecast/prediction and are entirely subject to overall national and international economic conditions.

Taking the BCIS indices, at the most conservative level, the 3.4% reduction in the BCIS outturn tender price indices for 1Q09 between April and September 2009 would reduce the €688m in our assessment by €23m. In other words, if we were to rebase our capital cost assessment, still at 1Q09 to be comparable with the CIP, in accordance with the latest market data, our total would reduce by about €23m.

If we were to project the costs in the assessment to 1Q10, which is the start of the 2010-2014 regulatory period, the overall assessment could decrease by €62m.

If we were to project the costs in the assessment to 1Q11, the overall assessment could decrease by €76m.

It is important to note that before the above estimates, or any other revised costs based upon updated indices, can be compared to those in the CIP, it would be necessary to apply the same percentage reductions to the costs in the CIP. This would maintain a level playing field for the comparison.

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