Comptroller and Auditor General
Report on Value for Money Examination

Department of Education and Science

# The Grouped Schools Pilot Partnership Project

June 2004

This report was prepared on the basis of information, documentation and explanations obtained from the public bodies referred to in the report. The draft report was sent to the Department of Education and Science and to the Department of Finance. Where appropriate, the comments received from the Departments were incorporated in the final version of the report.

# Report of the Comptroller and Auditor General

## The Grouped Schools Pilot Partnership Project

I have, in accordance with the provisions of Section 9 of the Comptroller and Auditor General (Amendment) Act, 1993, carried out a value for money examination of the grouped schools pilot public private partnership project.

I hereby submit my report on the above examination for presentation to Dáil Éireann pursuant to Section 11 of the said Act.

**John Purcell**
**Comptroller and Auditor General**

25 June 2004

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# Summary of Findings

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Public private partnerships (PPPs) are contractual arrangements under which private sector partners deliver projects and services that traditionally were delivered directly by the public sector. The concept involves the public sector partner specifying clearly the outputs and service levels required. Payment is subject to the agreed outputs and service levels being delivered by the private sector partner. This arrangement aims to give the private sector partner scope to decide how best to deliver what is required, with the potential to make efficiency improvements and reduce costs. The risks inherent in the development and delivery of each service are allocated between the partners, depending on which partner can manage them best. On that basis, PPPs have the potential to deliver better value for money in the provision of public services.

PPPs may be structured in a number of ways, with varying degrees of involvement of private sector participants. The contractual arrangements become more complex as the degree of involvement of private sector participants increases. In order to test the feasibility and value for money that can be achieved in partnership projects, the Government approved a pilot programme of PPP projects in June 1999. Adopting a 'learning by doing' approach, the aim was to identify issues and problems encountered during the implementation of the pilot projects, and to use the information and learning to develop PPP policy and enhance the PPP process.

The pilot programme included a 'grouped schools' project proposed by the Department of Education and Science (DOES). The project was the first of the pilot programme projects to reach the agreed contract stage. This examination was carried out to provide an input to future PPP arrangements through the identification of any shortcomings in the conduct of the pilot project to help guard against their possible recurrence in later projects. Specifically, it sought to assess

- how the DOES developed its specification of requirements and managed the grouped schools project
- how the proposals received from potential private sector partners were evaluated, in selecting a preferred bidder
- how the value for money offered by the final agreed deal was evaluated.

## Project Outturn

The DOES sought formal proposals from private sector partners interested in designing and building five new second-level schools on publicly-owned greenfield sites, and in maintaining and operating the school facilities for a subsequent 25-year period. The private sector partners were also asked to source the funding for the project. The successful bidder was Jarvis Projects Ltd (Jarvis).

The total time required to procure the five schools using the PPP approach was around three and a half years. Under the traditional approach to the procurement of new schools, the comparable elapsed time typically averages around four to five years. However, the relative priority for funding of individual projects is a significant factor in the elapsed time outturn for conventionally procured projects.

During initial planning of the grouped schools project, the DOES planned to have construction work start in April 2001, and to have the schools built, commissioned and operating by September 2002. Given the complexity of the PPP process, particularly in a pilot project, this timeframe was

probably too ambitious. In the event, the agreed contract terms were approved by Government in November 2001. All the schools were completed and handed over by the end of 2002 and were operating in January 2003.

Subject to Jarvis meeting the agreed service levels in running the schools, the DOES will make monthly payments to Jarvis over the 25-year life of the contract. In addition, the DOES made a one-off payment in January 2003 to cover the cost of Jarvis's liability for VAT arising on the handover of the school buildings. Total expenditure by the DOES associated with the grouped school deal is projected to be €283 million (including VAT), or an estimated €150 million in net present value terms.

Expenditure on the deal may be reduced if options built into the contract allowing the DOES to prepay the project debt are exercised — assuming the circumstances are right — or if refinancing of the deal by Jarvis results in reduced monthly payment amounts by the DOES.

## Specifying the Project Requirements

The DOES's initial proposal, approved by the Government in June 1999, was for a PPP project involving a bundle of three new schools. By the time the project was formally launched in the market in July 2000, the approved bundle had been expanded to include five new schools.

The point of putting together a bundle of schools was to create a project of a scale that would be attractive to potential private sector partners. At the time the project was launched, the expected cost of constructing and equipping three schools in the conventional way was in the range €24 million to €31million. This was significantly greater than the recommended minimum capital value threshold for PPP projects. The increase from three to five schools made the project more attractive to prospective private sector partners, but it also increased the State's exposure in the event the pilot project would not deliver good value.

The DOES specified the type and minimum scale of accommodation to be provided by the private sector partner, taking account of the planned curriculum in each of the schools. The minimum areas specified — involving buildings with gross internal floor areas totalling around 30,200 $m^2$ in the five schools — were based on the DOES's existing area norms for second level schools. The final designs for the schools provided for buildings with gross internal floor areas totalling around 34,700 $m^2$ — about 15% more than the specified minimum.

The increase in area related mainly to provision for social and circulating space and for internal division. While this should result in an improved environment for teaching and learning, it also increased the cost of provision of the school buildings. The higher costs were passed on to the DOES in the form of higher payments over the life of the contract.

Unless the costs of higher standards of provision are offset by savings elsewhere, raising standards in some schools reduces the State's capacity to meet demand in other schools when budgets are limited. Agreeing to provide higher standards of accommodation in the context of the grouped schools project also raises the issue of what accommodation standard is to apply in subsequent school projects, however they are procured.

The DOES did not at any stage set a budget or spending limit for the grouped schools project. This meant that at the time it went to the market seeking proposals, the DOES had no reliable

benchmark against which to judge the affordability of what the bidders were offering, or the relative cost of procuring and operating the schools by the PPP and conventional approaches.

## Selecting the Private Sector Partner

The DOES received project bids in February 2001 from three private sector consortiums that came through a qualifying short-listing process.

The Jarvis proposal was not the cheapest of the bids received, but was judged to be significantly better than the others in design and technical terms, reflecting an innovative approach to the design of the schools. When all the evaluation criteria were taken into account, it emerged as the preferred proposal. On that basis, the Jarvis-led consortium was named as the preferred bidder in March 2001.

The expected cost of construction of the schools increased during negotiation of the details of the contract with Jarvis. Some of the increases were attributable to the DOES, and so increased its projected expenditure over the life of the contract. These increases in cost were partly offset by reductions in interest rates on the commercial debt being raised for the project. Other increases in cost were attributable to Jarvis, and so were not passed on to the DOES. In general, the DOES appears to have maintained reasonable competitive tension in the course of the negotiations.

## Evaluating the Cost of the Deal

The assessment that the Jarvis proposal was the best of the bids received did not, in itself, establish that it represented the cheapest way of procuring the required service. Before entering the contract, the DOES therefore carried out a comparison of the costs of procuring the schools and their operation over 25 years under the terms offered in the Jarvis deal, and the likely cost of using conventional procurement arrangements to procure schools of a similar size, and to run them over 25 years.

The cost comparison exercise — completed in September 2001 — concluded that procuring and running the schools through the proposed PPP arrangement would result in a saving of around 6% compared to procuring and running the schools conventionally. However, the analysis contained errors in relation to the timing and discounting of payments and overestimated the residual value of the school buildings at the end of 25 years. Correcting the analysis for these factors suggests that the DOES should have concluded that adopting the PPP approach to the procurement was likely to be in the region of 13% to 19% more expensive than conventional procurement. The analysis also indicates that the deal involved relatively little transfer of risk to Jarvis.

By the time final agreement on the deal had been reached in November 2001, a number of elements of the deal had changed. Specifically, it was decided that the liability related to VAT on building handover would be paid to Jarvis as a lump sum at the end of the construction period (thus reducing the borrowing requirement for the project and the level of the monthly payment over the project life), and interest rates had fallen. Taking these changes into account, the analysis suggests that the projected cost of the final PPP deal was 8% to 13% higher than the projected cost of procuring and running the schools using the conventional approach.

Ultimately, the full value for money represented by the grouped school project will be determined over the 25-year life cycle of the project. Furthermore, the costs and benefits of adopting the PPP approach should be assessed relative to the performance of a comparable group of schools

procured conventionally. It is too early in the life of the contract to carry out such an assessment, but formal evaluation of the project over, say, the first five years of operation of the contract, would be desirable.

## Lessons from the Pilot Project

The experience of developing and implementing the grouped schools project provided the DOES with significant new perspectives in relation to provision of second level schools.

- It resulted in the provision of school buildings significantly bigger than allowed under the DOES's area norms for conventionally procured schools.
- The necessity of adopting a longer-term view in looking at the procurement and running of schools suggested that changes in building specification may potentially result in savings on maintenance and running costs, but may require higher levels of expenditure at construction stage.
- The analysis undertaken also suggests that the costs of properly maintaining and running schools may be significantly higher than the levels of funding currently being provided by the DOES to second level school managements.

However, it is recommended that further careful analysis of the life-cycle costs and benefits be carried out before policy changes are made in relation to these aspects of schools provision.

More generally, significant changes have occurred in the way PPP projects are developed and managed since the deal was agreed for the grouped schools project. Based on the experience with a range of PPP projects in the education, transport and environment sectors, the Department of Finance revised its requirements for the procurement and appraisal of PPP projects. The new procedures include

- the setting of an affordability cap for all potential PPP projects before they are launched on the market
- the appointment of a formal process auditor for all larger projects, to ensure all regulatory and administrative procedures and guidelines are complied with.

In addition, the National Development Finance Agency has been established to advise and assist State authorities that are proposing major investment projects. The authorities are required to use the services of the Agency, which include assistance in evaluating project risks and costs, in assessing the optimal mix of sources for financing projects, and in raising finance for projects.

# The Grouped Schools Pilot Partnership Project

# 1 Introduction

**1.1** Over the past two decades, partnerships between the public and private sectors have increasingly been used, both nationally and internationally, in the delivery of projects and services that traditionally were delivered directly by the public sector. In Ireland, this kind of partnership approach was used, to varying degrees, in the provision of a range of projects and services, including the government office decentralisation programme in the late 1980s; the construction and operation of the East and West Link toll bridges; the provision and administration of the national car testing service; and in the water and waste water treatment programme.

**1.2** The Government decided in May 1998 to establish an interdepartmental group to consider how public-private partnerships (PPPs) should be developed in the Irish context. A consultancy report[1] prepared for the group concluded that PPPs could have a role in providing certain types of infrastructure in Ireland and recommended a pilot programme of PPP projects to test approaches and strategies.

**1.3** In June 1999, the Government approved a pilot programme of PPP projects for development. The aim of the pilot programme was to identify issues and problems encountered during the implementation of the pilot projects, and to use the information and learning to develop PPP policy and enhance the PPP process — a 'learning by doing' approach.

**1.4** In approving the pilot programme, the Government agreed that the extent of private sector involvement could vary from project to project. It also decided that each project was to be examined individually with a view to determining whether a partnership approach to its development was suitable and, if so, to identify the most appropriate form for the project, in terms of the balance between public and private sector involvement.

## The Grouped Schools Project

**1.5** One of the projects included in the pilot programme was a 'grouped schools' project sponsored by the Department of Education and Science (DOES). Under the approved proposal, three planned new second-level schools were to be bundled into a single PPP project and tendered on a group basis. The grouping together of schools was intended to give the necessary scale of project to attract private sector involvement. The DOES indicated in the project proposal that the estimated capital cost of construction of three medium-sized schools, following the conventional approach to the provision of schools, would be around €15 million. The scale of the grouped schools project was expanded during the initial planning stage to include five, rather than three, new second-level schools.

**1.6** The pilot project proposal envisaged that the private sector partner would design and build the schools, and subsequently manage the school facilities and maintain them over an agreed long-term partnership period. The provision of finance for the project by the private sector partner was an option to be considered. In return, it was expected that the DOES would make agreed periodic payments to the private sector partner over the life of the agreement.

1 Farrell Grant Sparks and Goodbody Economic Consultants, in association with Chesterton Consulting – July 1998

**1.7** The DOES's stated objectives for the project were to

- test the value for money of delivering school provision on a design, build, manage and maintain basis over a long period
- obtain new ideas and private sector innovation on school design through an output-based approach
- relieve school principals of the responsibility for managing school buildings, allowing them instead to concentrate on their core educational and school management functions and
- achieve better use of State-funded school buildings outside of regular school hours.

**1.8** A competition to find a private sector partner for the project was launched in July 2000. Jarvis Projects Ltd (Jarvis) was selected as preferred bidder for the contract in March 2001. Government approval for the DOES to enter into a contract with Jarvis was received in November 2001.

**1.9** Construction work commenced immediately after the contract was signed and was scheduled for completion by the end of 2002. Four of the schools were completed ahead of schedule and were occupied in December 2002. The remaining school was completed by the end of December 2002, and was occupied in January 2003.

**1.10** The DOES will make monthly payments to Jarvis over 25 years, subject to its meeting agreed performance criteria regarding the provision and ongoing availability of buildings and equipment and building service levels (heating, cleaning, security, etc). In addition to the monthly payments, the contract provided for a one-off payment to Jarvis by the DOES to cover the cost of VAT payable on the construction of the schools. The total projected expenditure associated with the deal is €283 million (including VAT) over 25 years.[2]

**1.11** The net present value (NPV) of the projected total payments is estimated at €150 million (including VAT).[3]

## Objectives and Scope of the Examination

**1.12** This examination was carried out to assess how the DOES

- developed and managed the grouped schools project
- evaluated the partnership proposals it received for the project
- evaluated the value for money offered by the deal.

**1.13** The scope of the examination was restricted to the stages involved in reaching agreement on the deal, up to the point where the contract was signed. The examination did not extend to reviewing

2 This projection assumes inflation will be 2% a year on average over the life of the contract.

3 Net present value estimates are used to aggregate and compare cash flow amounts that arise at different points in time. In this case, the projected payments by the DOES over 25 years are discounted to a July 2001 base. The discount rate used here is 5.275%.

- the implementation of the deal, in terms of the delivery of the agreed buildings or the operation of the schools to the agreed service standards
- the impact of the deal on the role of the school principals in the schools included in the project, or
- the extent to which third party use is being made of the school buildings provided under the deal.

**1.14** Ultimately, the value for money represented by the grouped school project can only be determined in terms of the economy, efficiency and effectiveness of the PPP approach in delivering the required school buildings and services over the life of the contract. The costs and benefits of the grouped school approach — including the impact of the arrangements for the provision and management of the buildings on the schools' educational management — should properly be assessed relative to the performance of a representative group of schools built under the conventional approach around the same time and operated over a similar period. It is too early yet to carry out such an examination.

## Methodology

**1.15** The examination of the grouped schools project used an adapted version of the model for a structured review of Private Finance Initiative (PFI) projects developed by the UK National Audit Office (NAO).

**1.16** The work on the examination was carried out by staff of the Office of the Comptroller and Auditor General. A member of the NAO's staff assisted in the examination.

**1.17** Information for the examination was collected mainly through

- interviews and meetings with officials in the DOES and with consultants hired by the DOES to advise it in the development of the project and in the assessment of the bids from private sector consortia
- meetings with officials in the Central PPP Unit set up within the Department of Finance to develop procedures for handling PPP projects and to support departments and agencies in managing PPP projects
- a review of the DOES's and the Department of Finance's files and the available documents prepared in the course of the tendering and evaluation stages
- visits to three of the schools and interviews with the schools principals
- meetings with the three consortia invited to submit competitive bids for the project
- meetings with the National Development Finance Agency and the Revenue Commissioners in relation to specific issues concerning the development of PPPs in Ireland.

## Structure of the Report

**1.18** Chapter 2 describes the main stages and events in the development of the grouped schools project, from project initiation to formal agreement of the project contract, and subsequently. It also outlines the project outturn, in terms of cost and project timeliness, and the management arrangements put in place for the project.

**1.19** The following four chapters examine the evaluation processes at each of the main stages in developing the project and bringing it to the agreed contract stage i.e.

- specifying the requirements of the project (Chapter 3)
- selecting the best of the available offers so that a preferred bidder can be identified (Chapter 4)
- negotiating the details of the contract with the preferred bidder (Chapter 5)
- ensuring that the final deal on offer gives good value for money (Chapter 6).

**1.20** Experience on individual projects provides an opportunity to learn how to manage subsequent projects and programmes better. Chapter 7 considers the lessons learned from the experience on the pilot project and their impact on the planning, management and evaluation of future PPP schemes.

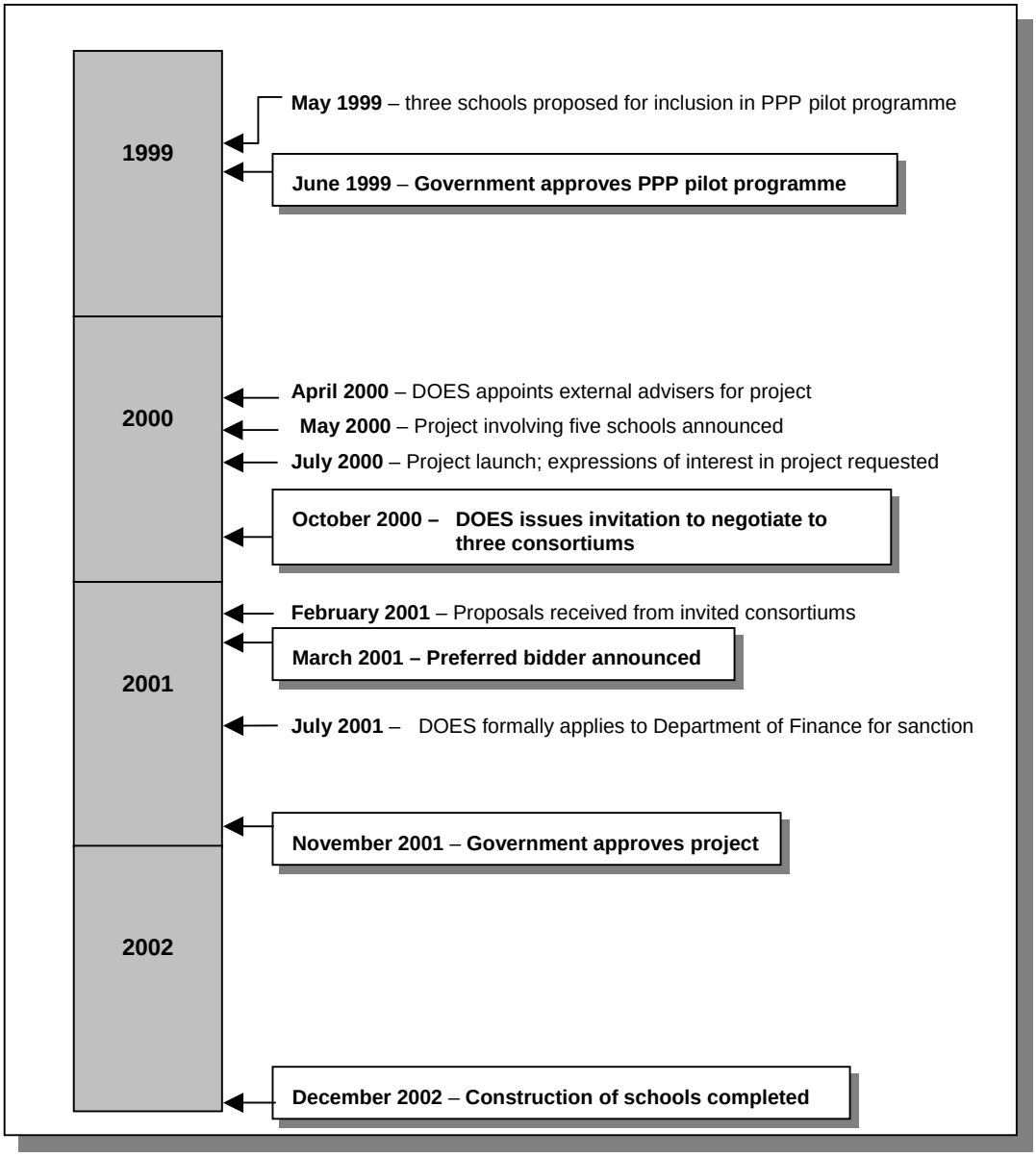
# 2 Outturn of the Grouped Schools Project

**2.1** This chapter outlines the main stages and events that occurred in the development, evaluation and management of the grouped schools project, and the ultimate project structure put in place. It also describes how the scope and projected costs of the project evolved from the initiation of the project concept in 1999 until the final contract for the project was entered into. The management arrangements put in place for the project are also reviewed.

## Project Events and Timescale

**2.2** The main events, milestones and project timescale in the grouped schools project are summarised in Figure 2.1.

**Figure 2.1 Summary of main events in the development of the schools PPP project, 1999 to 2002**



## Scope of the Grouped Schools Project

**2.3** When the programme of pilot PPP projects was approved by the Government on 1 June 1999, it was envisaged that the grouped schools project would consist of three mid-sized second level schools. The DOES wrote to the Department of Finance on 21 June 1999 to propose that new schools planned for Tubbercurry, Dunmanway and Clones should be grouped to form the pilot PPP project. The new schools at Dunmanway and Tubbercurry were required to cater for amalgamations of existing schools in the towns. The school in Clones was a planned replacement for an existing building.

**2.4** A new school building approved for Ballincollig was added to the bundle of schools in January 2000. This was intended to replace an existing school and to provide additional accommodation. A new school planned to replace an existing building in Shannon was added to the bundle in May 2000.

**2.5** In summary, five schools accommodating 3,475 students were to be provided, as set out in Figure 2.2.

**Figure 2.2 Number of pupils planned to be accommodated in the schools**

| School | Planned number of pupils |
|---|---|
| Ballincollig (County Cork) | 1,000 |
| Clones (County Monaghan) | 500 |
| Dunmanway (County Cork) | 700 |
| Shannon (County Clare) | 600 |
| Tubbercurry (County Sligo) | 675 |
| **All grouped schools** | 3,475 |

*Source: Department of Education and Science*

## Identifying the Private Sector Partner

**2.6** The DOES agreed with the Department of Finance that the private sector partner would take responsibility for the design, construction and financing of the provision of the required school buildings. In addition, the private sector partner was to maintain and manage the schools' buildings and facilities for 25 years from the date of their occupation.

**2.7** In April 2000, the DOES appointed consultant advisers with financial, legal and technical expertise in the delivery of such projects, to assist it in developing the grouped schools project.

**2.8** The DOES decided to follow a negotiated public works contract procedure in seeking to identify a project partner.[4]

4 EU regulations in relation to the operation of a negotiated public works contract are set out in the EC Directive 93/37/EEC (OJ L199, 9 August 1993, pp 54-83)

**2.9** The DOES formally sought expressions of interest from potential partners. It placed an advertisement in the Official Journal of the European Union in June 2000 announcing the PPP project and the proposed form of the competition.

**2.10** Between 200 and 300 people attended the project launch in July 2000. At the launch, an information memorandum for the project, outlining the nature, scale and initial output specification for the project was distributed.

**2.11** Twelve consortiums of potential private sector partners expressed an interest in submitting bids. These were assessed based on their replies to a pre-qualification questionnaire. Following this assessment, the number of potential bidders was reduced to six. The six were invited to submit outline proposals and following a presentation/interview process, the number of bidders was further reduced to three.

**2.12** The Department issued a formal invitation to negotiate to the three short-listed bidders in October 2000. It provided the following information to the three short-listed bidders to assist them in completing their formal submissions

- detailed schedules of accommodation requirements for each of the proposed schools and design guidelines
- user and service requirements for each of the schools
- general information on the existing accommodation and bundled schools current operations
- the form in which the bid proposal was to be submitted
- a description of how a preferred bidder would be selected.

A draft contract for the project was provided separately to the short-listed bidders by the DOES's legal advisers.

**2.13** Further information was issued to the bidders between October 2000 and January 2001. This related to the DOES's requirements for fixed and loose furniture and equipment, information and communications technology requirements, protection of employment of existing non-teaching school staff, and a schedule and protocols about the transfer of staff, pupils and materials from the existing schools.

**2.14** The Department held a number of meetings with each of the three bidders to ensure that they had as accurate a picture as possible of the project requirements and to help them understand the operational aspects of the schools. Additional information provided as a result of meetings with individual bidders was supplied to all bidders.

**2.15** The bids were received in February 2001. As a condition of the competition, the costs quoted by the bidders were to hold until the end of July 2001. Thereafter, bidders would have the right to vary their cost proposals in line with inflation before entering into a contract.

**2.16** With the approval of the Department of Finance, the DOES selected Jarvis as the 'preferred bidder' for the project, following evaluation of the bids received from the short-listed consortiums. Jarvis was named as the preferred bidder in March 2001. The other short-listed bidders were notified about the selection.

## Negotiation of the Contract

**2.17** The DOES subsequently entered into negotiation with Jarvis about the details of their proposal, the contract terms and the structure and sources of the financing for the deal. The proposal was refined over a four-month period and evaluated using standard PPP evaluation methodologies.

**2.18** In July 2001, the DOES applied to the Department of Finance for formal approval for the PPP project to go ahead and for the contract to be entered into. The Department of Finance raised queries about some of the assumptions used in evaluating the value for money offered in the proposed deal. Changes were made to assumptions as a result, and a revised value for money evaluation report was submitted to the Department of Finance at the end of September 2001.

**2.19** The Minister for Finance submitted an *aide memoire* to the Government on 8 November 2001, outlining the principal features of the grouped schools project and the advantages and disadvantages of the project. The Minister indicated that, subject to the views of the Government, he intended to approve the project. At its meeting on 13 November 2001, the Government agreed that the Minister should approve the project.

**2.20** The contract for the project was signed on 16 November 2001. At that stage, there were still some remaining planning difficulties with the proposed building in Dunmanway. The contract provided that the project would proceed with the other four schools if the planning difficulties at Dunmanway could not be resolved. In the event, they were resolved and the financial deal to include the Dunmanway school in the overall project was agreed in January 2002.

## Structure of the Contract

**2.21** Under the contract for the grouped schools, the Minister for Education and Science issued a licence to Jarvis to construct the agreed buildings on sites owned by the State, and to manage, maintain and operate the facilities over a period of 25 years. The State took ownership of the buildings when construction was completed. Jarvis has no ownership rights under the contract in relation to the buildings or the sites.

**2.22** The contract provides for local school management and Jarvis management together to identify periods of time outside core education service requirements when the school facilities might be used by third party users. Income from such uses (after deduction of associated expenses such as increased staff, heating and insurance costs) is to be shared on a 50:50 basis between the local school management and Jarvis. Provision is also made for the sharing of net income from catering and the operation of vending machines.

**2.23** The unitary payment amount to be paid by the DOES is based on a financial model that assumes net income from in-school catering and vending, and third-party use, would amount to €56,500 in year 1, rising to €104,200 in year 3. Subsequently, the income is assumed to increase in line with inflation.

**2.24** The contract provides for a guaranteed minimum income to each school in respect of income from catering and vending averaging €2,800 in year 1 and increasing to €3,500 (plus indexation) from year 3 onwards. There is no guarantee in respect of income from third-party use. If there is a shortfall relative to the amount included in the financial model in the amount of

income from catering, vending and third party income, the DOES will not be liable for payment of higher unitary payment amounts.

## Project Timeliness

**2.25** During the initial planning of the project, the DOES set a target of starting construction work in April 2001. Construction was to take sixteen months, allowing the schools to be commissioned and opened by September 2002, in time for the 2002/2003 school year. These target milestones were selected to try to minimise the disruptive impact on pupils — especially on the exam classes — of moving from existing school buildings to new buildings.

**2.26** The construction of all the schools was scheduled for completion by end-December 2002. Four of the schools were completed and handed over ahead of schedule, and were occupied in December 2002. The school in Clones was completed and handed over on schedule, and was occupied in January 2003.

**2.27** Planning, contract negotiation and construction of the schools were completed in a relatively short time, considering the complexity of the issues to be dealt with and the fact that it was the first of the pilot PPP projects to be brought to contract stage. Overall, the project took a total of three and a half years from the initial Government approval of the proposal, to the opening of the schools. The preferred bidder was appointed about 8 months after the project launch. Negotiations on the detail of the contract and evaluation and final approval of the deal also took about 8 months.

**2.28** It typically takes between four and five years from the initial appointment of the design team to the completion of the school under the traditional procurement approach. However, availability of funding for individual projects is a significant factor in the elapsed time outturn for conventionally procured projects.

**2.29** The commencement of construction of the schools was delayed because the deal was not put in place until November 2001. In an attempt to ensure disruption of exam classes was kept to the minimum, the DOES agreed that Jarvis could, at their own risk, enter the school sites in September 2001 to begin carrying out site preparation work in advance of the contract being signed. Permitting their entry onto the site before contracts were in place created a project momentum which potentially affected the ultimate decision for the State about taking on the project commitments.

**2.30** The Accounting Officer of the DOES does not accept the view that the decision to allow Jarvis on site created a project momentum. He has stated that, as this situation was not referred to in the *aide memoire* sent to the Government by the Minister for Finance, it clearly did not bear upon the Government's decision, and he believes there is no evidence to suggest that the assertion has any validity. He considers that the risk taken by Jarvis in going on-site prior to a formal contract being in place is an indication of the potential of PPP procurement, and that that kind of option, in the interests of students, would be unlikely to be available in a conventional procurement situation.

## Outturn on Cost

**2.31** Subject to Jarvis meeting the agreed school availability and service levels, the DOES will make monthly payments (referred to as unitary payments) to Jarvis over the 25 year life of the contract. The annualised amount of the unitary payments in year 1 of operation of the schools was estimated at €10.1 million in 2001 prices, excluding VAT. About three-quarters of the unitary payment amount is fixed over the life of the contract. The remainder of the unitary payment is variable, increasing in line with inflation. When the contract was finalised, it was projected that the total amount of the unitary payments over the 25 years of the contract would be €274 million, including VAT.[5]

**2.32** In addition to the unitary payment amount, the project contract provides for the DOES to make a single payment to Jarvis equal to the amount of VAT that Jarvis was liable to pay when the school buildings were handed over to the Department. The payment under this contract condition occurred in January 2003, and amounted to €8.9 million.

**2.33** The combined cost of the projected unitary payments over 25 years and the payment on building handover is €283 million (including VAT).

### *Cost of Construction of the Schools*

**2.34** The cost to the DOES of the grouped schools project covers both the cost of construction of the schools and their maintenance and running costs over the 25 years of operation covered by the project contract. The cost of construction and fitting out of the schools is a major driver of the project cost — it made up 87% of the capital funding requirement, which in turn accounted for about three quarters of the annual unitary payment amount.

**2.35** In its original proposal to Government for the grouped schools project in 1999, the DOES estimated the capital cost of a bundle of three schools to be in the order of €15 million (including VAT).[6] This estimate reflected the cost of construction incurred by the DOES on a recently completed 700-pupil school. The change in project scope from three to five schools could be expected to have increased the estimate of capital cost from around €15 million to around €25 million (including VAT).

**2.36** By the time it commenced the search for a private sector partner for the project in June 2000, the DOES estimated that the cost of construction of the schools by conventional means would be around €38 million (including VAT).

**2.37** The financial model submitted by Jarvis as part of its bid in February 2001 indicated that the estimated cost of construction of the schools would be €71.5 million (excluding VAT). By the time the deal was agreed, the financial model underpinning the agreed unitary payment indicated that Jarvis expected to spend an estimated €79.5 million (excluding VAT) on construction and equipping of the schools.

5 The outturn for the total payment to Jarvis will vary from this figure, depending on inflation. This projection assumes inflation will be 2% a year on average over the life of the contract.

6 Includes basic building costs, cost of external works, abnormal site specific costs, cost of fixed furniture and fittings, loose furniture and equipment, and professional fees.

## *Cost of Project Finance*

**2.38** The cost of borrowing involved in the deal with Jarvis was higher than the cost achievable through direct Exchequer borrowing. However, the project contract includes optional arrangements that allow the DOES to buy out the private sector debt. It also provides options for the commercial debt to be refinanced by Jarvis and for the benefit of the refinancing to be shared between Jarvis and the DOES. The benefit to the DOES would accrue through reduced unitary payment levels.

### *Debt Prepayment Option*

**2.39** Depending on the borrowing terms and conditions available at the time it is exercised, the prepayment option potentially allows for debt funding for the project to be repaid using cheaper Exchequer borrowing, with a consequent reduction in the level of the unitary payment. The Department of Finance has stated that, to the best of its knowledge, the inclusion of prepayment options is not the usual practice in PPP projects internationally.

**2.40** The option to prepay the project debt becomes available three years after the commencement of operation of the schools i.e. in January 2006. At the request of the Department of Finance, Jarvis prepared projections prior to final agreement on the deal to illustrate the potential impact of prepayment on the overall cost. The projections suggested that, depending on the circumstances in which the pre-payment option was exercised, this could potentially reduce expenditure on the deal by €15.8 million in NPV terms. Almost 60% of the projected benefit derived from the repayment of subordinated debt, provided by the Jarvis consortium.

### *Refinancing*

**2.41** Agreement on an option for refinancing of 50% of the commercial debt was reached with the European Investment Bank in February 2003. If the refinancing proceeds, the benefit will be shared on a 75:25 basis between the DOES and Jarvis. The DOES have estimated that, as a result of refinancing, the annual unitary payments would be reduced by €150,000 (around 1.5%) from 2005 on. This would reduce the overall cost of the deal by an estimated €1.5 million in NPV terms.

**2.42** Up to January 2004, the DOES incurred costs of around €236,000 in respect of legal and financial advisory services and other expenses associated with negotiation of the re-financing agreement. This included payment of legal costs and out-of-pocket expenses incurred by the European Investment Bank.

**2.43** Re-financing of the remaining 50% of the commercial debt is an option that could also yield further savings. However, successful refinancing potentially reduces the benefits achievable through prepayment of the debt.

## Project Management and Evaluation Arrangements

**2.44** The DOES set up a PPP Unit in January 1999. The function of the Unit was to develop the PPP project concept in the education area. Initially, only one member of staff was assigned to the Unit. This increased to two members of staff in September 2000.

**2.45** In addition to the grouped schools project, the Unit is responsible for two other PPP project proposals.[7] These involve projects for the third-level National Maritime College and the Cork School of Music. These projects also involve design, build, manage, maintain and finance structures. A Jarvis consortium was appointed preferred bidder for the Cork School of Music project in March 2001. In March 2004, the Government authorised the DOES to enter into negotiations with Jarvis, with a view to reaching financial and commercial close on a revised proposal to the original bid. The final terms of the deal are subject to Government approval. The contract for the National Maritime College PPP was agreed in February 2003, with project completion and commencement of operation of the College expected by October 2004.

### *Use of External Advisers*

**2.46** Following a competitive tendering process, the DOES appointed a team of project advisers on a consultancy basis in April 2000 to assist with the development and evaluation of both the grouped schools and the Cork School of Music projects. The advisory team included economic and financial analysts, legal advisers and property/facilities management experts. A member of the team of advisers was nominated as Project Manager. In addition, the consultants assisted in

- the identification of bid evaluation criteria
- the preparation of tender and contract documentation
- selection of the preferred bidder
- the contract procurement/negotiation process
- testing of the value for money of the proposed deal.

**2.47** The services required from the external advisers for the grouped schools and College of Music projects were contracted for on a fixed-fee basis. The total agreed payment is €395,000 (excluding VAT)[8].

**2.48** The DOES's external advisers received additional payments for legal and financial services associated with negotiation for refinancing of the project by the European Investment Bank. This service was not anticipated when the initial contract with the advisors was put in place.

### *Project Supervision*

**2.49** A Project Board was formed for the grouped schools project in August 2000, following the formal launch of the project, to evaluate the bids for the project and to recommend a preferred bidder to the Minister.

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7 The PPP Unit is also involved in the assessment of a project for the Dublin Institute of Technology at Grangegorman.

8 A small additional fee of €6,200 (excluding VAT) was paid to the external advisers for additional services in connection with work associated with the project launch, carried out on the Department's behalf.

**2.50** The Board was chaired by the head of the DOES's PPP Unit and comprised representatives from the DOES's education inspectorate and the professional/administrative staff of its Planning and Building Unit. The Central PPP Unit of the Department of Finance was also represented on the Board. The Board was supported by the external technical, financial and legal advisers, representatives of whom attended Board meetings.

**2.51** A project team was also formed, with representatives of the relevant school authorities (school principals/managers), to advise the Board on detailed project issues. In addition, four working groups were formed to carry out formal evaluation of different aspects of the bids. These groups comprised members of the Project Board and the external advisers, with additional input from the DOES's Planning and Building Unit.

**2.52** The Board met monthly. Minutes of Board meetings are available up to 20 February 2001. The DOES has stated that the Board met subsequently, on 1 March 2001, to consider the bid evaluations and formally agreed to recommend that Jarvis be appointed as the preferred bidder for the grouped schools project. However, the DOES is unable to produce minutes of this meeting.

**2.53** Typically in PPP-type projects in the UK, the sponsoring body sets up a Project Board to coordinate, manage and oversee the complete procurement of the project. This includes the output/service specification, selection of preferred bidder, contract negotiation, project implementation and commencement of delivery of service. In the case of the grouped schools project, the Project Board was formally involved only up to the selection of the preferred bidder stage. However, there was continuity in project oversight into the later stages because the members of the Board and the external advisers continued to participate in the project, as appropriate, up to the end of construction.

# 3 Specifying the Project Requirements

**3.1** This chapter examines how the DOES went about developing and evaluating the grouped schools project up to the point where the short-listed consortiums submitted their formal bids. It begins by outlining the traditional approach of the DOES to the provision of second level school accommodation. The outputs and services sought from the private sector partner are looked at from two perspectives: the proposed form and scale of the PPP itself, and the specification of accommodation and services to be provided at each school location. The extent to which the DOES evaluated the affordability of the proposed project before inviting potential partners to bid for the project is also examined.

## Traditional Approach to School Provision

**3.2** The traditional approach to the provision of second-level schools involves a number of sequential stages. (These are described in more detail in Appendix A.)

- Proposals received from school managements for new, additional or improved school accommodation are first assessed by the DOES's Planning and Building Unit to establish that the accommodation is required to meet projected demand for school places, and that the needs cannot be met from existing available accommodation. The specification for accommodation to be provided is then drawn up, based on the proposed curriculum.
- When the need for a school and the required specification is known, a decision to proceed with procurement depends on the relative priority attaching to the project and the availability of funding for capital projects generally.
- Traditional procurement of a school begins with the appointment of a design team to draw up a design solution that meets the specified requirements within area and cost norms specified by the DOES.
- The area norms imply provision of buildings of up to 4,570 $m^2$ for a 500-pupil school (9.1 $m^2$ per pupil) and up to 8,320 $m^2$ for a 1,000-pupil school (8.3 $m^2$ per pupil). In practice, somewhat higher areas per pupil are usually provided in small schools, while somewhat lower areas per pupil are usually provided in large schools.
- The DOES's current cost norms imply average building costs of around €1,800 per $m^2$. This includes the cost of construction, external works, a provision for site-specific abnormal works, provision for furniture, fittings and equipment, professional fees and VAT. The current cost norms have been unchanged since December 2000.
- The DOES provides annual funding for schools, in addition to payment of teachers' salaries. The amount paid to each school is based on a range of factors, including the number of students enrolled. The school authorities use the funding provided by the DOES, in some cases together with funding raised locally, to pay school running costs.
- When maintenance work or building repairs are required (e.g. replacement of windows, roof repairs, electrical work or room alterations), school managers may apply to the DOES for grant assistance to pay for the work.

## Choice of Project Structure

**3.3** Since the grouped schools project was the first PPP undertaken in Ireland in the schools area, the DOES had to make a range of choices about how the project should be structured. These included decisions about

- the type of services the private sector partner would be required to provide, and the project duration, which determined the form of the partnership
- the number of schools to be included in the project, and their location, which determined the scale of the project.

### *Form of the PPP*

**3.4** The invitation to negotiate issued to bidders in October 2000 sought proposals for a design, build, finance and operate project structure. The contract period for the partnership was set at 25 years but it was envisaged that the buildings to be provided would have a longer useful economic life.

**3.5** The level of private sector involvement in the provision of public infrastructure services can range from standard construction contracts, through design and build (DB) contracts, and design, build, operate and maintain (DBO) contracts to franchised services. At the time the pilot PPP programme was being developed, DB-type contracts were already being used in the procurement of some infrastructure projects. The pilot programme aimed to explore deeper private sector participation in the delivery of public services, so the expectation was that, at a minimum, the pilot projects would involve DBO-type forms. The Minister for Finance also wished to have all forms of funding for PPP procurement piloted. Consequently, the proposed programme of pilot projects included some privately funded projects, some projects involving a mix of public and private funding, and tolled roads projects.

**3.6** When the Government approved the programme of pilot projects on 1 June 1999, it also decided that the Department of Finance and the relevant sponsoring department should jointly assess each project and decide, in each case, whether or not a PPP approach should be taken and if so, to agree the most appropriate PPP structure.

**3.7** The programme approved by the Government indicated that the probable form for the grouped school project would be DBO. The possibility of also using private finance for the project (i.e. a DBFO structure) was to be examined. The DOES wrote to the Department of Finance on 21 June 1999, stating that the project could be handled on a DBO or DBFO basis. The Department of Finance considered that the project, together with the other DOES pilot projects, would provide a good opportunity to test private financing. The grouped schools project was subsequently launched on a DBFO basis, in June 2000.

**3.8** The external consultants advising the DOES reviewed the question of whether private sector financing should be sought for both the grouped schools and the Cork School of Music projects. They examined the likely impacts of private sector financing on the project costs and the relative willingness of private sector investors and commercial lending institutions to take on risks. They reported, in August 2000, that privately-sourced finance might represent an additional cost relative to public sector cost of finance. While the likely marginal cost associated with using private sector financing in the schools project was not quantified, they concluded that it would not be such a significant cost that the value for money of the deal would be at risk. On that basis, and subject to ensuring that the ultimate deal on offer was tested to ensure it represented good value

for money, the advisers recommended that private financing should be included as part of the project.

## *Number of Schools in the Group*

**3.9** Projects for development as PPPs need to involve an investment level which is sufficient to absorb the costs involved in assembling a bid and agreeing a final deal. This is particularly the case in early pilot projects, where there are likely to be significant learning costs for both public and private sector partners.

**3.10** The 1998 consultancy review for the interdepartmental committee recommended that the minimum capital investment for building projects should be in the range €6.5 million to €13 million. The initial proposal for a grouped school project approved by the government in June 1999 involved three schools at a projected capital cost of €15 million. The proposal consequently appeared to yield the required scale of project.

**3.11** The school bundle was subsequently expanded to include five schools. Around the time the project was launched in the market in July 2000, the DOES estimated that the cost of construction of the five schools, using traditional procurement means, would be €38 million, including VAT. In fact, this was a significant underestimate.

**3.12** The June 2000 estimate of construction cost was based on a simple assumption that the average construction cost for the five schools would be around €1,270 per $m^2$. The DOES's cost and area norms at the time indicate that the expected unit cost was around €1,575 per $m^2$ — about 24% more than the assumption used in the DOES's construction cost estimate. Consequently, a figure of around €47 million (including VAT) would have been a more accurate estimate of the cost of construction of the five schools at the time of the project launch. The DOES was aware of the higher construction cost estimate by the end of August 2000.

**3.13** Based on the correct construction cost rates, the estimated cost of construction of three schools — depending on which of the schools were included in the bundle — was in the range €24 million to €31 million. Even on the incorrect cost assumption, the estimated construction cost for three schools would have been in the range €20 million to €25 million. This suggests that a group of three schools would have been a sufficient scale for the pilot project, even allowing for construction cost increases in the twelve months following the Government approval.

**3.14** When the DOES was reviewing options for the structure of the grouped schools project in advance of going to the market, the only issue dealt with in relation to project scale was whether or not the group of five schools delivered the necessary scale. Alternative scales of the project — the choice about having a group of three, four or five schools in the group — were not considered. The increase from three to five schools made the project more attractive to private sector partners, but it also increased the State's exposure in the event the pilot project would not deliver good value.

## *Basis of Grouping of Schools*

**3.15** Having decided to assemble a group of schools to test the DBFO project structure, the DOES selected from its existing list of proposals for capital works only schools that involved the provision of completely new buildings on greenfield sites, and where the proposed school site was to be State-owned. Projects involving building extensions or refurbishment of existing schools were not considered for inclusion in the group. The normal educational/services planning process

had to have been completed but formal procurement of the projects by traditional means must not have commenced.

**3.16** Five schools in the DOES's list of capital projects fitted these criteria, and all were included in the project. This resulted in a geographically dispersed group of schools.

**3.17** The strategy underlying the DOES's selection criteria in assembling a viable PPP project was to reduce the level of complexity. Because the PPP approach involved a completely new process, it considered that including only new schools on State-owned sites was the best approach. Including projects where schools and sites were privately owned would have introduced added complexities to the process.

**3.18** In the UK, some schools PPP projects have been designed on a 'regional cluster' basis. This involves the handing over of a group of schools in a specified area to a private sector partner, who takes responsibility for maintenance and upgrading (as and when required) of all schools in the region, any required new construction, and ongoing facilities management of all schools in the group. Because the contracting authority in such projects is usually the regional education board, this kind of clustering may be needed to yield the required scale of project for a PPP. Other options for PPP arrangements could include provision of individual facilities management services — such as buildings and grounds maintenance, or waste and energy management — over a wider geographical region.

## School Specific Requirements

**3.19** The invitation to negotiate for the PPP project issued to the short-listed bidders specified the educational outputs and facilities required in the schools and the range and level of services to be provided. This was intended to allow maximum freedom to the bidders to innovate and propose design solutions that would meet all the requirements over the life of the contract, at a reasonable cost.

### *Educational Requirements*

**3.20** The main service outputs for the grouped schools project included in the invitation to negotiate were determined by the DOES's traditional demographic and educational planning approach. This included the projected number of pupils to be accommodated, which, in combination with standard pupil:teacher ratios, determines the number of teachers to be accommodated. Taking account of the required curriculum in each school, this in turn determines the number and type of classrooms, special subject rooms (physical education, science laboratories, construction studies, home economics, etc) and other facilities (toilets, staff rooms, administration, catering, etc) required.

**3.21** A member of the DOES's education inspectorate oversaw the educational requirements of the project brief. Schedules of accommodation and furniture and equipment were prepared for each school in consultation with the school authorities. These formed part of the output specification provided.

### *Space Provision*

**3.22** The DOES's schedules of accommodation included in the invitation to negotiate documentation specified accommodation for the five schools totalling an aggregate gross floor area of just under 30,200 $m^2$. The areas specified for the individual schools were based on the DOES's area norms and implied overall gross floor areas ranging from 7.8 $m^2$ per pupil for Ballincollig (the largest school in the group) to 9.5 $m^2$ per pupil for Clones (the smallest of the schools).

**3.23** The floor area requirements were expressed in the invitation documentation as the minimum provisions of space that would be acceptable to the DOES. Limits were not set for the maximum amount of space that could be provided in the individual schools.

### *Service Requirements*

**3.24** In addition to the provision of buildings to meet the schools' accommodation needs, the invitation to negotiate specified that the private sector partner would be responsible for the maintenance of the school buildings and grounds over the life of the contract. They also asked for the private sector operator to manage and pay for all of the schools' premises services, such as energy and waste management, cleaning, catering, security, parking and telecommunications. A full listing of the services covered by the contract is listed in Appendix B.

**3.25** In traditionally procured schools, these facilities management functions are usually managed or administered by the school principals, other senior teaching staff or administrative staff and, in some cases, by school board members and volunteers.

## Project Cost and Affordability

**3.26** Establishing a firm budget early on in projects is a simple, standard and useful means of maintaining cost control and in ensuring project affordability. Likely project costs should continually be monitored as project planning yields more reliable and complete information. If this reveals that the projected costs exceed the set budget, the argument in favour of proceeding should be reviewed. If there still remains a case for undertaking the project, the budget should be formally revised.

**3.27** No spending limit was set at any stage in the planning of the grouped schools project. Even accepting that the grouped schools project was a pilot exercise and the first of its kind in the education area, the DOES should have set an affordability threshold for the project before going to the market, to guide its decision making. The absence of a reliable assessment at that stage of the maximum amount the State was willing to spend on the grouped school project limited the ability of the DOES and of the Department of Finance to form a view about the suitability of the PPP procurement route for the project and the value for money this approach was likely to deliver.

**3.28** The Accounting Officer of the DOES has stated that, while he accepts that an affordability limit was not set for the project, it cannot be implied that the DOES could not have taken a view on the affordability of the project. He pointed out that the DOES could have withdrawn from the process at any time if it considered that the project was not affordable.

## Cost Estimation

**3.29** Since the PPP approach involved both the construction of school buildings and a long-term commitment to their maintenance and operation, project cost estimation should ideally have included whole life cycle costs — capital costs and running costs over the project life.

**3.30** Around the time the grouped schools project was launched in July 2000, the DOES estimated — incorrectly — that the cost of construction of the schools by traditional means would be €38 million. The correct estimate of construction cost was around €47 million. Estimates of other likely life-cycle costs were not prepared.

**3.31** While the DOES did not pay directly for school running costs, it did have access to a considerable amount of information about school budgets and the costs of running and maintaining schools. The project team and the external advisers should therefore have been able to produce reasonable projections of the likely costs of achieving the required levels of maintenance and operation of the schools over the project life cycle through traditional means.

## Cost Guidance for Bidders

**3.32** At the time the DOES issued the invitation to negotiate, guidance for bidders about the maximum amount the public partner was willing to pay for the required services was often provided in PPP-type projects in the UK. Typically, what was provided was a project life-cycle cost model, indicating what it would be likely to cost the State to provide the proposed infrastructure or service.

**3.33** Where there is sufficient competition in the market place, releasing the cost model potentially gave bidders a benchmark within which to innovate and develop designs. It also allows bidders that cannot make proposals that cost less than the benchmark amount to consider whether or not they wish to remain in the competition. On the other hand, revealing the maximum amount the State is willing to pay for a service may give bidders an opportunity to increase their asking price above what they might otherwise seek.

**3.34** The invitation to negotiate for the grouped schools project, issued in October 2000, contained no guidance about the amount the DOES was willing to pay. In November 2000, in response to requests from the bidders, all of whom had experience of the UK system and practice, the DOES indicated that it would provide project cost guidance. However, at the end of January 2001, with a week remaining before bids were to be submitted, it announced that affordability guidance would not be provided and that it wished to rely on the commercial experience of the bidders to ensure the provision of appropriately competitive bids.

**3.35** Since it did not at the time have reliable life-cycle costing information even for its own internal purposes, the DOES does not appear to have been in a position to provide the kind of project cost guidance with which the bidders were familiar. In any event, contact with industry sources during the procurement process gave rise to concerns on the part of the DOES that releasing cost guidance would result in bidders bidding to that price.

# 4 Selecting the Best Offer

**4.1** Proposals were received from the three short listed bidders that had been invited by the DOES to submit bids for the grouped schools project. While the proposals were required to present considerable detail about the proposed design solution, the services to be provided and the costs to the State, it was expected that some further planning, design and financial analysis work would be required before either side would be in a position to agree a final contract. The standard practice in this situation in PPP-type projects is to select a preferred bidder from among the proposals submitted, and then proceed to negotiate the final details with that bidder.

**4.2** This chapter looks at the process involved in selecting the preferred bidder for the grouped schools project, and the evaluation methodologies and criteria used.

## Evaluation Methodology and Criteria

**4.3** The bid evaluation procedures and criteria were outlined by the DOES in the invitation to negotiate. They were elaborated on in a document adopted by the Project Board in January 2001, in advance of the receipt of the bids.

**4.4** The agreed evaluation procedure focused on four aspects of the bid proposals, each of which was assigned equal weighting in the evaluation i.e. 25% of the overall score. These were

- the extent to which the proposals met the DOES's design and technical requirements
- the extent to which the proposals met the DOES's requirements in relation to the provision of services in the schools
- the acceptability of the legal and contractual proposals
- the acceptability of the financial proposals.

**4.5** Decision criteria were listed in relation to design/technical, services and legal/contractual aspects of the proposals. Each criterion was assigned a separate weighting within the overall score for the category.

**4.6** For the financial evaluation, the documents describe a methodology to be used to arrive at a meaningful comparison price, based on standard scenarios for operation of the grouped schools project. Each of the bids was also to be compared to the projected cost of using traditional methods for procuring the construction and operation of the schools. Based on this standardised price comparison model, the financial evaluation was planned to focus on

- the affordability of the proposed payments
- the deliverability and robustness of the proposed financial structure
- the value for money offered by the deal
- the degree of certainty of the funding being available for the bid.

**4.7** The criteria under each of the evaluation aspects and the associated planned maximum scores are shown in Appendix C.

**4.8** Four separate evaluation groups were established to carry out the evaluation. Three of the groups — the design/technical, services and legal evaluation teams — were chaired by DOES staff

members; a Department of Finance staff member chaired the financial evaluation group. The other members of the groups were DOES staff and the DOES's external advisers. The groups' memberships overlapped considerably.

**4.9** The bid evaluation procedures provided for quality assurance functions to be carried out by members of the team of external advisers. This was intended to provide assurance to the Project Board that the bid evaluation process had been followed fully and correctly and that the outcome of the evaluation was robust.

**4.10** The overall aim of the bid evaluation process was to select the most economically advantageous proposal. The proposed system for evaluating the bids was suitable to allow the DOES to achieve that aim.

## Results of the Bid Evaluation

**4.11** Bids were received from the three short-listed bidders by 2 February 2001, the prescribed closing date. Each of the proposals submitted was considered by the DOES to meet all the requirements in relation to bid documentation set out in the invitation to negotiate, and to be valid bids. All of the proposals submitted were also judged to meet the full brief for accommodation set out by the DOES.

**4.12** A preliminary report on the ranking of the bids was presented to the Project Board on 16 February 2001. This indicated that, overall, Jarvis's was the highest-ranking proposal. A number of issues were subsequently raised with individual bidders for clarification and the outcome of these enquiries was to be reported back to the Project Board at a meeting on 1 March 2001. A more detailed analysis underpinning the evaluation was to be included in a final evaluation report.

**4.13** The DOES has stated that a meeting of the Project Board was held on 1 March 2001, and that the Board agreed at the meeting to recommend the appointment of Jarvis as the preferred bidder. However, minutes of the meeting cannot be located. A final report on the evaluation was not produced around the time of the meeting.

**4.14** A report on the bid evaluation was assembled in August/September 2003 by the DOES's advisers. This report includes a schedule of 'final' scores awarded under each of the evaluation criteria. A document on a Department of Finance file, dated March 2001, contains a different schedule of 'final' scores. There are some significant differences between the schedules in the scores for individual criteria and in the rank order of the bidders in relation to financial criteria. However, both sets of evaluation scores resulted in the same order of ranking of the bidders overall, with Jarvis having the highest combined score on both schedules, across all aspects of the evaluation. On that basis, each set of scores supports the nomination of Jarvis as the preferred bidder.

### *Evaluation of School Designs*

**4.15** The Jarvis proposal was ranked highest of the three bids received in relation to the proposed school designs and technical aspects of the bid. The evaluation team concluded that the proposal reflected an innovative approach to the design of the schools. In general, the building designs proposed by Jarvis were considered to make good use of circulating/social space and were judged to require only small changes to achieve an acceptable solution.

**4.16** The proposals submitted by the two other bidders were considered by the evaluation team to be less innovative in design. They considered the designs would require substantial re-working to be acceptable to the DOES and the school authorities.

## *Evaluation of Services Proposals*

**4.17** The Jarvis proposal was also ranked first in relation to management of the school facilities and the provision of ongoing services. While the proposals made by the other bidders were considered to be generally satisfactory, the evaluation team had some reservations about the level of detail provided about how the school facilities would be managed and about proposals for third party use of the schools.

## *Evaluation of Legal Proposals*

**4.18** The evaluation of the bidders' proposals in relation to legal and contractual arrangements considered factors including the proposed level of risk transfer, the level of detail provided in the bidders' response to the draft project agreement, evidence of commitment of the bidders and their funders to the project, and an assessment of the bidders' capacity to deliver project and finance documentation in accordance with the project timetable.

**4.19** Bidder A was ranked first in the legal and contractual evaluation, clearly ahead of the other proposals. The Jarvis proposal was ranked third, just behind that of Bidder B.

## *Financial Evaluation*

**4.20** Each of the bids received included very detailed financial proposals. The invitation to negotiate required the bids to be prepared on the basis of specified standard assumptions.[9] These were to be supported by detailed cash flow models over the full project life, including proposed construction, maintenance and operational costs, financing sources, and projected profit and loss and balance sheets each year for the special purpose company that was to be set up to provide and manage the schools.

### *Financial Evaluation Process*

**4.21** It is not clear from the available documents how the financial evaluation was carried out, or how the financial scores awarded in relation to each of the bids were arrived out. While Jarvis had the highest overall score across all evaluation areas, it was ranked highest on the financial evaluation in one schedule, while Bidder A (ranked second overall) was placed just ahead of Jarvis in the financial evaluation on the other schedule.

**4.22** The DOES has stated that financial evaluation scores were arrived at in the following way.

- The financial models received from the bidders were reviewed.
- Meetings were held with the relevant individuals from each of the bid teams to allow them to present their bids, highlight any issues and deal with any queries arising.
- Financial clarification issues arose and these were documented and referred back to the bidders.

9 Each bidder also included two variant bid proposals, based on slightly different options e.g. longer contract life, variation in price escalation, alternative financing proposals.

- A comparison was made between the three financial models, and this was summarized on two spreadsheets. One highlighted the key features of each of the models; the second reflected the 25 to 28 year cash flows of each of the models and provided an overall summary.
- The financial evaluation scores were agreed at a financial evaluation team meeting, based on this process, and on the considerations and discussions of the financial evaluation team.

**4.23** The process as described above was not fully documented. In particular, there is no record of the deliberations of the financial evaluation group or when they met. It is not clear what work was carried out to establish the relative value for money of the respective bids, or which of the two sets of financial scores — if either — represents the final decision of the evaluation group.

**4.24** The DOES has stated that " … based on the review, it was considered that no financial proposal was so strong or weak that it stood out from the other two. Whilst costs in relation to each varied, so also did the product being delivered. Therefore, reliance was not solely being placed on cost. It was decided at the financial evaluation meeting that a bid would neither be ruled out, nor selected, based solely on the finance review. It was considered that design and services were likely to be the critical determining factors in the selection of a preferred bidder. This was discussed and agreed at a meeting of the full Project Board on 1 March 2001."

## *Summary of Financial Proposals*

**4.25** Figure 4.1 sets out key summary statistics taken from the bidders' submissions. These are

- the proposed unitary payment in the first year of operation of the schools, in July 2001 prices
- the net present value (NPV) of the proposed stream of unitary payments over the 25-year life of the contract.

**4.26** The year 1 unitary charge proposed by Jarvis, at €10.2 million, was almost 30% more than that proposed by Bidder A. However, the unitary charge amounts proposed by each of the bidders were liable to vary from year to year over the life of the contract, so the bidders were asked to indicate the estimated net present value (NPV) of the proposed full-life streams of unitary payments. Comparisons of the estimated NPVs provided by the bidders indicated that Bidder A's proposal would be the cheapest over the life of the contract. Jarvis estimated the cost of its proposal at €92.2 million in NPV terms — 9.5% more than Bidder A's estimate of the NPV of its proposal.

**Figure 4.1 Summary indicators of bidders' financial proposals**

| | Jarvis | Bidder A | Bidder B |
|---|---|---|---|
| **Unitary payment in year 1 of operation (at 2001 prices) € million** | 10.2 | 7.9 | 10.3 |
| **Estimated NPV of unitary payments over contract life[a] € million** | 92.2 | 84.2 | 99.7 |

*Source: Bidders' financial model proposals*

*Note: [a] Stream of unitary payments over 25 years discounted at a rate of 10.24%.*

**4.27** When the cost comparison of the bids was reviewed in the course of this examination, two technical issues arose in relation to the comparability of the NPV estimates submitted by Jarvis and Bidder A.

- An apparent technical error was found in the discounting calculation in the Jarvis model. This resulted in Jarvis's estimate of the NPV of its own bid being overstated.
- Ensuring consistency in the discounting treatment of the timing of unitary payment amounts is a critical issue. The financial models prepared by Jarvis and Bidder A show different timing profiles for indexing and payment of the unitary payment.

Taking these factors into account in the cost comparison, it appears that, in NPV terms, the projected cost of the Jarvis bid was 5% to 7% higher than that submitted by Bidder A.

## *Impact of Inflation Assumption*

**4.28** The DOES asked the bidders to prepare their financial models based on the standard assumption that inflation would average 4% a year over the life of the contract. In each of the bids, the main reason for variation in the unitary payment over the life of the project was indexation of the payment with inflation. However, the nature and degree of variation was different in each of the proposals.

- Jarvis proposed that 76% of the unitary payment amount would be fixed over the life of the contract; the remainder was to increase at the same rate as consumer prices.
- Bidder A proposed that the full unitary payment amount would increase each year, but at a rate of around 70% of the consumer price increase.
- Bidder B proposed that just over half of the unitary payment amount would be fixed and the remainder would be indexed with consumer prices. (However, in this case, there are also other changes in the amount of the projected unitary payment year-to-year, which make it difficult to isolate the impact of changes in the rate of inflation.)

**4.29** Because of the different pricing structures, Jarvis's offer was relatively insensitive to changes in inflation, but Bidder A's was liable to change significantly as inflation varied. The difference in cost in NPV terms between the Jarvis and Bidder A offers would increase if inflation turned out to be lower than 4% over the life of the project, and would decrease if inflation was higher.

**4.30** When the cost of the Jarvis bid was being compared to the cost of direct procurement of the schools later in 2001, the Department of Finance took the view that an assumption of inflation averaging around 2% a year over the long term would be more appropriate than the assumed rate of 4% the bidders were asked to build into their models. Based on an assumed 2% rate of inflation over the life of the contract, the projected cost in NPV terms of the Jarvis bid would be around 14% to 16% more than the projected cost of Bidder A's proposal.

## *Choice of Discount Rate*

**4.31** The DOES asked the bidders to discount the streams of projected unitary payments at an annual rate of 6% in real terms (i.e. after taking account of inflation effects) when they calculated the NPVs of the offers. Combined with an assumption of 4% inflation, this implied a nominal discount rate of 10.24%.

**4.32** The bidders may have structured their bids in a particular way in response to the specified discount rate of 10.24%. Had a lower rate, or a range of rates, been specified, bidders might have adopted different pricing strategies and offered profiles of unitary payments with different timings and indexation conditions. Furthermore, once the DOES had specified a discount rate, public procurement rules would have imposed constraints upon the DOES from using any other rate in evaluating the bids.

**4.33** The nominal rate of 10.24% proposed for discounting purposes was considerably higher than the Exchequer's cost of long term borrowing at the time, which was around 5.8% a year. This would have been a more appropriate rate to use in discounting the proposed unitary payment streams. An assumption of inflation averaging 2% a year would have been consistent with this discount rate, and a more realistic figure to use in compiling long-term projections of cost.

**4.34** The choice of discount rate is significant. Applying a lower rate results in the estimated NPV of the stream of unitary payments being significantly higher. For example, based on an assumption of 2% inflation and a discount rate of 5.8%, the full cost of the Jarvis proposal would have been estimated at €130 million in NPV terms, over 40% greater than the estimate €92 million provided by Jarvis in line with the assumptions specified for the bid submission.

## Affordability of the Bid Proposals

**4.35** Each of the bidders proposed to provide school buildings that were significantly bigger in terms of floor area than was specified in the original invitation to negotiate — the floor areas that would have been provided for each of the schools if the traditional procurement route had been followed (see Figure 4.2). The increases in scale proposed by the bidders ranged from 15% to 19% overall, but were as high as 25% for individual schools.

**4.36** Selecting a preferred bid from among those available does not automatically mean that the proposal will represent a good deal for the State, or be affordable. It was particularly important to consider the affordability of the preferred bid because it proposed the provision of schools around 15% bigger than would have been provided under the traditional procurement approach.

**Figure 4.2 Proposed floor areas, by school and by bidder**

| School | Floor area specification ($m^2$) | | Bidders' proposals ($m^2$) | | |
|---|---|---|---|---|---|
| | Total area | Area per pupil | Jarvis | Bidder A | Bidder B |
| **Ballincollig** | 7,849 | 7.8 | 8,774 | 8,852 | 9,201 |
| **Clones** | 4,765 | 9.5 | 5,551 | 5,748 | 5,962 |
| **Dunmanway** | 6,230 | 8.9 | 7,687 | 7,016 | 7,147 |
| **Shannon** | 5,436 | 9.1 | 5,976 | 6,234 | 6,616 |
| **Tubbercurry** | 5,893 | 8.7 | 6,577 | 7,251 | 7,011 |
| **All grouped schools** | **30,173** | **8.7** | **34,565** | **35,101** | **35,937** |

*Source: Analysis by Office of the Comptroller and Auditor General*

**4.37** The DOES prepared an analysis comparing the cost of construction of the schools under the Jarvis proposal with the projected cost of construction of the schools through traditional means for a meeting with the Department of Finance on 22 February 2001. The DOES's analysis is summarised in Figure 4.3.

**Figure 4.3 Summary of DOES analysis (February 2001) of comparative cost of construction of grouped schools**

| | Jarvis bid proposal | Conventional procurement |
|---|---|---|
| Area of school buildings [a] | 34,565$m^2$ | 30,351$m^2$ |
| Estimated total construction cost | €71.6m | €64.29m |
| Unit construction cost per $m^2$ | €2,073 | €2,115 |

*Source: Analysis compiled by DOES PPP Unit, February 2001*

*Note: [a] The invitation to negotiate sought buildings with a total gross internal floor area of 30,173$m^2$*

**4.38** The DOES's document indicated that the projected total cost of construction under the Jarvis proposal (€71.6 million) was 11.6% greater than the projected cost of construction of the five schools by traditional procurement methods. However, the analysis indicated that the Jarvis proposal involved a unit cost of construction 2% lower than the unit cost of construction using conventional procurement. This comparison implied that the higher overall cost of construction under PPP procurement related mainly to differences in the size of the school buildings that would be provided under the two procurement approaches.

**4.39** There are two main difficulties with the analysis compiled by the DOES.

- Based on the DOES's cost norms at the time, the estimated unit cost of construction of schools by traditional procurement means was around €1,800 per $m^2$, including VAT. This suggests the projected total cost of construction under conventional means should have been around €54.6 million. The DOES has attributed the assumed unit cost of €2,115 per $m^2$ (about 17% higher than the actual rate) to anticipated inflation in building costs during the construction of the schools.
- The DOES failed to note that the estimated cost of construction of €71.6 million underlying the Jarvis proposal did not include VAT, while the estimate of cost of construction by traditional means was VAT inclusive. As a result, they were not comparing like with like. The comparison should have been based on a total construction cost estimate for the Jarvis proposal of around €80 million.

**4.40** Effectively, the Jarvis proposal was to build schools bigger than normal, at unit costs significantly higher than the DOES's existing cost norms. Since the PPP approach involved the maintenance of the schools and the provision of services over a 25-year contract period, there was potential for the projected higher construction costs to be offset by lower maintenance and running costs. Nevertheless, the gap in the projected construction costs should have raised concerns about the amount of the unitary payment that was being sought by Jarvis and about the overall affordability of the grouped schools project.

**4.41** In the circumstances, it would seem prudent for both the DOES and the Department of Finance to have examined in detail the relative costs of PPP and traditional procurement at that stage, and to have delayed the formal announcement of the preferred bidder until that examination was completed.

# 5 Negotiation of the Deal

**5.1** After selection of Jarvis as the preferred bidder, the DOES entered into negotiations with Jarvis with a view to finalising the deal. While details may change in such negotiations, it is crucial to ensure that the costs and benefits put forward in the original offer are broadly the same as those arrived at in the final agreement.

**5.2** The financial model submitted by Jarvis with its bid in February 2001 in support of the proposed unitary payment regime was used to monitor the effect of changes as they emerged in the negotiation process. Successive versions of the model produced at key stages in the negotiation process were examined to establish the sequence and nature of the changes that took place over the course of the negotiations, from original bid to final contract.

## Cost of Construction of Schools

**5.3** Overall, the estimated cost of construction of the schools increased by 11% between bid and final agreement. Figure 5.1 summarises changes in the elements making up the cost of provision.

**Figure 5.1 Estimated costs of construction of schools under PPP procurement at bid stage (February 2001) and at contract agreement (November 2001/January 2002)**

| Cost element | Estimate at bid stage | Final cost estimate | Variance | |
|---|---|---|---|---|
| | €m | €m | €m | % |
| Building costs | 54.27 | 60.66 | +6.39 | +12 |
| Furniture, fittings and equipment | 5.18 | 7.13 | +1.95 | +38 |
| Information and communications technology (ICT) | 3.40 | 4.04 | +0.64 | +19 |
| Professional fees | 5.98 | 4.65 | -1.33 | -22 |
| Developer's margin | 2.71 | 3.02 | +0.31 | +11 |
| Planning and fire certificate | 0.04 | 0.03 | -0.01 | -25 |
| **Total cost of construction** | **71.59** | **79.54** | **+7.95** | **+11** |

*Source: Analysis by Office of the Comptroller and Auditor General*

*Note: Amounts shown exclude VAT on construction.*

### *Increase in Building Costs*

**5.4** The projected cost of building the schools increased by €6.39 million. This accounted for 80% of the overall increase in construction costs.

**5.5** Almost two-thirds of the estimated increase in the basic building cost of the schools was attributable to the DOES. The increases related to

- compensation for unexpected site conditions (€3.3 million)
- price variation due to delay in approval of the deal (€0.6 million).

The remainder of the building cost increase was attributable to changes in Jarvis's own costs.

### *Site Investigation Costs*

**5.6** After the invitation to negotiate was issued to the shortlisted bidders, the DOES made arrangements to have site investigations carried out for each of the schools. The intention was that the site investigation reports would be provided to each of the bidders before they submitted their bids on 2 February 2001, but the reports were not ready. As a result, the financial proposals in the bids were subject to revision with the DOES becoming liable for any price increases arising where site investigations subsequently revealed unexpected conditions.

**5.7** Initial reports on the sites were completed in February 2001. Follow-up reports were required on some of the sites, but completion of these reports was delayed because Foot and Mouth disease controls restricted site access.

**5.8** After the site investigation reports became available, Jarvis claimed that additional site works would be required on the sites for each of the five schools, at an estimated cost of €4.35 million (excluding VAT). The DOES hired a firm of consultant engineers to independently examine the claim. The consultants' report concluded that most of the cost increases claimed were due to ground conditions that could not have been foreseen by bidders at the time the bids were submitted, and that the conditions required additional foundation and ground improvement works. However, it recommended that there was scope to reduce the cost of the claim in respect of conditions that should have been foreseen, and because some of the costs claimed were too high.

**5.9** Following discussion between the DOES and Jarvis, the amount agreed in respect of increased cost of site works was €3.3 million (excluding VAT).

### *Cost of Time Overrun on Negotiations*

**5.10** The original timetable set for the PPP procurement envisaged that negotiations with the preferred bidder would be completed by July 2001. For that reason, the DOES asked the bidders to quote on the basis of prices that would remain fixed until July 2001. Thereafter, the invitation to negotiate allowed for increases in the project cost, in line with inflation, associated with delays.

**5.11** In the event, negotiation and evaluation of the deal and the securing of the necessary approvals from the Department of Finance took about eight months rather than the planned four months. Commencement of construction was consequently also delayed relative to the planned time frame on which Jarvis had based its bid.

**5.12** The DOES estimated the impact on the cost of construction related to the delay in agreeing the contract at around €0.6 million (excluding VAT).

## ***Furniture, Fittings and Equipment***

**5.13** Between the submission of the bid and the agreement of the final contract, the overall cost of provision of furniture, fittings and equipment, including information and communications technology (ICT), increased by €2.6 million — around 30%. More than two thirds of the increase was attributable to omissions in the DOES's original specification or to subsequent increases in the specification.

- In the course of negotiation of the deal, the DOES discovered that it had omitted a number of rooms in each of the schools when it drew up the specification of requirements in

relation to furniture, fittings and equipment. The cost of fitting out those rooms was estimated at €844,000.

- For some other rooms in each of the schools, the DOES increased the specifications for furniture, fittings and equipment during negotiations, at a cost estimated at €309,000.
- The Jarvis bid included a provisional amount (a 'PC sum') in respect of information and communications technology (ICT) requirements for the schools which the DOES had not yet fully specified; this was increased by the DOES by €634,000 during negotiations – an increase of 19% in the overall provision for ICT.

**5.14** The remainder of the increase in furniture and equipment costs was attributed to Jarvis.

- Some of the furniture and equipment being provided by Jarvis was on a supply-only basis, rather than on a supply and maintain basis. It emerged that VAT would not be recoverable on this expenditure. This increased the overall cost of construction by an estimated €439,000.
- It was found that Jarvis had not provided for certain kitchen and laboratory equipment in its bid. The cost of meeting the full specification in these areas was estimated at €297,000.

### *Other Construction Cost Changes*

**5.15** The other main changes in elements of the construction cost of the schools were

- the final cost incurred by Jarvis on professional design team fees was around €1.3 million (22%) less than was included in the original bid
- the amount provided in respect of the developer's margin increased by 11%, in line with the overall construction cost increase.

### *VAT on Building Handover*

**5.16** During negotiation of the deal with Jarvis, it emerged that because the State would be taking ownership of the schools when construction was completed, a substantial VAT payment liability would arise for Jarvis when the buildings were handed over. This payment was not included in the financial model at the time the bid was submitted, and so was not reflected in the initial projection of the unitary payment amount.

**5.17** The amount of the VAT liability on building handover was estimated in June 2001 at €10.8 million. This would have increased the level of capital funding required for the project, which was mainly being raised through commercial borrowing. The unitary payment amount paid by the DOES would have been correspondingly increased. Prompted by the Department of Finance, the DOES instead arranged to make a once-off payment to Jarvis of an amount equal to the VAT liability on the handover of the schools.

**5.18** Following the handover of the schools at the end of 2002, the DOES paid €8.9 million to Jarvis under this contract condition in January 2003.

## Operating Costs

**5.19** The original bid received from Jarvis was based on projected total costs of just under €2 million a year (in 2001 prices, and excluding VAT) for facilities management (including building maintenance, building management, cleaning, caretaking, etc.), maintenance of ICT (in years 1 to 3 only) and company overheads (insurance, management charges, risk management, bank agency fees, directors' fees, etc.)

**5.20** This figure remained more or less unchanged at the end of the negotiation process.

## Project Financing

**5.21** The costs incurred by Jarvis in developing the PPP project structure included financial and legal costs, such as company set-up costs, bid compilation costs, project management costs, bank fees, etc. Other capital costs included short-term borrowing and capitalised interest. In Jarvis's original bid, these costs were projected to be €8.7 million. By October 2001, the projected total for these costs had increased to €13.7 million — an increase of 57%.

**5.22** The increases in both construction costs and development and financing costs resulted in the amount of capital financing required for the project increasing from €80.3 million at bid stage to €93.2 million in October 2001 — an increase of 16%.

**5.23** From February 2001 (when the bid was originally submitted), until October 2001, the financial model versions were based on interbank lending rates (including a credit spread margin) of 6.13%. In fact, interest rates had fallen in the intervening period. As a result, the final deal for financing the project was based on corresponding rates of 5.22% for four of the schools (agreed in November 2001) and 5.41% for the remaining school (agreed in January 2002).

**5.24** The reduction in market interest rates reduced the cost of borrowing for the project. In addition, the projected requirement for capital financing for the project fell by €1.65 million, through reductions in the provision of finance for short-term borrowing and capitalized interest. As a result, the total capital financing actually required for the project was €91.6 million.

**5.25** The project finance was secured from three sources.

- 89% of the total project funding was sourced through commercial borrowing (senior debt) at fixed interest rates, which were at a margin (0.8% to 0.95%) over the underlying interbank lending rates.[10]
- 10% of the funding was provided by the investors in the form of subordinated debt, at a fixed interest rate of 12%.
- 1% of the funding was provided in the form of equity investment in the company, to be remunerated by the payment of dividends

**5.26** The projected return to the investors was a combination of the interest on the subordinated debt, which was not affected by the drop in market interest rates, and the equity return. In the final deal, the combined internal rate of return to the investors was estimated at 13.7%. This was down from the rate of 15.5% projected in the original bid.

10 Different fixed interest rates apply for years 1 to 7, years 8 to 17 and years 18 to 23.

## Impact on Unitary Charge

**5.27** Figure 5.2 shows how the various changes in the cost structure underlying the deal impacted on the projected annual unitary payment over the course of the negotiation. The variation that occurred was related almost entirely to changes in the capital finance requirement for the project.

**Figure 5.2 Changes in projected unitary payment from bid to final deal**

| | Original bid (Feb 2001) | Jun 2001 projection | Oct 2001 projection | Final deal (Nov 2001/ Jan 2002) |
|---|---|---|---|---|
| | € 000 | € 000 | € 000 | € 000 |
| **Annual unitary payment in 2001 prices (excluding VAT)** | | | | |
| Facilities management | 1,156 | 1,143 | 1,156 | 1,156 |
| Special purpose company overheads | 413 | 426 | 411 | 411 |
| ICT maintenance (years 1 to 3 only) | 406 | 406 | 406 | 406 |
| Sinking fund deposit | 517 | 564 | 556 | 557 |
| Fixed payment | 7,688 | 9,071 | 8,211 | 7,592 |
| **Total annual unitary payment** | **10,180** | **11,610** | **10,740** | **10,122** |
| **Capital financing** | | | | |
| Total construction costs | 71,586 | 79,816 | 79,466 | 79,540 |
| Development costs | 8,685 | 8,547 | 13,744 | 12,099 |
| VAT on building handover | — | 10,793 | — | — |
| **Total capital financing required** | **80,271** | **99,156** | **93,210** | **91,639** |

*Source: Analysis by Office of the Comptroller and Auditor General*

**5.28** The increase in the projected annual unitary payment between February and October — from €10.2 million to €10.7 million — reflects the agreed uplifts in capital costs associated with unforeseen site conditions, omissions and adjustments to accommodation and equipment specification in the invitation to negotiate and the price effect of delay in concluding the agreement. Falling market interest rates captured in the final deal resulted in a benefit for the State, and offset the increase in unitary payment associated with those factors. The payment by the DOES associated with VAT on handover of the buildings was an additional unforeseen expense.

**5.29** The increase of 5.5% in the projected unitary payment between the February and October projections was significantly less than the 16.1% increase in the financing requirement in the same period. This reflects the apportionment between the DOES and Jarvis of responsibility for the different factors leading to cost increases. Increases in the costs attributable to Jarvis were reflected in the drop in the projected internal rate of return.

**5.30** It can be concluded that the DOES succeeded in maintaining reasonable competitive tension in the course of negotiation with Jarvis.

# 6 Evaluating the Deal

**6.1** The selection of the Jarvis bid on the basis that it was the most economically advantageous of the bids submitted did not, in itself, establish that it was either affordable or that it represented good value for money. It remained to be tested whether or not the final deal would deliver the required service to the school communities over 25 years at a cost that would be less than that incurred through direct State procurement and funding of the schools.

## Affordability of Extra Provision

**6.2** The invitation to negotiate for the grouped schools project required, at a minimum, the provision of school buildings with a total gross internal floor area of about 30,200 $m^2$ — the size of buildings the DOES would be likely to provide through conventional procurement. In the final deal, the DOES agreed to the provision by Jarvis of school buildings with a total gross internal floor area estimated at around 34,700 $m^2$— about 15% more (see Figure 6.1).

**Figure 6.1 Area of buildings to be provided under the grouped schools project, by school**

| School | Gross internal floor area | | Contract area as a percentage of specification |
|---|---|---|---|
| | Specified in invitation to negotiate | Specified in contract drawings[a] | |
| | $m^2$ | $m^2$ | % |
| Ballincollig | 7,849 | 8,844 | 113 |
| Clones | 4,765 | 5,571 | 117 |
| Dunmanway | 6,230 | 6,965 | 112 |
| Shannon | 5,436 | 6,531 | 120 |
| Tubbercurry | 5,893 | 6,750 | 115 |
| **All grouped schools** | **30,173** | **34,661** | **115** |

*Source: Analysis by Office of the Comptroller and Auditor General*

*Note: [a] Contract Schedule 11 drawings. Designs provided for galleries overlooking the physical education halls (total of 1,168 $m^2$) but these did not form part of the contract.*

**6.3** As indicated in Figure 6.2, the increases in gross internal floor areas relative to the original specification were related to

- an increase of 7% in the area of spaces provided for direct delivery of education, administration and services — this includes classrooms, subject and special purpose rooms, and administrative offices
- an increase of 49% in the area allowed for social and circulating space and for internal division of the school buildings.

**6.4** The DOES's original specification of space required an add-on provision of around 22% to 23% to the basic internal floor area (i.e. area required to meet core educational, service and administrative needs) to cover social and circulation space and internal division. The final contract drawings provided for add-ons in the range 30% to 36%.

**Figure 6.2 Composition of building areas, by school**

| | Basic school area | Social and circulating space | |
|---|---|---|---|
| | $m^2$ | $m^2$ | as % of basic |
| **Specified in invitation to negotiate** | | | |
| Ballincollig | 6,364 | 1,485 | 23.3 |
| Clones | 3,877 | 888 | 22.9 |
| Dunmanway | 5,068 | 1,162 | 22.9 |
| Shannon | 4,446 | 990 | 22.3 |
| Tubbercurry | 4,845 | 1,048 | 21.6 |
| **All grouped schools** | **24,600** | **5,573** | **22.7** |
| **Specified in contract drawings** | | | |
| Ballincollig | 6,825 | 2,019 | 29.6 |
| Clones | 4,290 | 1,281 | 29.9 |
| Dunmanway | 5,273 | 1,692 | 32.1 |
| Shannon | 4,783 | 1,748 | 36.5 |
| Tubbercurry | 5,164 | 1,586 | 30.7 |
| **All grouped schools** | **26,335** | **8,326** | **31.6** |
| **Increase from invitation to negotiate areas to contract areas** | **7.1%** | **49.4%** | |

*Source: Analysis by Office of the Comptroller and Auditor General*

**6.5** Greater provision for social and circulation space increases the area available to the users of the schools. While it does not directly impact on education delivery, it may contribute to the creation of an improved general environment for teaching and learning.

**6.6** In the context of a limited overall budget for capital works in schools, raising standards in terms of the average area per pupil reduces the State's ability to meet the demand from schools for capital projects. It also has longer term implications for the cost of operating and maintaining larger school buildings. Evaluation of the likely implications of raising standards is therefore required.

**6.7** Deciding to increase the provision of user space in schools is an option that is independent of the form of procurement used to deliver the schools. Subject to the agreement of the Minister for Finance, the Minister for Education and Science could, if he wished, increase the area norms for school projects procured in the normal way, thereby giving more scope to architects in designing school buildings.

**6.8** The relative cost implications of different levels of service provision under conventional procurement can be estimated to provide a view on the affordability of changes in building standards. In the course of the grouped schools project, the DOES constructed a life-cycle model of the costs of construction, operation and maintenance of schools by conventional procurement. Using this model, it is possible to compare the life-cycle cost of schools built to the standard space norms with those built to the levels of user space provision allowed for in the grouped schools project contract. On that basis, the cost of providing the five schools to the higher area standard

provided for in the grouped schools project is an estimated 13% more than the cost of providing schools with areas that fit the traditional area norms.[11]

**6.9** The DOES considers that the progression from project launch to as-built finished schools represents design development and continual search for innovative solutions. During this timeframe, areas changed in response to functional, pedagogical and aesthetic demand. Jarvis carried the risk associated with design, construction, maintenance and operation throughout the period, including the 25 years of the contract. The DOES considers that the end product, in this instance, confirms that the user requirements have been delivered upon. Robust, flexible space should future-proof user requirements into the years ahead and ultimately lead to the State inheriting a sustainable product at the end of year 25.

## Comparative Cost of Public and Private Provision

**6.10** Apart from being affordable, it only makes economic sense to use alternative provision models where the State cannot provide the specified output at a cheaper price.

**6.11** The standard test of the value represented by a proposed PPP-type project is based on a comparison of the costs of providing the required service by the PPP route with the costs of providing the same service over the same period using normal public sector procurement methods. Essentially, the focus of the cost comparison test is on identifying what is the cheaper of the alternatives — a cost effectiveness test.

**6.12** The general approach in making cost comparisons is to construct a model of what it might cost the State to deliver the services specified for the project users over the contract life. This is often referred to as the 'public sector comparator' (PSC) model.

**6.13** The DOES carried out a comparison of the costs of the proposed PPP deal and of conventional provision of the grouped schools project based on a PSC model. A draft report on the comparison was submitted to the Department of Finance in July 2001. The Department of Finance expressed concerns about the residual values of school buildings included in the cost comparison and asked the DOES to review and justify its assumptions in that respect. A revised report was completed in September 2001, and submitted to the Department of Finance.

**6.14** Identifying the cost of provision of the proposed service by conventional means relies to a considerable degree on estimation and assumptions about relevant factors. Since the conclusion to be drawn about the comparative costs — and thus about the recommended course of action — depends critically on the assumptions made in the analysis, the DOES's model was reviewed in detail in the course of this examination. The review of the model took into account the findings of a retrospective cost comparison report compiled by the DOES's external consultants[12]; and those in a report commissioned by the DOES of a detailed cost comparison of one of the grouped schools (Ballincollig) and a school being procured conventionally in Kilcoole (County Wicklow)[13].

11 This estimate takes account of the additional capital costs of providing the extra space, based on the DOES's cost norms and assumes appropriate maintenance of the buildings over 25 years.

12 Post Project Value for Money, November 2002

13 Gardiner and Theobald, Comparison of Costs at Kilcoole and Ballincollig, December 2002

### *Cost of Construction*

**6.15** The DOES based its estimates of the cost of construction of the schools under conventional procurement on its existing cost norms, but increased the estimate to provide for price inflation over the construction period. Consequently, the estimated average cost of construction of the schools in the PSC model was €2,053 per $m^2$ (including VAT) — about 13% more than suggested by the DOES's cost norms at the time.

### *Costs of Furniture, Fittings and Equipment*

**6.16** In compiling the PSC, the DOES made two assumptions about the cost of provision of furniture, fittings and equipment by conventional means. It assumed that

- fixed furniture and fittings (blackboards, benches, window blinds, etc) would cost the equivalent of 5% of the basic building cost amount i.e. around €54 per $m^2$
- loose furniture and equipment (tables, chairs, laboratory and computer equipment, etc) would cost the equivalent of 20% of the basic building cost amount i.e. €216 per $m^2$.

This implies a total cost of provision of €270 per $m^2$. Based on these assumptions, the projected cost of initial provision of furniture, fittings and equipment for the five schools in the group was €9.3 million.

### *School Maintenance and Running Costs*

**6.17** The DOES did not have prior estimates of the full costs of maintenance and operation of second level schools when it came to compile the PSC. However, it recognised that the amounts provided to schools through capitation payments were insufficient to cover the full running costs.

**6.18** A schedule of assumed average maintenance and running costs was compiled by the DOES's advisors. The assumed costs were set on the basis that they would be sufficient to ensure that

- the level of maintenance would be of similar standard to that under the PPP arrangement over the 25 year contract period
- the same standard of services would be delivered under conventional procurement as under the PPP contract.

**6.19** Figure 6.3 presents the estimated costs of maintenance and operation of the schools under conventional procurement in the first year of operation of the schools, at 2001 prices.

**6.20** Some assumptions were based on benchmark cost data published by the Building Maintenance Information Service of the Royal Institution of Chartered Surveyors. Others were based on the advisers' experience in PPP projects in the education sector in the UK. The assumptions were further benchmarked against cost information provided by the three bidders for the grouped schools project. In projecting the costs forward over the life of the project, it was assumed that all running costs would increase at an average rate of 2% a year.

**Figure 6.3 Assumed school maintenance and running costs in public sector comparator model**

| Expenditure area | Projected total cost in year 1 ( 2001 prices) |
|---|---|
| | €'000 |
| Routine building maintenance costs | 654 |
| Replacement costs (building elements/equipment) | 453 |
| Furniture and fittings replacement/maintenance | 513 |
| Grounds maintenance | 132 |
| Cleaning | 427 |
| Utilities (gas, water, electricity, oil, etc) | 214 |
| Caretaking | 154 |
| Catering | 77 |
| Security | 35 |
| Maintenance of telecoms | 25 |
| Maintenance of information technology[a] | 474 |
| Insurance | 114 |
| **Total expenditure on running costs** | **3,272** |

*Source: DOES Public Sector Comparator, September 2001*

*Note: [a] Years 1 to 3 only.*

**6.21** The financial model underlying the PPP proposal included projected maintenance and operational costs (including services overheads, management charges, directors' fees, risk margin, etc) for the five schools totalling €2.4 million (excluding VAT) in year 1. The assumed costs of provision of these services by conventional procurement was €3.3 million (excluding VAT) in year 1 — more than one third higher.

**6.22** The cost comparison study of the Kilcoole and Ballincollig schools included a comparison of projected maintenance costs over 25 years. It concluded that projected maintenance costs in the conventionally procured school would be around 11% greater than in the PPP-procured school. This differential reflects expected life-cycle benefits associated with higher costs of construction for the PPP-procured school.

### *Savings on Recurrent Expenditure*

**6.23** During the life of the PPP contract, the DOES will provide lower annual payments to the five schools included in the grouped schools project than it will provide to similar schools procured conventionally, to reflect the provision of maintenance and operational services by Jarvis. Some capitation payments will still be made to the five schools to cover educational costs.

**6.24** The DOES estimated the reduction in funding in the first year of operation of the schools to be €508,000, relative to normal recurrent payments. The schools will also be ineligible to apply to the DOES for funding for minor repairs or for refurbishment during the operation of the contract — the amount paid out in 2002 in respect of such work averaged just under €50,000 per school in the second level system. On this basis, the total savings on recurrent expenditure by the DOES as a result of entering the PPP contract is estimated at an average of around €750,000 a year.

## *Project Risks*

**6.25** It is a fundamental feature of the PPP concept that, in the designing and putting in place of the project, exposure to project risks should be allocated between the public and private sector partners on the basis of which partner is best placed to manage them effectively, and thus to minimise overall project cost.

**6.26** Risk allocation decisions have a number of implications. For example, the more risk that is transferred away from the public sector, the more certain the project cost outcome should be. On the other hand, the greater the degree of project risk the private sector is asked to carry, the higher the return it is likely to seek. Transferring risks to the private sector that it is not in a position to manage effectively is likely to result in disproportionate costs. The degree of risk transfer also has implications for how, and at what cost, the private sector partners can hedge against the risk and raise finance for the project. A key aspect in assessing the value of a PPP procurement approach consequently focuses on the balance between the degree of risk transfer achieved and the proposed project cost to the public sector.

**6.27** The assessment of how the risks are distributed in a PPP project centres on two main issues

- whether or not the distribution results in the risks being carried by those best positioned to manage them
- the overall level of risk transferred to the private sector partner through the proposed deal, and how that can be taken into account in the comparison of cost of the procurement methods.

### *Distribution of Risks*

**6.28** A summary of the distribution of the risks between the public and private sector partners in the grouped schools project is presented in Appendix D. In general, the risk allocation appears to be in line with what would be expected for similar projects involving schools provision in the UK.

**6.29** The main risks Jarvis carries under the deal are in relation to

- design and construction costs e.g. time or cost overruns; or facilities provided do not meet the DOES's standards
- operational risks e.g. school unavailable due to heating breakdown or storm damage; or operating costs are higher than projected in financial model
- normal business regulation risks e.g. changes in general tax rates; or changes in general health and safety regulations.

**6.30** Certain risks inherent in all new school construction projects were not transferred to Jarvis under the deal. Given their nature, they were, appropriately, retained by the DOES. These were

- demand risk, centering on whether or not the number of pupils presenting to use the school turned out to be as predicted in planning the size of the school to provide
- residual value risk e.g. the residual value of the school buildings at the end of the contract period may be reduced if schools of the design size are not required for 50 years
- industry specific regulations e.g. if pupil: teacher ratios fall and extra classrooms are required in the grouped schools as a result, the DOES will bear the costs of providing the extra accommodation.

**6.31** An example of the impact of demand risk is evident in relation to the school in Ballincollig. The school was planned on the basis that it would accommodate up to 1,000 pupils. The enrolment in the first year of operation of the new school (2002/2003) was around 650 pupils, and this is projected to fall to around 570 pupils in 2004/2005.[14] The extra accommodation provided was included to cater for enrolment demand associated with a planned major housing scheme in the town that has not yet commenced. Payments to Jarvis by the DOES are not reduced because of the low capacity utilisation in the school. In the circumstances, it might have offered better value to seek a phased development solution within the grouped school project for Ballincollig, or to procure the school on a phased basis in the conventional way.

### *Level of Risks Transferred*

**6.32** Risks can usually only be transferred at a price. Private sector partners in PPP projects may put in place systems designed to mitigate the risks they take on e.g. by entering fixed price contracts for construction, choosing established sub-contractors or suppliers with proven track records, and negotiating contracts rather than running competitive tender competitions. This kind of approach may be necessary to satisfy the prospective providers of project financing, so as to lower the overall project risk to an acceptable level. Any increased costs associated with such risk mitigation strategies would be recovered through the unitary payment sought from the public sector partner.

**6.33** In making a comparison of the relative costs of conventional and PPP procurement, the impact on the unitary payment of risks transferred to the private sector partners cannot be reliably identified. For that reason, the projected cost of conventional procurement has to take account of the cost implications of retaining the risks. This is done by estimating

- the likelihood of a risk emerging over the course of the project's life under conventional procurement (e.g. the risk that there will be a cost overrun on the construction contract, or that defects requiring repair are discovered in the buildings at a later stage) and
- the likely cost implication if the event does occur.

Together, these estimates indicate the additional costs the DOES would be likely to incur if it had to manage the provision of the five schools by conventional means.

**6.34** Only the risks actually transferred to Jarvis under the proposed PPP deal need to be factored into the cost comparison. Risks retained (such as the demand risk) are common to both procurement approaches.

**6.35** Most of the risks included in the PSC model appear logical and reasonable. Certain risks transferred were not assigned values, either because the values are likely to be small or are so uncertain that there is no reliable basis for valuing them.

**6.36** The DOES estimated that if it procured the grouped schools by conventional means, design and construction and operational risks[15] would result in adding an estimated €8.3 million in NPV terms to the cost of the procurement. This additional risk-related cost accounted for 6.9% of the overall estimated cost of the procurement of the schools by conventional means. This indicates the level of risk transfer contained in the deal with Jarvis was limited.

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14 Enrolments in the other schools are around the planned capacity levels.

15 Two significant elements treated as risks in the PSC model were recurrent furniture and fitting maintenance costs and insurance costs. It is more appropriate to treat these as cost estimates, similar to building maintenance costs or other school running costs. They have been included in Figure 6.3.

### *Timing of Payments*

**6.37** Meaningful comparison of the costs involved under the two procurement approaches requires consistency in the assumptions used. A number of aspects of the PSC cost model were not consistent with the timing of what was proposed under the PPP deal.

- The PPP financial model assumed unitary payments would commence in the school year 2002/2003. In calculating the NPV of the unitary payments over the life of the contract, all payments were discounted back to a 2001 cost base. In contrast, costs in the PSC model were discounted back to a 2002 cost base.
- Some of the values assigned to construction-related risks were included in the PSC model a year later than they might be expected to materialize.
- Estimates of recurrent costs in the PSC model were not increased to take account of inflation between mid-2001 and school year 2002/2003.

### *Residual Value of School Buildings*

**6.38** School buildings are expected to have useful economic lives longer than the 25-year contract period. In presenting its comparative cost analysis, the DOES therefore took into account the projected residual values of the school buildings at the end of the 25-year contract period.

**6.39** The DOES estimated that the residual value of the buildings would be €20.3 million under conventional procurement, and €45.3 million under the PPP approach. This implied that, as a result of choosing the PPP approach, the State gained an additional benefit worth €25 million.

#### *Useful Lives of School Buildings*

**6.40** The DOES assumed that the schools provided by conventional means would have useful lives of 35 years, but that the life span of the school buildings proposed under the PPP deal would be around 50 years.

**6.41** Historically, some second level schools were built to a low standard of specification and finish, and were inadequately maintained. As a result, their useful lives were relatively short. For example, the existing premises in two of the schools in the PPP project group — Ballincollig and Shannon — were provided only in 1976 and 1980, respectively, but significant problems had developed with the buildings requiring their complete replacement.

**6.42** The DOES considers that buildings currently being provided through conventional procurement are of a higher standard of specification and that, with adequate maintenance, buildings provided in recent years should be capable of lasting for a minimum of 30 to 35 years.[16]

**6.43** The cost comparison analysis commissioned by the DOES of the Ballincollig (PPP procured) school and the projected unit costs of the Kilcoole (conventionally procured) school casts some doubt on the assumption of different useful lives. The comparison found that

- The projected unit costs of construction in Kilcoole were within the DOES's current cost norms. (These have not increased since December 2000.)
- The unit cost of construction in Ballincollig was about 26% more than the projected equivalent unit cost in Kilcoole.[17]

16 Some individual elements, such as boilers or windows, are likely to need replacement sooner.

- Most of the unit cost difference was attributable to costs associated with the PPP form of procurement, including charges associated with risk transfer, increased scope of work to accommodate facilities management and to provide for third party income generation, and increased professional/legal/financial fees.
- The two schools are very similar in terms of specification of materials and finishes. Differences in specification had only a marginal impact on the cost differential.
- There was a high level of demand in the construction market at the time the PPP project was tendered. This could be expected to have pushed up the cost of construction of the schools but market conditions were found to have accounted for only a small amount of the estimated cost difference.

**6.44** While the cost comparison may not be representative, since it was limited to the experience in one school for each procurement method, the results of the analysis suggest that schools with comparable useful lives to those offered in the PPP deal could be provided through conventional procurement, at costs equivalent to the DOES's cost norms.

**6.45** Ultimately, the question of the useful lives of buildings procured in different ways and to different designs will only be resolved by the passage of time. The adequacy of maintenance of the buildings over their life cycles will also play a significant role in determining the outcome. However, in projecting the value of economic benefits over the schools project life cycle, consideration of the impact of different assumptions about useful lives of buildings is appropriate.

### *Estimation of Residual Values*

**6.46** In deriving its estimates of residual value, the DOES divided the capital costs of the school buildings into the portion used up during the 25 year period of the contract and the portion remaining unused at the end of the contract period, assuming equal apportionment of capital costs across the lives of the assets. The cost of putting in place the portion unused at the end of 25 years was then used as the estimated residual value in NPV terms. While this estimation method recognises that the real benefit of the schools is spread equally over each period in the useful life of the buildings, it takes no account of the time value of benefits.

**6.47** An alternative method used internationally to value specialised buildings (the 'depreciated replacement cost' method) yields lower residual values than the method adopted by the DOES.[18]

**6.48** A further adjustment in the estimation of residual values is required because the estimated capital costs of acquiring the school buildings used by the DOES in calculating the residual values included the estimated costs of provision of loose furniture and equipment. These have no bearing on the residual value of buildings.

### *Revised Estimates of Residual Values*

**6.49** Figure 6.4 sets out revised estimates of the net present value of the school buildings at the end of the 25 year contract period. The estimates are derived using the depreciated replacement cost method, and are based on the assumption of equal useful lives of 50 years under both procurement methods, and on the DOES's assumption of unequal useful lives — 50 years for PPP procured schools and 35 years for schools procured conventionally.

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17 This comparison includes building construction, internal and external works and professional fees, but excludes VAT, costs of site specific works and of furniture, fittings and equipment.

18 The depreciated replacement cost method of valuation of specialised buildings is outlined in Appendix E.

**Figure 6.4 Estimates of residual value of school buildings after 25 years, in NPV terms, by method of procurement**

| Assumption about useful lives of school buildings | Method of procurement | | Difference between procurement methods |
|---|---|---|---|
| | Conventional procurement | PPP procurement | |
| | € million | € million | € million |
| Equal lives for schools (50 years) | 11.7 | 15.4 | +3.7 |
| Unequal lives: 35 years/50 years | 6.7 | 15.4 | +8.7 |

*Source: Analysis by Office of the Comptroller and Auditor General*

**6.50** The analysis suggests that school buildings provided through PPP procurement potentially deliver a greater residual value benefit than schools provided conventionally. The differences in the projected residual values are €3.7 million if the buildings turn out to have equivalent useful lives and €8.7 million, if PPP buildings deliver longer useful lives.

**6.51** The projected higher residual value of PPP procured schools, even if both procurement methods are assumed to deliver schools with 50 year lives, reflects the higher cost of construction of the schools under this deal. To the extent that the higher construction cost reflects choices designed to cut the running costs of the schools, this benefit should continue to accrue over the full lives of the schools, suggesting that some difference in residual values would be appropriate.

### *Summary of Relative Costs of Procurement Options*

**6.52** The DOES's September 2001 cost comparison report concluded that, after taking into account the residual values of the buildings, procuring and running the schools through the proposed PPP arrangement would result in a saving of around 6% compared to procuring and running the schools under conventional procurement. However, this estimate was based on analysis which contained errors in relation to the timing of payments, and included projected residual values of buildings which were too high.

**6.53** In the course of this examination, the cost comparison was re-performed to correct the errors and to apply the revised residual values. The assumptions in relation to costs of construction, running costs and valuation of risks were the same as those used by the DOES when it compiled its PSC model. The revised analysis suggests that the DOES's cost comparison should have concluded that adopting the PPP approach to the provision of the grouped schools was likely to be in the region of 13% to 19% more expensive than procuring and running the schools for an equivalent period using the conventional approach.

### *Updating the Cost Comparison*

**6.54** The analysis of the comparative costs of the different procurement methods carried out by the DOES was based on the June 2001 financial models for the PPP deal. By the time final agreement was reached, a number of aspects of the deal had changed, some of which had a significant impact on the relative costs.

- It was decided that the DOES would pay an amount equivalent to the VAT on the handover of the buildings in a single lump sum at the end of the construction period, rather than have Jarvis borrow the money to pay the VAT amount and recover the cost from the DOES through the unitary charge.

- Interest rates fell. This reduced Jarvis's cost of borrowing, which in turn resulted in a reduction in the unitary payment for the DOES. Government borrowing costs also fell, so a lower discount rate was appropriate in the estimation of NPV amounts.

**6.55** The combined impact of these changes was that the difference in the estimated cost of the PPP deal relative to the cost of conventional procurement was reduced. A reworking of the cost comparison suggests that, depending on the outcome for the useful life of school buildings, the final PPP deal was in the range 8% to 13% more expensive than procuring and running the schools using the conventional approach (see Figure 6.5).

**6.56** Depending on the timing and movement in borrowing rates, exercising the option of pre-paying the debt on the project has the potential to reduce the cost difference significantly.

**Figure 6.5 Summary of comparison of costs of PPP and conventional procurement of grouped schools — based on financial close model**

| | Estimated net present value | |
|---|---|---|
| | **Equal lives of buildings** | **Different lives of buildings** |
| | **€m** | **€m** |
| Unitary payments over contract life (excluding VAT) | 134.7 | 134.7 |
| Payment on handover of buildings | 8.1 | 8.1 |
| Total payments by DOES (excluding VAT) | 142.8 | 142.8 |
| *Less:* | | |
| Residual value of school buildings | 16.9 | 16.9 |
| Corporation tax payments[a] | 1.5 | 1.5 |
| **NPV of PPP procurement** | **124.4** | **124.4** |
| Cost of conventional construction and running of schools | 123.0 | 123.0 |
| *Less:* | | |
| Residual value of school buildings | 13.3 | 7.6 |
| **NPV of conventional procurement** | **109.7** | **115.4** |
| **Extra cost associated with PPP procurement** | **14.7** | **9.0** |
| ***% cost difference*** | **+13%** | **+8%** |

*Source: Analysis by Office of the Comptroller and Auditor General*

*Note: [a] The DOES cost comparison took account of estimated Corporation Tax payments by Jarvis under the PPP procurement, on the basis that these payments were additional to taxes that would be paid if the schools were procured conventionally.*

# 7 Learning from the Pilot Project

**7.1** The grouped schools project was the first of the pilot programme of PPP projects to reach agreed contract stage. For that reason, it was a critical opportunity for both the DOES and the Department of Finance to learn from the experience of planning and developing a project to be procured through the PPP approach.

## Evaluation of Project Effectiveness

**7.2** The Accounting Officer of the DOES has pointed out that the idea of franchising out non-core services was not new, but that the PPP process and the scope of the project were a significant departure from anything undertaken previously by the Department. This necessitated a new way of looking at procurement within the DOES and a way of broadening the DOES's horizons in terms of educational service delivery. PPP was seen as evolution in the procurement process.

**7.3** The Accounting Officer has stated that, from the inception of the pilot programme, the DOES viewed the process as an opportunity to raise the bar in relation to educational infrastructure provision by

- focusing on the whole asset life
- transferring the responsibility for maintenance and service of the facility to an external operator
- transferring the responsibility for dilapidation of the asset to the operator.

Furthermore, the process was seen as affording the DOES the opportunity to undertake a more holistic and forward-looking assessment of the nature of its requirements in terms of accommodation needs.

**7.4** The Accounting Officer has pointed out that the PPP process, by its nature, requires a wider approach in assessing value for money in terms of effectiveness and functionality, as well as cost. In cases like this, value for money should be measured in terms of performance of a project. In the case of a project comprising design, services and operation as well as construction, it would be inconsistent with such reasoning to deduce value for money based solely on a paper exercise. Furthermore, value should be measured against a valid control subject. In this case, the control would be a group of five schools of similar size and with similar curricular requirements, built in and around the same time as the PPP schools. Given the service element of the contract, such an examination would have to be conducted over a reasonable period — at least five years — if the full range of value for money and effectiveness is to be determined.

**7.5** Successful application of the 'learning by doing' approach requires careful review and evaluation designed to identify the key lessons and policy implications. On that basis, formal evaluation of the grouped schools project by the DOES, along the lines suggested by the Accounting Officer, would be desirable.

**7.6** The DOES's advisers carried out a limited post-project review of the relative cost and affordability of the grouped schools project. The report on the review, which was completed in November 2002, outlines the impact of the reduction in interest rates achieved in the final deal on the relative costs of PPP and conventional procurement. It also explored the sensitivity of the results to changes in inflation rates. The review did not extend to examining the broader value for money issues identified by the Accounting Officer.

## School Provision Policy

**7.7** The experience with the grouped schools project raises a number of significant issues in relation to schools provision policy and resourcing.

- The agreed designs for the grouped schools provided for average areas per pupil that were significantly higher than the area norms usually allowed in school building projects. The DOES's norms have since been increased slightly to provide for some greater circulation space in the vicinity of stairs in school buildings, but the current norms are still significantly lower than the average areas provided in the grouped schools.
- The life-cycle analysis of construction, maintenance and running costs of schools undertaken in the course of the project indicates that changes in buildings specification may potentially result in savings on maintenance and running costs, but may require higher levels of expenditure at construction stage.
- The estimated recurrent costs of maintaining and running schools included in the DOES's cost comparison model are much higher than the levels of funding currently being provided by the DOES to managements of second level schools.

### *The DOES's View on Design Standards*

**7.8** The DOES's has stated that its point of departure in the pilot programme was to progress a methodology that, while ensuring probity and fairness, ensured an end product that demonstrated design excellence, functional clarity and value for money in the context of whole life-cycle considerations.

**7.9** The DOES was aware that such an approach might inevitably lead to production and delivery of end product which would raise the bar in design terms, while highlighting deficiencies in its current methodologies and building stock. This was viewed as a beneficial outcome, in that lessons learned could be utilised in future procurement. Much of the endeavour in terms of design was underpinned by aspirations contained in the ***Government Policy on Architecture***, ***Government Policy on Sustainability*** and the DOES's own pedagogical and curricular drivers. In the DOES's view, the quality of end product clearly shows the benefits of this approach, particularly in use.

**7.10** International studies have shown that the quality of the teaching/learning environment has a direct bearing on learning outcomes, behavioural improvement and health and safety in general. While time will tell in the case of the schools included in the grouped schools project, the DOES is confident in what can and will be achieved.

**7.11** The DOES points out that critical questions now arise in the case of its present design principles, space norms and levels of sustainability. Crucial to any discussion also, is the question of affordability in terms of demand at any point in time. However, the DOES considers that the delivery of the grouped schools project gives it a tangible and well-designed asset on which to inform itself how it might progress into the future.

### *Evaluation of Policy Options*

**7.12** The potential resource implications of policy changes to adopt the higher area norms, building specifications and maintenance and service levels provided in the PPP procured schools as standard are very considerable. Such decisions are policy matters, and are not commented on

here. However, it is recommended that any decisions made in these respects should not be based exclusively on the cost analysis undertaken in the course of the grouped schools project. Further careful analysis of the life-cycle costs and benefits of the policy options is required.

## Guidelines on Development of PPP Projects

**7.13** The Department of Finance issued draft guidelines for PPP projects in April 2002. The guidelines sought to apply the lessons learned from the initial PPP projects in the DOES (the grouped schools, Cork School of Music and National Maritime College projects), from the operating contract for the LUAS light rail system in Dublin and from the initial water, waste and waste/water PPP projects in the Department of the Environment and Local Government.

**7.14** Revised guidelines on PPP procurement and appraisal procedures were issued on an interim basis in July 2003. The guidelines are based on the Department's ***Guidelines for the Appraisal and Management of Capital Expenditure Proposals in the Public Sector***. The latter, which have been in place since 1994, apply to all capital expenditure proposals, including PPPs. The principles and major stages set out in the capital expenditure guidelines will continue to apply to all public infrastructure projects, but in recognition of the complex and specialised nature of PPP projects, the PPP guidelines elaborate on the subordinate steps to be taken within each of the stages.

**7.15** The following steps are the key new features of the assessment, approval and procurement process where a PPP approach is being considered.

- Before a project is approved in principle, the sponsoring agency must carry out a comprehensive assessment of the business case for the project. This should
  - establish that there is a need for the asset or service, how it might be provided and what the costs and benefits would be
  - establish the best financing approach
  - identify the most appropriate procurement mechanism.
- If the business case assessment indicates the project is appropriate for PPP procurement, a full life-cycle analysis of the costs of providing the project outputs through conventional means must be carried out. The result of this analysis will be a public sector benchmark for the project.
- The public sector benchmark will be used to set an affordability cap for the proposed project, before formal procurement commences. The cap may be set in terms of capital cost, unitary cost and the associated net present value (NPV). Once set, the cap may not change. This spending limit for the project will not be made known to potential bidders.
- A process auditor will be appointed for all projects where the capital cost is likely to exceed €20 million. The role of the auditor — who will report directly to the accountable officer — is to certify, at each step in the process, that the procurement process complies with all relevant EU, Department of Finance regulatory and administrative procedures and sector specific guidance, as well as procedures specified by the relevant project board.

**7.16** The Department of Finance also issued a guidance note on the Corporation Tax treatment of public private partnership agreements in July 2003. Further guidance material in preparation relates to

- reporting arrangements, role and function of a process auditor
- preparation of a public sector benchmark
- carrying out of a value for money comparison
- stakeholders consultation.

## Establishment of National Development Finance Agency

**7.17** Since 1 January 2003, State authorities sponsoring or proposing infrastructure projects have been required to seek the advice of the National Development Finance Agency (NDFA)[19] before undertaking major public investment projects. State authorities will no longer be permitted to appoint external financial, risk and/or insurance advisers to assist in the development of individual PPP projects. Advisers on technical and legal aspects of project proposals may still be appointed.

**7.18** The NDFA will assist State authorities throughout the project assessment, development and procurement process

- in evaluating financial risks and costs of infrastructure projects
- in assessing the optimal mix of sources of financing for each project to achieve value for money and facilitating them in availing of the best financial package
- by raising finance for projects
- by forming 'special purpose' companies for the purpose of securing finance for public investment projects.

## Outsourcing Project Evaluation and Management Functions

**7.19** The DOES relied heavily on external advisers to carry out the project evaluation and management functions necessary to develop the grouped schools project. This included provision of the secretarial and recording functions associated with the project.

**7.20** Members of the Project Board have stated that they decided that the formal record file of the bid evaluation process documents would be kept by the external advisers at their offices. (This decision is not formally recorded.) To avoid confusion as to what constituted the formal file, copies of key bid evaluation documents, including those circulated for discussion at meetings, were not held by other members of the Project Board or the evaluation teams. The intention was that the complete record file would be handed over by the advisers to the DOES at the end of the procurement process.

**7.21** For a variety of reasons, the DOES's advisers are now unable to provide a complete set of the relevant documents recording key project decisions, and the reasons they were taken. Despite assistance provided by the external advisers in the course of the examination, delays in tracing and handing over documents, and in acknowledging that requested documents could not be found, slowed down the carrying out of this examination significantly. The incomplete record leaves the DOES in the position that it is unable to provide answers to some of the enquiries made by the examination team.

19 Established on a statutory basis under the National Development Finance Agency Act, 2002.

**7.22** Notwithstanding the assistance that will be provided by the NDFA, public sector agencies are likely to have to rely to a significant degree on external advisers to assist in aspects of PPP projects in the future. In such circumstances, agencies should ensure that they maintain within their direct control a complete record of all key evaluation documents and decisions made in the course of project development and procurement, so that projects are properly controlled and that the agencies can account comprehensively and promptly for the way they discharge their responsibilities.

# Appendices

# Appendix A Traditional Approach to Procurement of Second Level Schools

## Evaluation of Need for Capital Works

Proposals for new, additional or improved accommodation are submitted to the DOES's Planning and Building Unit (PBU) by the relevant local promoter — usually the school management board or school principal.

In assessing the need for proposed capital works, the PBU takes a whole school catchment area view. It first assesses the likely future pupil numbers in each school in the area, and then assesses the potential options for meeting the overall demand for school places. This may include the possibility of amalgamation of schools in the area. Relevant local interests — school management, parents, teacher representatives and local authorities — are consulted. When all the relevant assessments and consultations have been completed and the necessary agreements on a plan to meet local needs are reached, the DOES may approve a capital building project in principle.

Following approval in principle, the PBU next looks at the project in terms of the educational curriculum and the proposed subject options for the school, to identify how to meet the specific needs in the most cost-effective manner. A schedule of overall accommodation is prepared by the PBU and agreed with the relevant school authorities. Existing accommodation is then inspected by the PBU. Based on this inspection, a schedule of suggested future use of existing accommodation is drawn up by the PBU and agreed with the school authorities. This schedule is checked against the schedule of overall accommodation, and any balance of accommodation still required is included in a schedule of residual accommodation. This represents the scope of new accommodation to be provided. The type of new accommodation to be provided — permanent construction or temporary prefabricated buildings — is decided by reference to the projected duration of the need for additional space.

Having developed the schedule of requirements to this stage, projects may remain on hold for an indefinite period. The decision to commence formal procurement for an individual project depends on the relative priority attaching to the project and overall budgetary considerations.

## Procurement of School Building Work

The stages in the formal procurement process under the traditional approach include appointment by the relevant educational authority of a design team[a], site investigation, development and agreement of architectural plans and designs, tendering for building contractors to construct the required accommodation, and monitoring of construction until formal completion and handing over of the premises.

The design team is selected from a panel of consultants held by the DOES, following strict selection criteria and in accordance with current procurement guidelines. For a school building

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a The relevant educational authority appointing the design team may be the school management board, Vocational Education Committee, or the DOES.

project, the design team's brief is to provide a design solution that meets the specified accommodation requirements within area and cost norms set by the DOES.

### *Area Norms*

Projected pupil numbers and pupil:teacher ratios determine the basic number of classrooms required in a proposed new school. Additional rooms are allowed for specialist subjects (science, computers, art, construction studies, etc.), for use by ex-quota teachers (e.g. career guidance teachers, remedial and resource teachers and home-school liaison), for administrative offices, etc. Floor areas are set for each type of functional space. In addition, the DOES allows an 'add-on' of up to 24% of the total room floor area for the provision of social and circulation space and to allow for internal division of the buildings. The planning objective is that all the space requirements should be met within a total allowable area norm of 7.5 $m^2$ per pupil.

Physical education halls are additional to the area norm — for a school of 500 or more pupils, a hall (including ancillary space, such as changing rooms and showers) of up to 818 $m^2$ is allowed as standard.

Taken together, the norms imply an allowable gross floor area of 8.3 $m^2$ per pupil in a 1,000-pupil school, rising to 9.1 $m^2$ per pupil in a 500-pupil school.

Design teams are generally required to work within the allowed areas to produce a design to meet the school's needs. The norms are treated as guidelines, rather than absolute standards — it is usually the case that final designs for smaller schools are slightly greater in area than those suggested by the norms, and for bigger schools are slightly less in area than suggested by the norms.

### *Cost Norms*

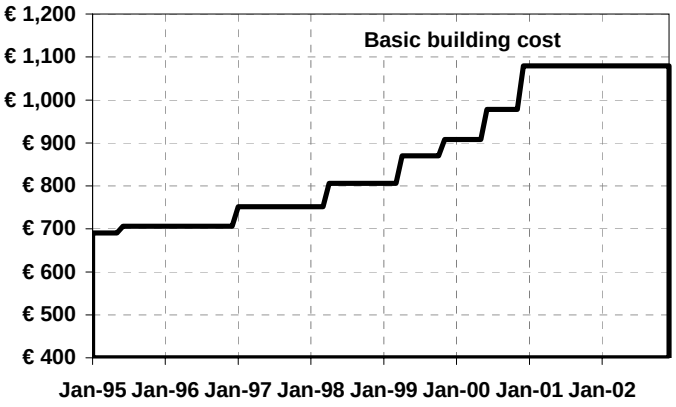
The DOES's cost norms for second level schools are based on a basic building cost per square metre of space provided. The current basic building cost norm is €1,079 per $m^2$, including VAT.

The basic building cost is reviewed periodically by the DOES in the light of tender offers received for construction of individual school projects and to take account of specification changes e.g. arising out of changes in building regulations. This is designed to allow the cost limits used in project design to reflect changes in market prices and in building regulations.

Figure A.1 shows how the basic building cost changed between June 1995 and December 2002. The norm increased rapidly in the period 1999/2000, reflecting the high level of demand in the construction sector, which moved close to operating at full capacity in that period. The basic building cost has remained unchanged since December 2000, as a more competitive market for construction emerged.

In developing the overall cost estimate for a project, the DOES allows for a number of additions to its basic building cost norm. Figure A.2 indicates how the current basic cost norm builds up to an overall estimated cost of construction per square metre for two indicative sizes of school: a 500 pupil school and a 1,000 pupil school. (All the schools in the grouped school project were within this size range.)

**Figure A.1 Basic building cost norm for second level schools, 1995 to 2002**




*Source: Department of Education and Science*

**Figure A.2 Model for estimation of cost of construction of second level schools, based on current DOES cost norms**

| | 500 pupil school | 1,000 pupil school |
|---|---|---|
| **School area** | | |
| Main school area (@ 7.5 $m^2$ per pupil) | 3,750 $m^2$ | 7,500 $m^2$ |
| Physical education hall | 818 $m^2$ | 818 $m^2$ |
| **Total school area** | **4,568 $m^2$** | **8,318 $m^2$** |
| **Area per pupil** | 9.1 $m^2$ | 8.3 $m^2$ |
| | | |
| **Cost elements (inclusive of VAT)** | **€'000** | **€'000** |
| Basic building cost including VAT (€1,079/$m^2$) | 4,929 | 8,975 |
| Additional allowance for physical education hall (€324/$m^2$) | 265 | 265 |
| External works (12.5% of basic building cost amount) | 616 | 1,122 |
| Abnormal costs provision (10% of basic building cost amount) | 493 | 898 |
| Fixed furniture and fittings (5% of basic building cost amount) | 246 | 449 |
| Professional fees provision | 935 | 1,671 |
| Total building cost | 7,484 | 13,379 |
| Provision for loose furniture and equipment (15% of basic building cost amount) | 739 | 1,346 |
| **Total estimated cost of construction** | **8,223** | **14,726** |
| **Total estimated construction cost per $m^2$** | **€1,800** | **€1,770** |

*Source: Analysis by Office of the Comptroller and Auditor General*

The DOES's cost estimation allows for additional expenditure — up to 30% of the basic building cost — for PE hall construction. The cost of external site works is also allowed, for up to 12.5% of the basic building cost amount. Provision is also made for non-standard requirements that may be specific to an individual school or site. For planning purposes, an amount equivalent to 10% of the basic building cost figure is included. Costs in relation to fixed furniture, loose furniture and equipment and professional fees are also allowed, again based on average percentages of the basic building cost amount.

The estimated average unit cost of construction is around €1,800 per $m^2$. The unit cost is not significantly different for the different school sizes.

## School Running Costs

The way in which the DOES provides resources to meet school running costs reflects the different management and ownership arrangements for voluntary secondary schools, vocational schools and community colleges, and community and comprehensive schools. The funding is provided in addition to teachers' salaries, and is intended to cover both educational costs and general building and support services (heating, lighting, cleaning, secretarial and administration costs, caretaking, security, etc).

School enrolments are the main driver of funding for second level schools. All schools submit a return of pupil enrolments based on the number attending and under regular instruction as at 30 September each year.

In addition to the funding described below, all schools are eligible for recurrent grants in respect of special classes (€200.61 per pupil), curricular support grants (Transition Year: €63 per pupil; Leaving Certificate Applied: €158.71 per pupil; Physics and Chemistry: €12.70 per pupil), and an introductory grant of €63 per pupil for the Junior Certificate Schools Programme.

### *Voluntary Secondary Schools*

Voluntary secondary schools are funded through a range of annual grants, based on the pupil enrolment.

- Schools receive a general grant, currently set at €266.49 per pupil. An additional grant of €38.10 per pupil is payable to disadvantaged schools.
- Most schools receive a further grant towards the cost of secretarial and caretaking services at a rate of €50.80 per pupil, up to a maximum of €17,780 a year.
- Under the School Services Support Fund, voluntary secondary schools receive a grant of €127 per pupil, subject to payment of a minimum annual grant of €25,400 per school.

### *Vocational Schools and Community Colleges*

The financial allocations for vocational schools and community colleges are made to the relevant Vocational Education Committees (VECs) as part of block grants that also cover the VECs' head-office costs and activities other than the second-level programme. The way in which the block grant is distributed among schools is a matter for each committee in line with their priorities and perceptions of need.

In addition to funding received from the VECs, vocational schools and community colleges are entitled to funding under the School Services Support Fund at a rate of €79 per pupil, subject to payment of a minimum annual grant of €15,800 per school.

### *Community and Comprehensive Schools*

Community and comprehensive schools are funded directly by the DOES. The annual budgets for the schools take into account factors like size of school, disadvantaged status, age of buildings, etc. They provide for all schools to have the services of a full-time secretary and caretaker. The majority of schools in excess of 500 pupils are funded for a second caretaker and part-time secretarial assistance. Schools with enrolments in excess of 750 have a second full-time secretary. School budgets also provide an allocation in respect of cleaning services.

In addition to their basic budgets, community and comprehensive schools are entitled to funding under the School Services Support Fund at a rate of €99 per pupil, subject to payment of a minimum annual grant of €19,800 per school.

## School Maintenance

The DOES provides funding for repairs and refurbishment of schools in response to applications from school managements. This includes work such as roof repairs, replacement of windows, repairs to plumbing and heating systems, electrical work, room alterations, etc.

In 2002, the total expenditure by the DOES in relation to work of this kind in all second level schools was €35.8 million — equivalent to an average of around €48,000 per second level school.

# Appendix B Contracted Services for the Grouped Schools

- Planned preventative maintenance
- Reactive maintenance
- Electrical maintenance
- Mechanical maintenance
- Grounds maintenance
- Minor improvements and ad hoc services
- Energy management
- Waste disposal
- Fire safety
- Security
- Car parking
- Catering and vending
- Cleaning and housekeeping
- Window cleaning
- Pest control
- Caretaking and porterage
- Telecommunications
- Information and communication technology
- Help desk

# Appendix C Bid Evaluation Criteria and Planned Maximum Scores

| | Planned maximum score |
|---|---|
| **Design/technical criteria** | **%** |
| Quality of the overall design proposals in meeting the schools' user requirements | 5.00 |
| Quality of the overall design proposals in meeting the schools' service requirements | 5.00 |
| Compliance with all legislative requirements | 0.50 |
| Design impact in terms of prestige, ethos, scale and image | 0.50 |
| Operational control, in consideration of adjacencies and efficiency | 2.50 |
| Totality of accommodation provision | 0.75 |
| Potential for flexibility of use in response to curriculum requirements | 2.00 |
| Degree to which the design solution complies with the schools' environment and energy policies | 2.50 |
| Siting of the buildings in relation to other buildings, roads, noise sources, etc. | 0.75 |
| Feasibility of bidders proposals in terms of decant, disruption, etc. | 1.25 |
| Appropriateness and quality of the finishes to each area within the buildings | 1.25 |
| Appropriateness and quality of the fixtures, fittings and specialist furnishings | 1.25 |
| Likelihood of obtaining planning approval and any other necessary consents | 0.50 |
| Extent to which the construction method statement and programme meets the schools' requirements | 1.25 |
| **Overall design/technical score** | **25.00** |

| | |
|---|---|
| **Services criteria** | **%** |
| Extent to which the service proposals meet the service requirements | 3.75 |
| Overall approach to flexibility and the degree of innovation offered in the service proposals | 3.75 |
| Quality of the proposed management of the bidders' operational regime | 3.75 |
| Extent of impact of non-school usage on the operation of the schools | 1.25 |
| Quality of the proposed service methodologies | 3.75 |
| Extent of service delivery (scope of service) | 2.50 |
| Compliance with statutory requirements and guidance | 1.25 |
| Quality of bidders' proposals for establishing monitoring and liaison procedures | 1.25 |
| Quality of service assurance through performance measurement, etc. | 1.25 |
| Extent to which the bidder is prepared to be responsive and adaptable to varying school requirements | 1.25 |
| Level of acceptance of performance standards and proposals for the agreement of service provision | 1.25 |
| **Overall services score** | **25.00** |

| | Planned maximum score |
|---|---|
| **Legal/contractual criteria** | **%** |
| Acceptance of category 1 and category 2 clauses | 5.00 |
| Risk transfer allocation as reflected in comments and proposed amendments to the category 3 and category 4 clauses | 10.00 |
| Level of detail of response | 3.75 |
| Consortium arrangements and sub-contractor arrangements | 1.25 |
| Capability of delivering legal aspect of the project including all project and finance documentation | 2.50 |
| Evidence of funder commitment to the project | 2.50 |
| **Overall legal/contractual score** | **25.00** |
| **Financial criteria** | **%** |
| Calculating the expected net present value (NPV) of payments to the special purpose company at different activity levels over the life of the project | 1.75 |
| Applying a monetary correction for any differences in risk transfer | 1.25 |
| Making adjustments to reflect any differences between the bids | 0.50 |
| Reviewing the impact of commercial activities associated with the schools and/or the Department | 1.50 |
| Consideration of the affordability of payments to the special purpose company | 3.75 |
| Assessing the deliverability and robustness of the financial structure | 6.25 |
| Assessment of value for money | 7.50 |
| Certainty of financing | 2.50 |
| **Overall financial score** | **25.00** |
| **Total score across all criteria** | **100.00** |

*Source: DOES, Project Evaluation Criteria and Procedures — Bundled Schools, January 2001*

# Appendix D Allocation of Risks in the Grouped Schools Project

✓ ***indicates assignment of bulk of risk***

✓ ***indicates partial assignment of risk, or risk is small***

| Type of risk (with examples) | Risk allocation | | Comments |
|---|---|---|---|
| | Public | Private | |
| **Design and construction risk** e.g.<br>Surveys fail to identify problems<br>Construction overruns on time<br>Construction overruns on cost<br>Facilities are not provided to required specification<br>Alternative service provision is required during delayed completion | ✓ | ✓ | Risks mainly carried by special purpose company<br>DOES carried risk associated with site investigation |
| **Commissioning and operating risks** e.g.<br>Contractor fails to meet performance standards for service delivery<br>Contractor fails to make assets available for use<br>Operating costs more than expected<br>Operating costs less than expected<br>Assets for service delivery not properly maintained | | ✓ | Risks mainly carried by special purpose company<br>Payment does not commence until buildings are operational<br>Deductions in payment will be made if service does not meet standard |
| **Demand risk** e.g.<br>Number of pupils is less than projected<br>Number of pupils is more than projected<br>Level of third-party use of schools is less than projected | ✓ | ✓ | DOES costs not reduced if fewer pupils than projected enrol in schools<br>If accommodation for extra pupils is required, cost will be borne by DOES<br>Third party income risk carried by operator |
| **Residual value risk** e.g.<br>School not required at end of contract period<br>Economic value of property falls | ✓ | | The State owns all the sites and the buildings |
| **Technology obsolescence risk** e.g.<br>Need to invest to introduce equipment or other assets based on new technology | ✓ | ✓ | Risks mainly carried by special purpose company<br>DOES carries risk associated with information and communications technology |
| **Planning permission risk** e.g.<br>Planning authority imposes unexpected conditions for buildings design<br>Planning permission for buildings refused | ✓ | ✓ | Contract not completed until full planning permission granted for each school<br>Special purpose company exposure limited<br>DOES liable for costs associated with planning conditions external to sites |

| Type of risk (with examples) | Risk allocation | | Comments |
|---|---|---|---|
| | Public | Private | |
| **Project financing risk** e.g.<br>Failure to raise funding for the project in the market<br>Interest rates change | ✓ | ✓ | Contract not completed until financing structure fully in place<br>DOES party to financing agreement<br>Interest rates fixed |
| **Contractor default risk** e.g.<br>Special purpose company runs into trading difficulties and ceases operation | ✓ | ✓ | Special purpose company exposure limited to equity investment (1%) and subordinated debt (10%)<br>DOES is a party to the financial deal, and is liable to meet capital cost payments to the senior lender, less rectification costs, in the event of contractor default |
| **Normal business regulations** e.g.<br>Changes in tax rates<br>Changes in health and safety regulations | ✓ | ✓ | Most risks carried by special purpose company<br>VAT rate changes passed back to DOES |
| **Industry specific regulation** e.g.<br>Changes in pupil-teacher ratios | ✓ | | Risks carried by DOES |

*Source: Analysis by Office of the Comptroller and Auditor General*

# Appendix E Estimating Residual Value of Buildings

Depreciated replacement cost (DRC) is used to arrive at an estimated value for specialised buildings where there is no market, or only a limited market, for such properties. Examples of such properties are schools, hospitals and specialised manufacturing installations such as oil refineries.

## *The DRC Method*

The DRC of special purpose buildings is based on the estimated current cost of construction of the buildings and their associated site works as new. This replacement cost is then depreciated to reflect their current age and condition. Where appropriate, the cost is further reduced to reflect functional, economic or environmental obsolescence.

## *Projecting Residual Values*

Where future values of buildings are being projected, the DRC method requires assumptions about what construction costs will be in the time period to which the valuation relates. Assumptions are also required about the rate of depreciation of the assets up to valuation period, and the rate of obsolescence. Having estimated the residual value of the buildings at a future time, the amount may be discounted in the normal way to arrive at an estimate of the economic worth of the buildings in net present value terms.

In estimating the residual values of the school buildings in the context of a cost comparison of alternative procurement methods, it is assumed that

- construction costs increase at a rate of 2% a year on average, in line with general inflation
- buildings depreciate at an equal rate each year (i.e. straight line depreciation)
- there will be no significant functional, economic or environmental obsolescence.

## *Valuation of Lands*

In DRC valuations for some purposes, it may be appropriate to take into account the market value of the land on which the buildings are located. In the cost comparison between procurement approaches, the value of the land is a common element, and so is ignored in estimating the residual value.