Subcontracting or Outsourcing

As J Franklin, Managing Director of Burke Engineering, you have now completed the business plan. Action is now necessary to change the company from one providing a range of low margin general engineering services into a specialist high value added valve manufacturer. This will involve the company in operating in new areas, and you must identify the core operations of the firm those that it will carry out using its own personnel, and those that can be more effectively left to other organisations. Some of the areas that have historically been handled in house are of particular concern. Initially you have decided to concentrate upon the following areas of operation: a) Tool cutting, b) Foundry operations, c) Physical distribution, d) Data processing, e) Catering, f) Security, and g) Cleaning.

Tool cutting

Because of the increasing complexity of valve design and construction, meeting customer demands would steadily become more costly. Currently, Burke's investment in tool cutting was limited to old style lathes and drilling equipment. Introducing the entire range of computer aided cutting equipment into the area would place a substantial cost burden on the company. The plan indicates that the tooling problems facing the company faced would inevitably increase, as both the number of customers and the depth of product range grew.

The entire department would also be under greater pressure with the reduced time that could be allowed in the tooling process. It was thought likely that the total number of tools required would rise from around 100 to over 500; the complexity of each tool would more than double, and tools would have to be available within four rather than six weeks. You had investigated the alternatives of using outside contractors to provide support in both areas. A number of suppliers could meet Burke Engineering's needs in the foreseeable future. There were advantages and disadvantages associated with each of these but three contractors had been identified as possible tool suppliers.

Panopil of Portugal. Panopil was heavily used by many companies in the toy industry, and was increasing its share of the engineering market in the West Midlands. It had a whole range of computer controlled cutting equipment in its plant near Lisbon in Portugal. It offered a comprehensive service for all types of tooling from the very small to the largest currently used by UK manufacturing industry. The speed of tool production varied according to the complexity and the urgency of the request, but were costed on an individual basis and the company did not require overseas companies to enter into any other contractual agreement. For Burke, the majority of their valve designs would require a two week turn round to which would have to be added the journey time from Portugal (an additional week). It was likely that Panopil could offer cost savings of around 35 per cent on the current Burke tool cutting operation.

Driffield Toolmakers. Driffield Toolmakers were the leading specialist toolmaker in the Midlands. It had been established to service the requirements of the steel industry, but had, with the demise of most manufacturing in that area, been forced to diversify into automotive and other components. The company had some of the more sophisticated cutting equipment, but much of its work still used traditional machinery. The company had a high reputation for producing quality work. The costing system differed from Panopil. It required a fixed contract system whereby the manufacturer guaranteed a specific revenue over a two year period. This fixed contract covered all the costs of the standard range of

items which would be established at the initial discussions between Driffield and the manufacturer special requirements would be additionally costed. The completion time for the typical Burke product would be around two weeks from the date of design despatch. Driffield Toolmakers required a minimum annual order and were likely to be around ten per cent more expensive than Panopil.

Advanced Tool Design (ATD). ATD was a small newly established company, developed to provide tool cutting services for the specialist manufacturers servicing the Channel Tunnel. Although it had the latest tool cutting technology, as a new company it had not yet established a reputation and was eager to offer its services on a single project basis in a similar fashion to Panopil. Because of fluctuations in demand from the Channel Tunnel, it could not guarantee as fast a turn round as Driffield Toolmakers. Of the three potential suppliers the company offered the fastest potential turnaround of about 18 days (though this varied according to the complexity of the tool), there was no minimum order and the cost was likely to be between that of Driffield Toolmakers and Panopil.

Foundry

Though the foundry area was the most up to date part of Burke's production process, it was limited to temperatures up to 1500^{O}C and could not handle the largest sizes of industrial valve which the company might be asked to produce. It was likely that around a quarter of total future production would require either higher temperatures or the ability to handle larger sizes, the current plant would not be able to cope effectively with the entire range of new products. As the most recently replaced equipment, cost savings on production of the current range would not be substantial, but the installation of a new system so soon after it had been initially installed would worry the major investors which had put up the money for the initial installation only 18 months previously.

With the decline in manufacturing industry in the Midlands, there were a large number of companies in the area that had excess foundry capacity and were keen to gain extra revenue by subcontracting. Because they were locally based none of the prospective subcontractors required any minimum order arrangement and would cost the work on a cost plus basis, the elements of which were clearly understood: size, complexity, temperature, and raw materials. Three local companies seemed likely to provide high levels of service.

Extruded Metal. Extrum was one of the largest metal manufacturing companies in the West Midlands with expertise dating back to the turn of the century. It had three large foundries, one was currently closed and the other two were operating at between 66 and 78 per cent capacity. Because of its large size and spare capacity, Extrum could offer a rapid completion of work with an average quoted delivery time of three days, but was more expensive than the other two alternatives, though around 10 per cent cheaper than Burke current manufacturing costs. It was also insisting on a fairly large annual commitment, though this appeared to be negotiable.

David Engineering. David Engineering was a medium sized engineering firm, with a turnover about 50 per cent higher than Burke's. It specialised in the manufacture of high quality steel for the construction industry, especially the production of girders where high levels of purity and performance were required. It had one large foundry, which operated at around 75 per cent capacity. David Engineering prices appeared to be around five per cent lower than Extrum, though this and the lower minimum order requirement was to an extent offset by the substantially longer delivery periods of up to ten days.

Calsall Industries. A company very similar to David Engineering it had two large foundries which operated at around 60 per cent capacity. It could provide a fairly rapid service, and though this was the first time that it offered sub contracting work, it decided against setting preconditions to the use of their foundry by outside firms. Though Calsall Industries were primarily concerned with the manufacture of pure metal components for other manufacturers, it had over the last five years moved increasingly into original equipment manufacture, including the production of more and more valves. Calsall Industries was the cheapest of all three companies contacted by a small margin (around three percent) and offered an average delivery period of eight days. They also required some form of commitment over the year to a minimum order level, but this appeared to be nominal.

Physical distribution

The plan you have developed for Burke Engineering insists upon a major move away from submersible and general engineering into the manufacture of sophisticated valves, both in the UK but increasingly overseas. The company's physical distribution system would have to reflect this shift towards the more rapid delivery of smaller weight items of higher individual value, and away from the movement of heavy products. It was likely that the number of customers would increase from around 200 to nearly 1,000 over 5 years, that the company would become more and more international with average distances between the company and customers increasing from 50 miles to 250; customers would be more and more demanding on rapid delivery schedules even though the average order would be likely to decline from around 250 kilos to 75.

The implication of such a change was that total journeys would increase fivefold from 1,200 to nearly 6,000; mileage would grow from 35,000 to nearly 250,000, while the total tonnage carried would drop from 800 to around 200. It appeared from analysis that there would be three main transport requirements; orders of low weight but high value to UK customers, similar orders to international clients and high weight but low value to UK customers. Currently the transport department employed five drivers, and used a variety of vehicles for different types of delivery. The cost of the current operation was about € 380,000 per annum, and with the far greater spread of overseas customers the forecast physical distribution cost using the same system of operation is around € 650,000, a fivefold increase in cost per ton.

Obviously the difference between the transport costs of general engineering, submersible equipment and valves was considerable. The current method of covering the distribution costs across the entire range of Burke products made accurate costing on a single product group basis very difficult to achieve. However with the change to valves, the likely unit load would be around 35 kilos with an average order size of 8 units, with the result that a much greater control over distribution costs could be envisaged.

Various companies offering particular types of freight forwarding service had sprung up over the past ten years in the West Midlands. These ranged from freelance operators with their own lorries, through to large and sophisticated firms that provided anything from local deliveries to international despatch. Each had different charging arrangements, minimum orders and extra costs, and four had been approached for the details of the service that they provided.

Seacost Distribution. Seacost was a medium sized company based in the Midlands. It had grown rapidly from providing a small local service to one that operated throughout the

United Kingdom and offered international transport services to the EEC and other destinations. The costing system was based on one or more of three possible tariffs. One tariff was based on weight and guaranteed delivery within 48 hours within the United Kingdom; two international rates, one using air freight and the other offering consolidated loads for onward delivery to overseas customers. The UK tariff worked out at approximately € 2 per kilo on a national basis; EEC tariff were € 8 per kilo (air freight) and € 3.50 when loads were consolidated.

FDS Services. FDS was one of the major national firms with a local office near to Burke Engineering. FDS provided contract hire vehicles for a range of transport requirements: from very large loads to small vans including drivers when required. Because it was a contract hire company, there was a standard charge associated with each vehicle, generally over a three year period. The contract hire cost, which included all driver and maintenance costs, but not fuel, ranged from (€ 17,000 for a small van to € 65,000 for the largest truck.

Advance Trucking. Advance Trucking was a small firm with offices only 2 miles from Burke Engineering which offered a highly flexible service. It would provide freight forwarding for overseas customers on the basis of € 5 per kilo throughout the EEC and national delivery on a sliding scale; with small deliveries below 200 kilos costing € 3 per kilo and deliveries above 1,000 kilo around € 2 per kilo, falling to € 1.5 per kilo for 20,000 kilo loads.

Catering

The plan involved both a considerable drop in the overall number of people employed by Burke, and a move towards 16 or 24 hour production from the single current 8 hour shift, with the factory changing from 5 to 7 day working. This would mean that the current catering operation would have to be drastically overhauled to meet the new demands being placed upon it. Daily lunches would drop from 350 to around 95, and the company would also have to provide the same number of evening meals and breakfasts on a daily basis. Currently, catering costs were a major overhead cost to the company.

With the split canteen system, the subsidy per meal ranged from € 2.50 (managers), at an average cost of € 3.00 (a total estimated subsidy of € 80,000 per annum) and € 0.80 per shop floor employee at an average cost of € 1.20 (an estimated annual subsidy of € 70,000 per annum). The catering operation enabled the company to entertain in house, a costs which would otherwise have to be borne by the individual departments. In the previous year there had been 350 visitors entertained in the management dining room, though the total number of potential customers entered in the sales log was only 80. You have asked for quotes from three catering organisations for their proposals to replace the current catering service, based on the creation of a single canteen for all staff.

Grand Picadilly. Grand Picadilly was a subsidiary of one of the national firms, with substantial experience in providing on site catering for all types of industrial operation. It had quoted an inclusive fee of € 35,000 to provide the level of meals anticipated in the self service operation, but they would not be able to make any special provision for visitors. Meal costs would rise to an approximate € 1.50 for all staff.

Extra Catering. Extra Catering was one of the local firms that supplied catering services to the three factories nearest to the Burke Engineering site. It had come to inspect the current operation, and was of the opinion that it could provide a substantially better service at lower cost. First, it would introduce microwave cookers and self service chilled cabinets

with pies, hamburgers and chips, which would provide the bulk of the meal demands. Staff requiring this service would pay the raw material cost of all the ingredients. Secondly, Extra Catering would provide a full service operation for those that did not want self service fast food, with a range of menus, and if booked in advance a waitress service for guests. Extra Catering would provide all the raw materials and equipment, and price meals on a cost plus 10 per cent basis. For the average meal this would mean around € 1.30. The quote for this service was € 20,000 per annum.

Speed Feed. SF was a national company that specialised in providing 24 hour catering cover for manufacturing and service companies. It offered the same type of service as Extra Catering with a whole range of prepared meals, either frozen or fresh, which could be heated at the time of consumption. The company made its money from the sale of products, rather than providing a full service function. It offered to install all the equipment free, provided the company could sign a three year contract. Cleaning costs would be carried by Speed Feed within the overall cleaning costs of the company. The average cost of meals would be € 1.70 per head.

Data processing

Currently, the company employed four staff in the area of data processing (at an annual cost of € 55,000) and had installed a large computer, which was on an annual lease of € 35,000. The system had suffered from a considerable lack of expertise and delays in implementation, especially now that the data processing manager had resigned. It was possible that outside bureaux could provide a far better and more cost effective service. The two companies approached had all substantial experience in the provision of data processing support for manufacturing companies: BDS and OnLine Processing.

BDS. BDS were one of the major regional data processing bureaus. They had invested in a large mainframe computer in late 1987 and so could provide one of the most rapid and comprehensive data processing services available locally. The company operated either a batch or an online service, with batch provision being considerably cheaper than online. With the batch service, the client had to provide all the data on specifically designed forms and deliver them to the company by messenger.

The likely total cost to Burke Engineering was difficult to define, but on the current data load the cost would be around € 25,000, though there was the proviso that this cost could rise if the complexity of the data or its volume increased. The online data processing service involved a basic cost of 10 per hour with additional processing time when and if required. It was likely that this would cost in the region of € 50,000 for the current data requirements of the company, though you have found that online access to data processing companies tends to substantially increase the amount of data processing that is carried out.

OnLine Processing. The major alternative was OnLine Processing. This company specialised in instant access. It offered tailor made management systems, creating software for particular applications within the client company. The cost of the creation of these programmes depended on their complexity. OnLine estimated that with the current operation 20 programmes would be required, each costing between € 500 and € 2,500. Once established the cost to Burke Engineering would vary according to the amount of access that the company required. With the current level of demand, OnLine estimated that access costs would be € 35,000 but should greater demands be made costs would inevitably rise.

Security

The current Burke Engineering security operation was limited to one security officer with six security guards on a 24 hour basis, costing € 35,000 per annum. You are aware that of problems with this such as high levels of theft and damage to possessions and equipment throughout the factory and administration block.

Part of this was due to the poor physical security on the site. This was also the view of a firm of security consultants which had been brought into advise on safety aspects (memo provided in previous chapter). The poor physical security meant that Burke Engineering had to employ large numbers of security staff, even though some of these staff were used to meet staff shortfalls in certain key areas, such as local (deliveries and collections.

There were a large number of alternative security firms in the area, three of which had provided quotations.

Dagmar Security. DS was one of the small operators in the area. They offered a mobile security service throughout the site on a 24 hour basis for around € 15,000 per annum. These mobile patrols would include dog handlers during the night to reduce the potential for theft throughout the site. They suggested that a two hour patrol would be adequate throughout the day and night.

Prestige Security. Prestige Security was one of the large regional firms which had been established for over 20 years. They quoted for a fixed security presence during the day to monitor movements in and out of the plant, combined with a mobile patrol during the night. To meet the requirements they considered that the annual cost would be of the region of € 25,000.

Alpha Guards. Alpha Guards was one of the largest national firms. They suggested that a combined team of security guards at fixed points to monitor the movements of goods in and out of the plant, together with a roving patrol over the 24 hour period. Cost would be around € 32,000 per annum.

Cleaning

Currently the company employed around 10 part time cleaning ladies. Because of the elderly nature of much of the plant they had not been able to make much of an impact on much of the company, but they kept the administration block extremely clean and neat. The costs of cleaning were € 20,000 per year. You have received a number of quotes which are all surprisingly similar. All the main three cleaning companies have quoted € 15,000 per annum to provide a comprehensive cleaning service.

Action

Which of the areas that you as J Franklin has considered should be subcontracted? What problems do you think that the company is likely to encounter in subcontracting?