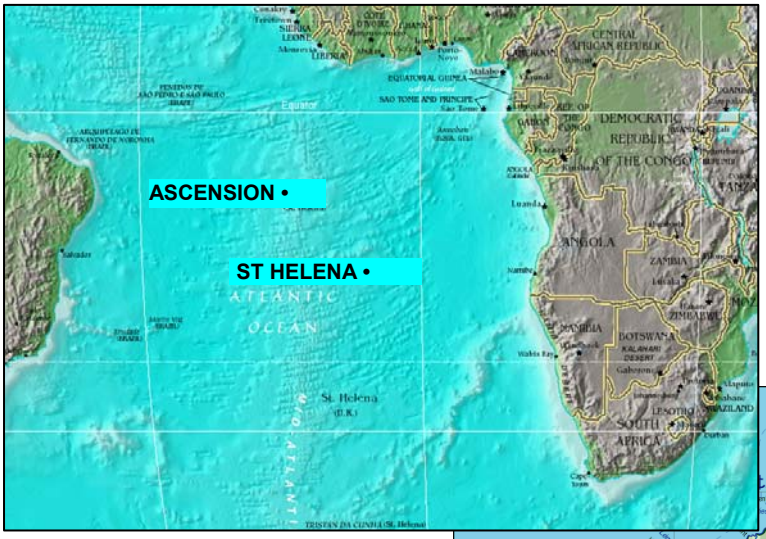
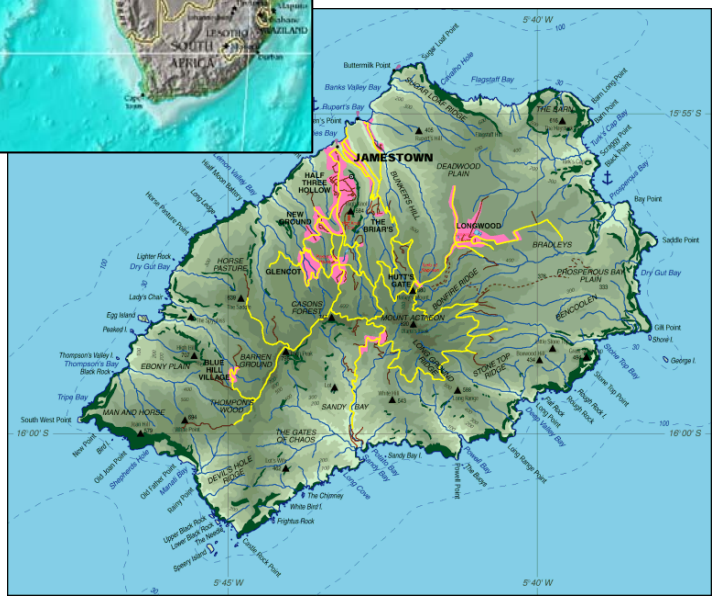
# ST HELENA : ACCESS

## PROJECT MEMORANDUM
## (Edited for the Public Domain)




**South Atlantic**

**St Helena**




[Note: This version of the Project Memorandum has been edited to remove information which is commercially sensitive, and which could prejudice future procurement and investment.]

Overseas Territories Department
Department for International Development (DFID)
January 2005

# Contents

## List of abbreviations

| | |
|---|---|
| ANO | Air Navigation Order |
| ASSI | Air Safety Support International |
| Atkins | Atkins Management Consultants |
| AWSL | Andrew Weir Shipping Limited |
| BAFO | Best and Final Offer |
| CAP | Civil Aviation Procedures |
| DBO | Design, Build and Operate |
| DFID | Department for International Development |
| EC | European Commission |
| EDF | European Development Fund |
| EIA | Environmental Impact Assessment |
| EMP | Environmental Management Plan |
| ESIA | Environmental and Social Impact Assessment |
| ETOPS | Extended Twin Engine Operations |
| ExCo | St Helena Executive Council |
| FCO | Foreign and Commonwealth Office |
| GDP | Gross Domestic Product |
| HIV/AIDS | Human Immunodeficiency Virus /Acquired Immune Deficiency Syndrome |
| HMG | Her Majesty's Government |
| HPR | High Point Rendel |
| ICAO | International Civil Aviation Organisation |
| ITN | Invitation to Negotiate |
| ITT | Invitation to Tender |
| LDA | Landing Distance Available |
| NAVAIDS | Navigation Aids |
| NPV | Net Present Value |
| OGC | Office of Government Commerce |
| OJEU | Official Journal of the European Union |
| OTs | Overseas Territories |
| OTD | Overseas Territories Department |
| PQC | Pavement Quality Concrete |
| PMU | Project Management Unit |
| QS | Quantity Surveyor |
| RAF | Royal Air Force |
| RESA | Runway End Safety Area |
| RMS | Royal Mail Ship St Helena |
| Saints | People of St Helena |
| SDP | Sustainable Development Plan |
| SHDA | St Helena Development Agency |
| SHELCO | St Helena Leisure Company |
| SHG | St Helena Government |
| TA | Technical Assistance |
| TORA | Take-Off Runway Available |
| TORs | Terms of Reference |
| UNDP | United Nations Development Programme |
| US | United States |

## ST HELENA: ACCESS

## 1. SUMMARY

1.1 The proposal will transform external physical access arrangements for St Helena. This will greatly improve and shorten travel-time to and from the island, thereby contributing substantively to sustainable economic regeneration and ultimate financial self-sufficiency for St Helena. The changes will take effect before withdrawal from service, in or around 2010, of the island's dedicated and subsidised passenger/supply ship.

1.2 The improvements will be achieved through a DFID funded project, costed at up to [redacted] over 10 years, to introduce access by air to the island. It will entail construction of an airport, with runway length to support safe operation of standard Boeing 737-800 or equivalent aircraft, and [redacted] introduce scheduled air services. The project will also enhance local institutional arrangements to both stimulate and manage the expected economic development, especially from tourism.

1.3 The project **goal** will be **sustainable financial self-sufficiency for St Helena**. This will be measured through economic and demographic indicators and gradual reduction (and eventual termination) of the island's dependence upon external (primarily UK) assistance. The project **purpose** will be the development of **sustainable and unsubsidised air access**. This will stand in contrast to the present subsidised ([redacted]) shipping service and purpose-built ship, which needs replacing at roughly 20-year intervals. The present ship entered service in 1990, at a capital cost of £32 million: over its 20-year lifespan, the total cost to HMG of maintaining access by sea will be circa [redacted] in 2005 prices.

1.4 The key project **outputs** will be: a completed runway with associated instrumentation and navigational aids; airport buildings and support infrastructure, including a permanent access road; necessary fire-fighting, sea rescue and fuel storage facilities; an air services contract with a recognised international passenger carrier; appropriate arrangements to manage and regulate the air services; and proactive tourism marketing. Commercial arrangements will be made separately for sea freight to/from the island.

1.5 With support from the project, the St Helena Government (SHG) will enhance the capacity and role of the existing Development Forum to establish a new St Helena Development Board, comprising representatives of both SHG and the private sector. The Board will aim to maximise the potential benefits of air access. SHG has also undertaken to review its policy environment in relation to inward investment, land-holding, immigration and taxation. DFID support will be provided on the clear prior understanding that essential reforms, including those identified in this review, will be fully implemented.

1.6 The airport construction will involve significant earthworks on a tightly constrained site in rugged terrain. The construction process, however, will deploy well-established and proven technology; and construction risks already have been well defined. Detailed design will need to take account, for example, of the need for take-off and landing over the sea and across steep bluffs at both ends of the proposed runway. Air Safety Support International (ASSI), the aviation regulatory body for the Overseas Territories (OTs), has been closely involved in initial project design: it will stay engaged throughout implementation.

1.7 The implementation strategy will be based on a DBO (Design, Build and Operate) arrangement with a suitable contractor, to be selected by international competitive tender. This is expected to minimise the construction and other risks to DFID/SHG; and it will allow time for local development of appropriate airport management and servicing skills. The tendering and implementation of the DBO facility will be supervised by specialist expertise with a proven track record in the delivery, to budget, of other major airport development undertakings.

1.8 Sound management structures will be essential. Dedicated DFID and SHG project teams will oversee the work, ensuring that parallel and complementary activities are in place as necessary. A communications strategy will be developed at an early stage, ensuring that all interested (or potentially interested) parties are kept suitably informed throughout. SHG's firm commitment to the project goal, together with the empowerment of the Development Board, will help to secure an improved policy environment for all related activity.

1.9 The Project Officer in DFID, reporting through the DFID Programme Manager to the Head of the DFID Overseas Territories Department (OTD), will be the OTD Engineering and Infrastructure Adviser. The Project Officer in St Helena will be the SHG Access Project Manager. For accountability purposes, the DFID Project Officer will take the lead in all matters relating to the project, in consultation with the SHG Project Officer. All financial decisions will entail consultation with DFID.

1.10 DFID Management and Ministers, and SHG Management and Elected Members, will be consulted if necessary on key issues that may arise during detailed project design and implementation. Risks to project viability, including any cost increases, will be monitored with great care.

## 2.0 Logical Framework and Project Header Sheet (PHS)

2.1 A Logical Framework is overleaf. A PHS is at Annex A.

**Logical Framework**

**Country:** St Helena
**Project Name:** Access
**Date of Preparation:** January 2005
**Design Team:** SHG, DFID, Atkins
**Latest Date of Revision:** January 2005
**Estimated Total Cost:** [redacted]
**DFID financial contribution:** [redacted]

| **Goal** | | | |
|---|---|---|---|
| **Objectives** | **Indicators** | **Means of verification** | **Assumptions** |
| **Sustainable financial self-sufficiency for St Helena** | • Private sector grows as a proportion of the total economy from 30% in 2004 to 40% in 2015 as estimated by:-<br>a) private sector employment as a % of total employment,<br>b) private sector credit to businesses, and<br>c) foreign direct investment<br>resulting in:-<br>• Increase in population to 4,500 by 2015<br>• Increase in domestic government revenue as a proportion of total government expenditure<br>• Graduation from budgetary aid by 2025<br>• Graduation from DFID assistance by 2030. | • St Helena annual statistics report<br>• DFID PRISM reports<br>• St Helena census | • Complementary investment and development occurs, primarily through the private sector. |
| **Purpose** | | | |
| **Objectives** | **Indicators** | **Means of verification** | **Assumptions** |
| **Sustainable and unsubsidised air access** | • Airport operation and maintenance contract successfully re-tendered by 2025[redacted].<br>• Airlines flying unsubsidised scheduled services to St Helena.<br>• [redacted]<br>• Passenger numbers increase from 7,000 in the first full year of operation to 15,000 in 2015. | • End of Project review<br>• Airport concession contract<br>• Air service concession agreement<br>• SHG Budget Reports<br>• DFID PRISM reports.<br>• SHG Immigration records | • SHG able to capture income from the airport and tourism through appropriate taxation.<br>• Shipping services for bulk freight can be established on a commercial basis. |

| Outputs | | | |
|---|---|---|---|
| **Objectives** | **Indicators** | **Means of verification** | **Assumptions** |
| **1) Effective and appropriate project management arrangements in place** | • Project Management Unit established and functioning<br>• Development Board established, appropriately staffed and empowered by the St Helena Government | • PMU monthly reports.<br>• ExCo decision empowering Development Board<br>• Development Board minutes | • Market responds to SHG strategy to promote tourism.<br>• Market responds to new SHG policies towards immigration and land tenure.<br>• Private Sector willing to invest in accommodation and tourism infrastructure and services.<br>• No changes in the international tourist market adversely affecting St Helena, |
| **2) Airport and supporting infrastructure constructed and operational** | • Access road completed by 2009.<br>• Airport meeting ICAO, ASSI standards constructed by 2009 and fully operational by 2010.<br>• Electricity, water and other services in place by 2009.<br>• Environmental management plans and mitigation strategies for airport and access routes successfully implemented | • ASSI approved Airport manual<br>• Supervising Engineer's Reports<br>• Signed contract for airport operation<br>• Environmental monitors reports | |
| **3) Scheduled flights operating to St Helena** | • Contract in place with airline to provide regular scheduled flights.<br>• Flights available on IATA booking system one year before airport operational. | • Signed contract<br>• Airport landing records<br>• IATA booking system. | |
| **4) Adequate legal and regulatory framework in place.** | • St Helena's legal framework permits Design, Build and Operate (DBO) and air service procurement.<br>• SHG adopt proactive policies to immigration and inward investment<br>• No other legal or regulatory impediments to airport and airline operations. | • Signed DBO contract /Air Service Contract.<br>• SHG gazette.<br>• ASSI certification of airport.<br>• Air Service agreement (UK - RSA or other) | |
| **5) Tourism marketing strategy developed and implemented** | • 1,500 visitors in the first year of operation, rising incrementally to 8,000 a year by 2015<br>• SHG meet staffing requirements .for immigration, customs and excise, fire fighting, sea rescue, security and other key services. | • Immigration records<br>• Tourism Association Reports<br>• ASSI certification of airport.<br>• SHG vacancy list | |

| **Activities** (For detailed implementation plan see Annex H.) | | | | |
|---|---|---|---|---|
| **Output 1: Effective and appropriate project management arrangements in place.** | **Output 2: Airport and supporting infrastructure constructed and operational.** | **Output 3: Scheduled flights operating to St Helena.** | **Output 4: Adequate legal and regulatory framework in place.** | **Output 5: Tourism marketing strategy developed and implemented.** |
| DFID/SHG access team establish Project Management Unit (PMU).<br><br>Recruit Project Manager to head the PMU and represent the project on the Development Board.<br><br>Recruit, monitor and supervise technical assistance/consultants to:-<br><br>a) procure prime contractor,<br><br>b) supervise prime contractor,<br><br>c) procure air service provider.<br><br>Produce regular high quality report for submission to Development Board and DFID.<br><br>Facilitate Office of Government Commerce Gateway Reviews and DFID OPRs and PCR. | Finalise output specification for airport and supporting infrastructure.<br><br>Prepare tender documents and procure prime contractor.<br><br>Commission independent EIA, to be conducted in parallel with design process.<br><br>Supervise construction (agree contractual programme and resources, monitor progress against programme, quality control.)<br><br>Liaise with ICAO and ASSI as necessary.<br><br>Facilitate interaction between SHG and prime contractor to ensure that supporting infrastructure is completed as planned.<br><br>Prepare monthly physical progress and financial reports, and authorise payments. | Finalise output specification for air services.<br><br>Prepare tender documents and procure air service provider.<br><br>Supervise implementation of air service contract.<br><br>Liaise with ICAO and ASSI, IATA, DfT as necessary.<br><br>Facilitate interaction between SHG, prime contractor and air service provider. | Review current legal and regulatory framework.<br><br>Strengthen as required. to ensure that there are no impediments to appointment of contractors, air service providers, and airport and airline operations. | Procure technical assistance.<br><br>Develop tourism master plan.<br><br>Develop marketing plan.<br><br>Establish and maintain links with the tourist sector in source markets.<br><br>Develop marketing material.<br><br>Approach media/trade shows etc. |

## 3.0 PROJECT RATIONALE

### 3.1 Background

3.1.1 St Helena, a UK Overseas Territory, is one of the world's most isolated inhabited islands. It is located centrally in the South Atlantic Ocean, has a current population of just 3,900 and faces many substantial problems. It has been unable to attract significant inward investment, with the result that the economy is in steady decline, increasing the island's dependence on budgetary support. Out-migration, particularly of young skilled workers seeking more attractive employment opportunities, has resulted in a declining and ageing population, with consequent impact on the health and social well-being of the community.

3.1.2 The difficulty in accessing the island lies behind many of these problems. St Helena has no airport, is not on current international shipping lanes and is accessible only by its own dedicated passenger and cargo ship, the Royal Mail Ship St Helena (RMS). As a purpose-built vessel, the RMS has maintained the service since 1990. She will reach the end of her working life around 2010, and a decision on how to maintain access beyond this date must now be made.

3.1.3 By 2010, the total (capital and annual subsidy) cost to Her Majesty's Government (HMG) of the current ship is expected to have reached at least £90 million in 2005 prices. In addition to the cost of simply maintaining physical access, the provision of essential services will have cost DFID at least £230 million over the same 20-year period.

3.1.4 Many studies have been undertaken since the possibility of air access for St Helena was first considered in 1947. Recent advances in aviation have overcome technical obstacles highlighted in earlier work. More recent studies have focused on funding issues.

3.1.5 DFID and SHG have thoroughly investigated the option of achieving air access through investment by the private sector. The process included a formal invitation to the international market in 2003. In early 2004, it was concluded that this approach presents unacceptable risks.

3.1.6 Atkins Management Consultants (Atkins) were subsequently engaged to carry out full feasibility work into options for maintaining access to St Helena, following withdrawal of the RMS in, or around, 2010. The remit included study of the impact of each option on the future economic development of the island, and on future levels of DFID budgetary support. Atkins' final report, received in December 2004, concluded that continued sea access will result in further decline and budgetary dependence: but that development of air access has the potential to promote economic growth, leading to eventual graduation from DFID assistance. Atkins' recommended the construction of an airport on Prosperous Bay Plain (within a kilometre of the east coast of the island) capable of supporting the safe operation of Boeing 737 or equivalent aircraft, and the introduction of scheduled international air services.

3.1.7 Atkins' work has been subjected to an Office of Government Commerce (OGC) Gateway Review. This concluded that there now exists sufficient evidence on which to base a decision. The review also concluded that a decision should be made without delay.

## 3.2 Policies

3.2.1 HMG's obligations towards the Overseas Territories (OTs) are enshrined in UN Charter Article 73 (Declaration Regarding Non-self Governing Territories). The Government's commitments are set out in successive White Papers on International Development and the 1999 White Paper 'Britain and the Overseas Territories: Partnership for Progress and Prosperity'.

3.2.2 The Government's objectives in its support for the OTs are:

- to maximise economic growth and self-sufficiency through sensible economic and financial management, leading to graduation from such support where this objective is feasible;
- to ensure in the meantime that basic needs are met, including the provision of essential infrastructure; and
- to support the good governance of the Territories, including the proper management of contingent liabilities and the fulfilment of the UK's international obligations – particularly human rights and multilateral environment agreements/obligations.

3.2.3 The project contributes significantly to all of these objectives. External access meets a basic need. Air access is judged to offer the only opportunity for St Helena to achieve economic growth and self-sufficiency. The establishment of a Development Board will support economic growth and improved governance.

3.2.4 The project will form part of DFID development assistance to the OTs. The International Development Act (2002) includes suitable enabling provision.

3.2.5 St Helena is in the process of preparing a National Strategic Plan, which prioritises:

- improving access;
- developing a sustainable and vibrant economy to the benefit of St Helena; and
- promoting and developing a sustainable workforce.

3.2.6 Like other OTs, St Helena has only limited access to other sources of funding. Most notably, it is set to receive €8 million over three years in EDF 9 funds from the European Union (in addition to €5 million under EDF 8) and a nominal amount from UNDP. This is all provisionally allocated to activities which are complementary to the project. UNDP funding will cease after 2006; and the future of EDF funding is uncertain. DFID assistance to St Helena, which includes a mix of budgetary support and development activity, is presently running at about £13-14 million a year. This includes an annual shipping subsidy ([redacted]).

## 3.3 Project Approach

3.3.1 The project will extend to St Helena a level of external access equivalent to that currently available to most countries in the world, including the poorest of developing nations. It will give the island the opportunity to achieve economic development, financial self-sufficiency and graduation from UK assistance.

3.3.2 Atkins' feasibility work examined a wide range of options for maintaining access to St Helena, both by sea and by air. Following submission of their options report in June 2004, SHG/DFID decided to take three options forward for detailed study, namely:

- replacement of the RMS with another mixed passenger and cargo vessel;
- development of an aerodrome that can support the safe operation of 19-seater Business Jet aircraft (the 'medium runway' option); and
- development of an aerodrome that can support the safe operation of Boeing 737-800 or similar aircraft (the 'long runway' option).

3.3.3 Analysis of nearly 30 years of service by dedicated ships, the latest of which was designed specifically to meet the needs of the island and maximise income from cruise passengers and tourism, demonstrates that sea access alone will not halt the island's economic decline. If the only form of access to St Helena were to remain by sea, DFID could expect to provide at least £320 million in support to the island over the 20-year life of the new ship. Barring any unexpected turn of fortunes for the island, a repeat of the cycle could be expected around 2030 when the ship would again need replacing.

3.3.4 The 'medium runway' offers some savings in capital cost, but the use of 19-seat business jets would require significantly higher ticket prices and Atkins' research shows that this option would not be acceptable to the tourist market. While it is technically feasible to land a Boeing 737 on the medium runway, the more modern variants would incur weight penalties, and all operations would be runway limiting. ASSI are unlikely to agree to scheduled operations on this basis. The trend in aircraft design over the past 30 years is for larger planes requiring greater take-off and landing distances. Future extension of the 'medium runway' would be very costly, and Atkins advise against the adoption of a runway that is unlikely to meet the needs of the industry in the foreseeable future.

3.3.5 The clear conclusion of this study is that the construction of an airport on Prosperous Bay Plain, capable of supporting the safe operation of Boeing 737-800 or similar aircraft, offers the least cost option for maintaining access to St Helena. It should also lead eventually to sustainable financial self-sufficiency for the island.

3.3.6 The project comprises construction of a 2,250m 'long runway' (including end strips and Runway End Safety Areas (RESAs)) equipped to support instrument approaches. It includes airport buildings and support infrastructure, including a permanent access road, plus fire-fighting, sea rescue and fuel storage facilities. The project will establish contracts for the continued operation of the airport, for a period of ten years following construction, and for provision of regular

scheduled air services [redacted]. Arrangements will be installed to regulate both the airport and air services.

3.3.7 The new access arrangements will be combined with sustained support to tourism marketing and development. Support will also be available to negotiate separate commercial arrangements for sea freight, following the withdrawal of the RMS. All this, with careful planning and management, will deliver significant economic development.

3.3.8 Sustaining these benefits will depend on establishing and maintaining St Helena as an attractive destination for tourism and inward investment, while ensuring that income generated is both retained on the island and ploughed back into the economy. The project will assist SHG in creating a policy environment that encourages economic growth. The private sector has already shown interest in investing in St Helena once air access is assured. For example, SHG is currently in tentative discussions with a major hotel developer.

3.3.9 Economic regeneration is expected to reverse the current trend of out-migration. Demographic projections show a steady increase in the island's population, both through St Helenians (Saints) returning and through immigration, if an airport is built.

3.3.10 The island community and government have been involved in the project design process so far, to ensure local ownership of the project. An island-wide consultation in 2002 endorsed the preference for air access. Many other stakeholders, including the Foreign and Commonwealth Office (FCO), Saints living off the island, the St Helena Development Agency (SHDA) and the St Helena Chamber of Commerce have been consulted during project design.

3.3.11 This is a complex project, and there will be a need to continually review design during implementation. Project management arrangements will ensure active risk management. There will be opportunities to review design and make any appropriate changes at: the time of agreement of the output specification; during negotiations with the DBO contractor; and in negotiation of the air service concession. Support to institutional development and capacity building in SHG, and to tourism marketing, will be flexible and targeted. Both will be regularly reviewed and developed throughout implementation of the project.

## 3.4 Appraisal Issues

Technical

*Runway Design*

3.4.1 St Helena's severe topography places tight constraints on the design of a runway. Much of the design work has therefore focused on achieving a runway length and alignment that satisfies the requirements of the air regulator, provides sufficient length for safe operations, and minimises capital expenditure.

3.4.2 Atkins, working in close consultation with ASSI, has developed an outline design that complies with all regulatory requirements. It provides for an offset instrument approach, minimising airport closure risk in poor weather conditions.

3.4.3 The proposed 2,250m runway incorporates 240m RESAs and 60m landing strips at each end, and has a landing distance available (LDA) of 1,650m. By paving one of the RESAs, the take-off runway available (TORA) is increased to 1,925m (in one direction only). Further details of the proposed runway design can be found at Annex B.

3.4.4 Construction of the airport will require the excavation, placing and compaction of some eight million cubic metres of fill. This will create an embankment extending some 300m into Dry Gut, a steep-sided gully at the south end of the proposed runway. This is a major undertaking, but one that will be carried out using tried and tested methods. Other significant features are the creation of a temporary access road, either from Rupert's Bay or from Prosperous Bay, improved bulk fuel arrangements and provision of rescue services.

3.4.5 Detailed design will be carried out by the DBO consortium. All survey work carried out during the feasibility study will be made available to the designer, together with all available meteorological data. The latter is currently being collected manually, and an early project activity will be to set up an automatic weather station at the airport site to provide enhanced data. Another early activity will be to carry out flight-testing to determine the amount of turbulence that can be expected on the approaches. These early activities, carried out before the appointment of the DBO consortium, will help to better define areas of risk and ensure appropriate design of the runway.

3.4.6 Design will be in accordance with Annex 14 to the Chicago Convention as reflected in the Overseas Territories Aviation Requirements (OTARS). This is a statutory requirement under the Air Navigation (Overseas Territories) Order (AN(OT)O). Prior to operations commencing, the aerodrome will be certificated in accordance with the requirements of OTARS. The Governor will be responsible for this certification subject to advice from ASSI.

*Associated infrastructure*

3.4.7 The outline design presents two options for establishing a temporary haul road, required to transport plant and materials to Prosperous Bay Plain. Both have similar costs, but arrangements for sea rescue facilities will depend on the final choice. Other key infrastructure required to support air operations, including the terminal, fire fighting, navigational aids, instrument landing facilities and bulk fuel arrangements, do not present particular difficulties.

*Air Service Provision*

3.4.8 SHG proposes an open-skies policy, to allow competition between airlines, and to ensure that charter flights and air cargo operations are able to use the airport. It will, however, be necessary to establish a regular scheduled service. Atkins approached regional airlines to confirm the feasibility of establishing

subsidy-free air services. Subject to the market response to a competitive procurement process, scheduled air services are likely be provided through a concession agreement with an existing airline based on sole operating rights for a single route. [redacted]. Licensing of services will be the responsibility of the Department for Transport (DfT). The main air service provider will be identified early in project implementation, to facilitate inputs on instrumentation specifications etc.

3.4.9 Commercial operations would be enhanced by the establishment of air services to and from Wideawake Airfield on Ascension Island, which is operated by the United States (US) military. Negotiations will seek to increase the number of civilian movements allowed under the existing bilateral agreement between the US and the UK, which currently imposes a limit of four non-scheduled movements a week.

*Technical Risks and Uncertainties*

3.4.10 Atkins' geotechnical survey and laboratory testing confirm the suitability of material excavated from Prosperous Bay Plain for construction of embankments and for use as aggregate for Pavement Quality Concrete (PQC). This offers a high level of confidence in the cost estimates for the major items in the Bill of Quantities (BoQ).

3.4.11 Other areas of uncertainty centre around the logistics of accessing the site (both access for heavy machinery to the island and the establishment of temporary haul roads in difficult terrain.) Atkins' advice is that adoption of a DBO procurement route will transfer the bulk of these risks to the private sector.

Institutional

3.4.12 St Helena is an internally self-governing Overseas Territory. SHG comprises a Governor (appointed by the Crown), an Executive Council (ExCo), which has policy control over the direction of government, and a Legislative Council (LegCo). The Executive and Legislative Councils include both ex-officio and elected members.

3.4.13 The economy is dominated by the public sector, which accounts for about 70% of employment. In view of this, SHG is promoting a modernisation and reform programme to:

- improve the efficiency and effectiveness of the public service, better to meet St Helena's overall strategic objectives and ensure equity in service delivery; and
- reduce the dominance of the public sector by introducing incentives to encourage the growth of the private sector and encourage increased inward investment.

3.4.14 Successful implementation of this reform programme will be essential if the socio-economic gains from the airport and tourism development are to be

realised. This will help to ensure that St Helena progresses towards sustainable financial self-sufficiency.

3.4.15 With support from the project, SHG will enhance the capacity and role of the existing Development Forum on St Helena to establish a St Helena Development Board. This body will provide guidance and advice to ExCo on major policy decisions. It will also oversee wider economic development issues, in particular those relating to marketing of tourism. It will be chaired by the Governor, and will include representatives of public and private sectors.

3.4.16 There are two key institutional constraints to the project. The first is the limited capacity of SHG to manage a major airport construction and tourism development programme, and to implement reforms. This will be addressed by the Development Board, and by putting in place a dedicated Project Management Unit (PMU) to manage the access contracts. The PMU will be headed by an experienced manager with a proven track record of implementing projects of this type. The PMU Project Manager will work closely with the Development Board to ensure that activities and initiatives affecting the project are prioritised and coordinated effectively. The PMU will work, as far as possible, through local institutions and statutory bodies, including the Tender Board (for local procurement) and the Public Service Commission (for local employment). It will seek to strengthen such institutions by applying best practice.

3.4.17 The second constraint is that of recruiting, motivating and retaining skilled personnel at all levels of government (senior officials, middle management and lower levels) and in related private sector enterprises. The project will provide technical assistance in key areas (e.g. legislative and procedural reforms, immigration, customs, tourist development, private sector development, planning) to support project management and the implementation of reforms.

Economic and Financial

3.4.18 Per capita annual income in St Helena is £3,000 (20% of the UK level); unemployment is 6%, and there is anecdotal evidence of suppressed unemployment in the public sector. The Territory imports most of its goods, with imports exceeding exports eight-fold. St Helena is confronted by significant emigration, which has caused problems in filling government posts. The economy is heavily dependent on DFID support, which has increased in real terms over the last twenty years.

3.4.19 The key constraint to the development of the St Helena economy is its isolation. Currently the only way to reach the island is by the government directed RMS, which visits every three weeks and will reach the end of its economic life in or around 2010.

3.4.20 *Table 3.1* summarises the key outputs from the economic analysis.

3.4.21 Replacing the ship would involve the lowest initial capital cost (a baseline cost of [redacted] compared to [redacted] and [redacted] respectively for the 'medium runway' and 'long runway'' airport options). But a further replacement

would be required in 2030, and its higher net operating costs make the airport options cheaper in overall terms (Net Present Value (NPV) cost of [redacted] for sea access compared to [redacted] and [redacted] for the airport options).

***Table 3.1*** **Summary of the Economic Analysis**

| | New Ships (£million) | Medium Runway (£million) | Long Runway (£million) |
|---|---|---|---|
| Capital expenditure (Atkins' best estimate) | [redacted] | [redacted] | [redacted] |
| Mean capital expenditure (from risk analysis) | [redacted] | [redacted] | [redacted] |
| NPV cost to DFID (with no tourism) | [redacted] | [redacted] | [redacted] |
| NPV cost (including tourism revenues) | [redacted] | [redacted] | [redacted] |
| Year in which HMG financial support ends | Never | 2045 | 2025 |

*NPV based on Green Book discount rate of 3.5%*
** Sea access option requires replacement ships in 2010 and 2030*

3.4.22 Of the two airport options, the 'long runway' has a lower NPV Cost [redacted] compared to [redacted]) because it would enable tourism to develop on the island. This has the potential to substantially increase government revenues.

3.4.23 Under the 'long runway' option, HMG financial support to St Helena could possibly end in 2025. It is likely that this would be delayed for at least a further 20 years under the 'medium runway' option, if it ever could be achieved at all. With continued sea access, there is little prospect of St Helena ever graduating from DFID support.

3.4.24 Tourism has the potential to transform the economy of St Helena from its current position of dependence on DFID support. Atkins' study reviewed the comparative advantages of St Helena (natural beauty, serenity and security) and the experience of ten other island economies that have developed their tourist industries following improvements in access. Based on modest assumptions, Atkins estimate that the number of tourists visiting St Helena would grow from around 10 per week before air access is established to more than 1,100 in 2033.

3.4.25 Air access, and the resulting economic development, has the potential to reverse the current population decline. It will encourage the return of active working Saints living overseas as new jobs attract new migrants. It would also make it easier for Saints to return to St Helena from the UK, Ascension, the Falkland Islands and other places overseas.

3.4.26 Atkins' modelled the full risk distribution through the use of a 'Monte Carlo' analysis. The output of this indicates that, even if the most adverse level risks for the 'long runway' occur (e.g., high cost and time over-runs in building the airport; lower than expected tourist demand and the interaction of all these risks), the NPV cost would be significantly lower than the best scenario associated with

replacement ships. DFID has the opportunity to minimise its long-term costs by adopting the 'long runway' option.

3.4.27 Atkins' baseline estimate for the construction of the 'long runway', using a traditional procurement approach, is just under [redacted]. Risk modelling suggests that the mean cost (50% level of confidence) under this approach would be nearer [redacted]. For a modest increase, to [redacted], the level of confidence jumps to 70%. UK experience shows that it is possible to transfer risks to the private sector through the adoption of appropriately designed contracts, though this risk transfer carries a premium. Atkins estimate the additional cost of transferring a significant part of the construction risk for the 'long runway' option, using a DBO contract, at [redacted] above the baseline. This has the potential to reduce DFID's overall outlay.

3.4.28 Atkins' cost estimates were reviewed by quantity surveyors E C Harris. They concluded that there was no significant optimism bias relative to benefits, but recommended that it would be prudent to adopt the 70% confidence figure. In light of this, a figure of [redacted] has been taken forward to the project budget.

3.4.29 The success of the project will be measured by progress towards medium term budget sustainability. Good secondary indicators will include tourist numbers, growth in private sector employment and its contribution to Gross Domestic Product (GDP).

Social

3.4.30 As part of their feasibility work, Atkins carried out a wide programme of consultations with Saints living on the island and abroad to discuss access options. The general view of both groups is that air access is the only option capable of stemming the decline in population, economic activity and quality of life. Air access is widely perceived as the island's last chance to re-establish itself, while replacing the RMS is seen as one that would exacerbate the current social and economic decline of the island.

3.4.31 Although out-migration has long been a feature of St Helenian society, labour migration in recent years (intensified by the granting of full UK rights of abode to OT citizens in 2002) has led to the weakening of traditional community and family support systems. Most out-migrants are of working and childbearing ages and have left their families behind, in search of employment. There are now fewer births than deaths on the island and the proportion of old people in the population is growing. Some 150 children are being cared for by their extended families in the absence of their parents.

3.4.32 Out-migration has contributed to marked recruitment and retention problems in the social sector. There is currently a serious shortage of trained teachers, nurses and care workers. The Social Work Division in particular faces acute difficulty in assisting the elderly and disabled, given staff shortages and the weakened community and family support systems.

3.4.33 Air access would allow families to be reunited more frequently and would reduce the social pressures caused by out-migration. The Atkins study indicates that many Saints will return to live on the island, if air access is established and jobs are available.

3.4.34 In implementing the project, a number of steps will be taken to maximise the positive impacts of the project on Saints. These will include: encouraging contractors to employ Saints in constructing the airport and other infrastructure; training Saints in the skills needed to construct and operate the airport and work in tourism; training Saints in enterprise development and providing loans and advice for them in starting businesses to take advantage of the new opportunities provided by air access. A new project to re-launch the St Helena Development Agency (SHDA) began in late 2004.

3.4.35 As a result of air access, new job opportunities are likely to create an upward pressure on wages. While this will serve to attract Saints back to the island, it could also lead to general inflation. If this happens, steps will be needed to protect vulnerable groups (e.g., by index-linking social security benefits). Steps will also be needed to strengthen an already over-stretched social services sector to cope with increased demands of in-migrants to St Helena.

3.4.36 Air access and tourist development may increase housing and land prices. There is also concern that greater foreign investment on the island will lead to a sharp increase in land and house prices, which in turn could lead to Saints being priced out of the property market. This could be mitigated by the government freeing up land for residential development. The disquiet among some Saints concerning the potential for higher levels of crime owing to an increase in the number of people on the island will also need to be addressed, primarily by strengthening the police service. Finally, fears over the possible introduction of HIV/AIDS and other communicable diseases by foreign construction workers, who are likely to originate from Southern Africa, will need to be allayed through the appropriate dissemination of information.

Environment

3.4.37 Prosperous Bay Plain has been designated as a Habitat Management Area under St Helena's National Parks Ordinance (2003). The 'central basin' of Prosperous Bay Plain – an area of about 60ha – has been identified as a 'hotspot' of invertebrate biodiversity, deserving of protection and international recognition; at least twenty endemic invertebrate species identified from Prosperous Bay Plain are reported to occur nowhere else in the world. The Plain is also an important habitat (among others on the island) for the endemic Wirebird and a number of endemic and indigenous plant species.

3.4.38 The construction of the airport will involve the disturbance of approximately 100ha of the land surface of Prosperous Bay Plain, including approximately 15% of the area of the central basin. Atkins' outline design has sought as far as possible to balance the technical and regulatory criteria for the establishment of air access at St Helena with the need to protect and, if possible, enhance the environment at the chosen airport site and within its area of influence.

The project provides an opportunity to bring about a long-term beneficial effect, by arresting the gradual and uncontrolled decline of a habitat whose global biodiversity significance has only recently been fully appreciated.

3.4.39 Atkins' environmental scoping report builds on and updates earlier environmental screening and analysis. It draws together available environmental information relevant to the short-listed access options and provides impact scoping with respect to the airport, construction haul routes, operational access routes and tourism development. Key issues are summarised in Annex F.

3.4.40 In view of the scope and complexity of this major project, an environmental impact assessment (EIA) of the long-runway option will be required. Terms-of-reference will be agreed and finalised following a public consultation and disclosure process. The EIA will be undertaken in parallel with detailed design in order to provide opportunities for mutually beneficial synergy. Access routes to the airport site, both for construction and operational purposes, may have at least as great an environmental impact as the construction of the airport itself.

3.4.41 Independent environmental specialists will be commissioned to support SHG in preparing the EIA. The main output will be a comprehensive Environmental Management Plan (EMP) that will include environmental mitigation and monitoring strategies for all aspects of the project. The standards set out in the main EMP will be carried forward as contractual obligations in the Contractors' Environmental Management Plans.

3.4.42 Local requirements relating to environmental impact assessment and management are currently based on planning guidelines rather than on specific legislation. Where local guidelines do not exist, a best-practice approach based on a combination of UK, EC and World Bank guidelines will be adopted.

3.4.43 SHG's current human resource capacity and institutional arrangements for environmental management are insufficient to handle a project of this magnitude, complexity and sensitivity. SHG will therefore review its structures and procedures for environmental regulation and management in the context of the airport and associated developments. Provision of specialist technical assistance is included in overall project costs.

3.4.44 The cost of undertaking further environmental work associated with the development of the 'long-runway option' for air access is estimated to amount to a total of [redacted]. At less than 1% of the total estimated project cost, this falls within the norm for a project of this nature.

## 3.5 Evaluation

3.5.1 Project design takes account of international and regional experience, particularly through the appointment of consultants (Atkins) for the feasibility study who have substantial experience both of airport design and procurement alternatives. In addition, as authors of the Overseas Territories Institutional Development Study (OTIDS), which led to the establishment of ASSI, Atkins have a thorough understanding of aviation requirements and regulation in the OTs. The

feasibility study incorporated a review of all earlier work on development of air access to St Helena. In addition to original market research into demand for tourism on St Helena, Atkins drew lessons from a study of ten proxy islands where tourism development has followed improvements in access.

3.5.2 Atkins' economic model, developed for the feasibility study, incorporated advice from eminent economist, Professor Pissarides of the London School of Economics. Their capital costs estimates and economic assumptions for the 'long runway' have been reviewed by an independent economist and quantity surveyors E C Harris. All endorse the robust nature of the analysis.

3.5.3 Lessons learned from aerodrome design in other OTs were applied. In particular, a very close check was made with ASSI to determine allowable operational parameters.

3.5.4 Project design has been reviewed by the Office of Government Commerce (OGC) through the Gateway process, which is specifically designed to ensure the adoption of best practice in government procurement. Further Gateway reviews are planned at key stages in project implementation.

3.5.5 The project is designed to address a unique problem, and it is unlikely that there will be significant lessons for other DFID programmes. The possible need for ex-post evaluation will be addressed during the Mid-Term Review.

## 4.0 PROJECT IMPLEMENTATION

### 4.1 Management Arrangements

4.1.1 Both the OGC Gateway Team and Atkins have commented on the limited capacity in St Helena to manage a project of this size. Both have recommended that DFID takes a clear lead in project implementation. The proposed management arrangements take this recommendation into account. DFID will remain fully engaged throughout the project, while developing capacity within SHG to manage properly the airport and air service concession contracts.

4.1.2 The project will be managed in the UK by a specially constituted Access Team within the DFID Overseas Territories Department. On St Helena, an Access Project Management Unit (PMU) will be established for the sole purpose of delivering the airport and air services. This will be headed by the PMU Project Manager, who will be recruited by DFID specifically for this role.

4.1.3 The PMU will have direct access to consultancy support (particularly in the areas of procurement of the DBO contractor, construction supervision and procurement of air services). The PMU will work closely with St Helena Development Board and Access Team, and will also have access to DFID OTD advisory support.

4.1.4 Management arrangements are summarised in *Figures 4.1* and *4.2*. The composition and role of the various bodies are summarised in Annex C.

***Figure 4.1*** **Management of Access Project**

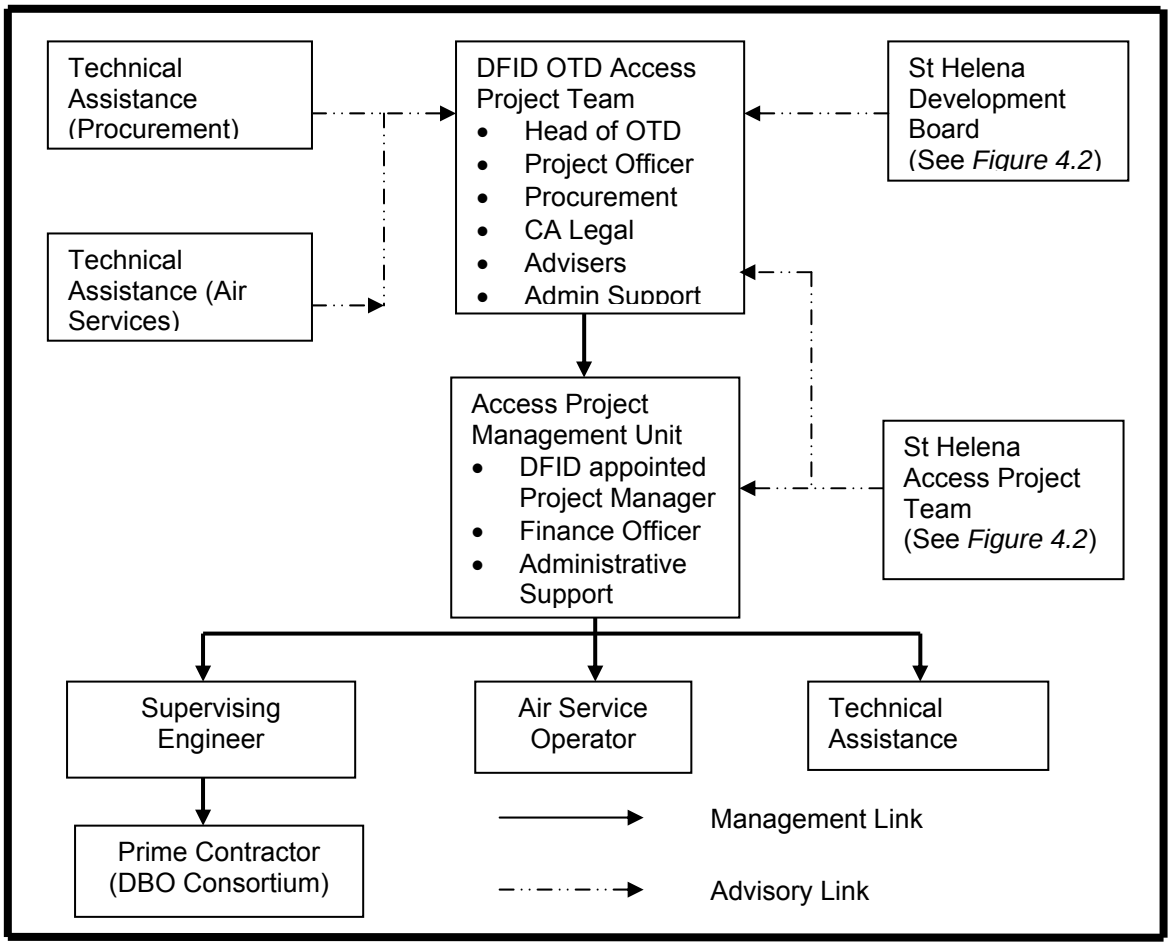
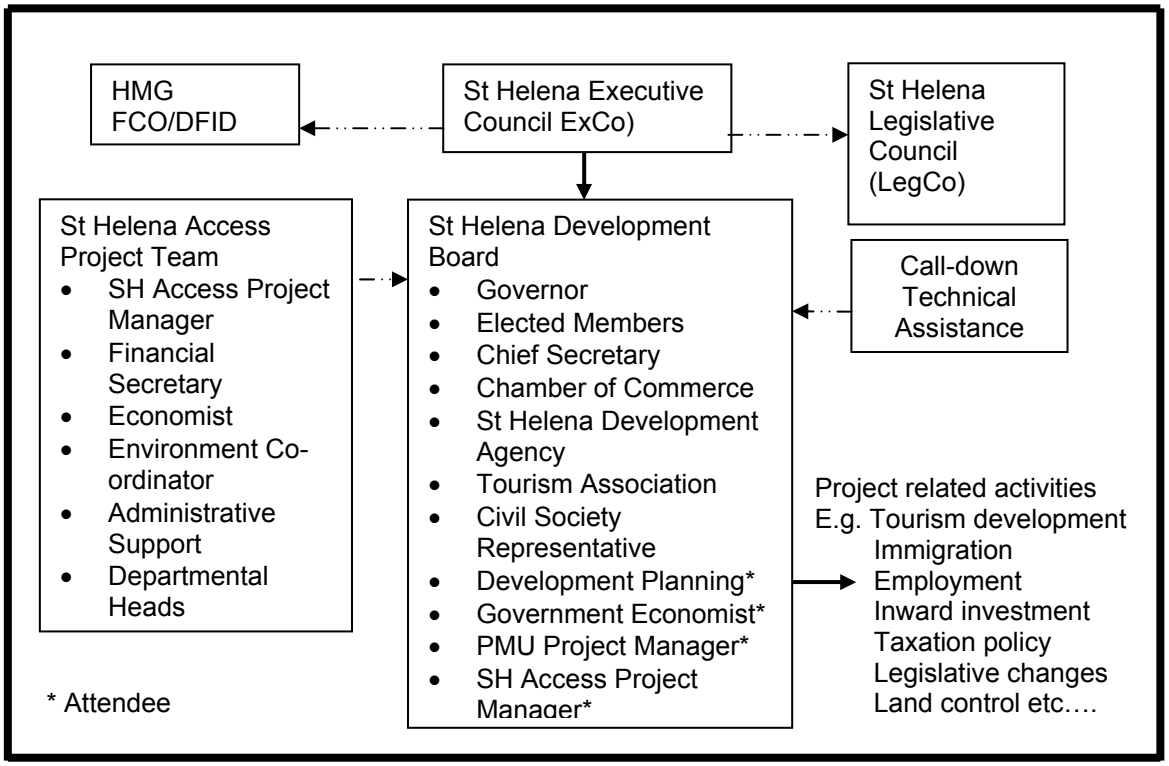



***Figure 4.2*** **Management of Tourism Development**



4.1.5 The Development Board, with representation from both SHG and the private sector, will oversee a wide range of issues outside the direct provision of air services (i.e. policy and legislation, inward investment, immigration, taxation, access to finance, tourism marketing etc.). The aim will be to ensure that St Helena exploits fully the opportunities provided by air access. The Development Board will ensure the participation of all local stakeholders.

4.1.6 The DFID Project Officer will be the OTD Engineering and Infrastructure Adviser, reporting through the DFID Programme Manager for St Helena to the Head of OTD. The Project Officer in St Helena will be the St Helena Access Project Manager. For accountability purposes, the DFID Project Officer will take the lead in all matters relating to the project, in consultation with the SHG Project Officer. All financial decisions will require DFID consultation.

4.1.7 The DBO contractor will be responsible for operation and maintenance of the airport for a period of ten years following completion of construction. Air services will be provided through a five-year concession agreement. Both concessions will be reviewed periodically and re-tendered to ensure that they remain competitive and responsive to market demands. Although all contracts will be let by SHG, DFID will support procurement and provide close monitoring.

4.1.8 SHG, in collaboration with ASSI and DFID, will put in place suitable structures for regulation, monitoring and periodic re-tendering of the contracts.

## 4.2 Timing

4.2.1 A detailed timeline is given in Annex G. Procuring appropriate technical assistance, preparing the output specification and tender documentation is expected to take six months from a decision to proceed. Procurement of the DBO contractor will take a further 14 months, with construction not likely to commence before late 2006. Construction of the runway and ancillary infrastructure is expected to take up to three and a half years, with full operations commencing in early 2010.

## 4.3 Inputs

***Table 4.1*** **Project Costs**

| **Item** | **Estimate (£000's)** |
|---|---|
| Airport Construction Civil Works | [redacted] |
| Equipment | |
| Design/Procurement Costs | |
| Supervision/Technical Assistance | |
| Contingency (to provide a 70% confidence level) | |
| [redacted] | |
| Environment | |
| Institutional Development | |
| **TOTAL** | |

4.3.1 *Table 4.1* summarises project costs. *Table 4.2* provides a projected cash flow, which is shown graphically in *Figure 4.3*. All costs are estimated in 2004 prices. It is not possible to provide a meaningful estimate of inflation in project costs over the course of the project. To a large extent it will depend on the country of origin of the DBO and air service contractors. If, as is likely, these are South Africa based, then inflationary trends could be more than compensated for by changes in the exchange rate. For example, over the years between 1998 and 2003, South African inflation amounted to approximately 40%, while the Rand depreciated by nearly 48% against the UK pound.

4.3.2 For illustrative purposes, if an inflation rate of 2.5% were adopted, the total amount in cash prices would be [redacted].

***Table 4.2*** **Project Expenditure**

| **Financial Year** | 2005/ 2006 | 2006/ 2007 | 2007/ 2008 | 2008/ 2009 | 2009/ 2010 | 2010/ 2011 | 2011/ 2012 | 2012/ 2013 | 2013/ 2014 | 2014/ 2015 | 2015/ 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Estimated costs (£000s) in 2005 prices** | [redacted] | | | | | | | | | | |
| **Estimated costs (£000s) inflated at 2.5%** | [redacted] | | | | | | | | | | |

4.3.2 A project budget is appended in Annex H.

***Figure 4.3*** **Expenditure Profile (constant 2005 prices)**

[Figure 4.3 has been removed as it contains information that could prejudice future procurement]

## 4.4 Contracting and Procurement

4.4.1 The adoption of a DBO approach for the airport is to ensure timely delivery of the aerodrome, with key risks transferred to the private sector and a seamless movement into operation, with no costs arising from interface risks. It is estimated that the adoption of this approach will result in a premium of approximately [redacted] above the tender price that could be expected under a traditional procurement approach, but that the benefits of transferring risk to the private sector will outweigh this.

4.4.2 Once a DBO contract is signed, a significant proportion of the risk of additional capital costs will fall to the contractor. Many conventional Design and Build contracts overrun through lack of clear scope, inadequate basic information, latent defects and client changes or poor project management. The DBO approach is designed to eliminate these risks.

4.4.3 The ability to set out and stick to a procurement timetable will also have significant advantages. The overall net cost of a six-month delay in procurement is estimated to be [redacted], i.e. the additional cost of supporting SHG as a result of delayed economic growth, so there is scope for incorporating a financial incentive into the DBO contract for early completion. Similarly, it is possible to build in punitive arrangements for over-runs of cost and time.

4.4.4 Procurement will be via an international invitation to submit expressions of interest (EOI). An invitation to tender (ITT) will be issued to short-listed consortia and, based on the responses, invitations to negotiate (ITN) issued to one or two consortia, leading to best and final offer (BAFO). This process is expected to take up to a year. Legal advice has been sought in regard to the status of the European Procurement Procedures in the Overseas Territories. It is unclear from this whether there is a legal requirement to follow European Procurement Procedures. However, in the interests of best practice, and to avoid any possible challenges, it is the intention to let all contracts through the Official Journal of the European Union (OJEU).

4.4.5 Scheduled air services are likely to be procured though a concession agreement with an existing air service provider, based on exclusive rights over a single route. This would not affect the ability of other airlines to operate services to different destinations, though this may have implications on negotiation of the concession. [redacted]. A charter operation is a possible alternative in the event of low take-up.

4.4.6 Contracts for the DBO consortia and the Air Service Provider will be let by SHG, though it is likely that some form of guarantee will be required from HMG.

## 4.5 Accounting

4.5.1 Concession contracts with the airport DBO contractor and the air service provider, and some consultancy support to the Development Board, will be funded through an estimated [redacted]. in Financial Aid. SHG will make payments against certified invoices, and seek reimbursement from DFID through Crown

Agents. Consultancy support to the PMU and DFID Access Team will be contracted directly by DFID using Technical Co-operation funds.

4.5.2 Accounting procedures for the DBO consortia and the Air Service Provider elements will be governed by the financial orders of SHG.

4.5.3 SHG fees, charges, taxation regime and legislative environment relating to inward investment are currently being studied as part of an independent Fiscal Review. The review will also assess SHG accounting and auditing systems. Recommendations from this review will be incorporated into audit procedures for this project. In addition, given that the contracts for this project will be of a considerably greater scale than anything previously let by SHG, it is recommended that the project is subjected to independent annual audits.

4.5.4 DFID procedures will be followed for DFID-procured technical assistance.

### 4.6 Monitoring

4.6.1 The Supervising Engineer will prepare monthly progress reports providing a regular record of airport capital expenditure and achievements.

4.6.2 The DFID-appointed PMU Project Manager will issue quarterly progress reports detailing all project related expenditure to the Development Board, ExCo and DFID.

4.6.3 OGC Gateway Reviews will be conducted at key stages in project implementation.

4.6.4 Formal DFID Output to Purpose Reviews will be conducted jointly with SHG, at annual intervals during project implementation. A comprehensive DFID Project Completion Report will be required at the end of the project.

## 5.0 RISKS AND UNDERTAKINGS

5.1 As part of the feasibility study, Atkins carried out a probabilistic analysis of key risks to achieving the project purpose using the Monte Carlo technique.

5.2 There are four key areas of risk, namely:

- increases in the costs of constructing the airport and supporting infrastructure;
- delays in completion of the airport with consequent costs to SHG;
- inability to attract tourists in sufficient numbers to deliver economic development; and
- ability of SHG to manage tourism development and enact legislative and procedural reforms.

5.3 These risk areas are listed in *Table 5.1*, which summaries steps taken to address them in project design and details mechanisms for mitigation during implementation. A risk matrix is presented in *Table 5.2*.

5.4 Project risk is discussed more fully in Annex I. Overall, the project is medium risk, and management arrangements are designed to actively manage this risk. There is a very low risk that the project will fail to deliver improved economic development in comparison to any sea access option.

***Table 5.1*** **Summary risk table**

| Risk | Description | Design measures | Mitigation |
|---|---|---|---|
| a | Cost over-runs | Independent design check, quantity surveyor's review, DBO contract | Contract penalties Proactive management |
| B | Time-delays | DBO contract, strong management structures | Contract penalties Proactive management |
| C | Inability to attract tourists | Proxy Island study, market research | Marketing support, technical assistance |
| D | SHG ability to manage and implement necessary reforms | Establish Development Board, PMU, attract qualified Saints | Technical assistance, key posts initiative |

***Table 5.2*** **Risk matrix**

| Probability / Impact | Low | Medium | High |
|---|---|---|---|
| Low | | a | |
| Medium | b | c,d | |
| High | | | |

## Annex A – Project Header Sheet

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## Annex B – Technical Appraisal

B-1 This annex discusses the key technical issues raised in Section 3.4 of the main body of the Project Memorandum. It is not intended to cover the full breadth of work carried out by Atkins in the feasibility study, but instead to set out the main technical issues and show how these have been addressed in project design. Further detailed technical information is available in Section 7 and Appendices H, I, J, K, L, M, N, O, P, Q and R of Atkins' Final Report.

*Development of Options*

B-2 Initial feasibility work carried out by Atkins in early 2004 examined a wide range of options for maintaining access to St Helena, both by sea and by air. In carrying out this work Atkins took account of previous studies, approaches from the private sector, and suggestions from private individuals. The air options included consideration of an airship, amphibious planes, small business jets and medium-sized passenger aircraft, providing services from Ascension Island, South Africa and Europe. Sea options included a mixed passenger and cargo vessel similar to the RMS St Helena, the potential to utilise the cruise market, a dedicated passenger-only ship, and a "fast ship". Each option was assessed to determine whether it satisfied three key criteria, namely:

- whether the option is technically feasible
- whether it meets HMG's/SHG's commitment to maintaining access to St Helena
- whether it is likely to increase GDP on St Helena to such an extent that increases in government revenue offset any increase in subsidy over ten years

B-3 Options satisfying these criteria were subjected to a comparative assessment against agreed technical, institutional, environmental, economic, financial and social criteria. It was also a requirement that at least one sea option should be studied in detail, regardless of the overall ranking. The comparative assessment led to the selection of three options for detailed feasibility work:

- Development of an aerodrome that can support the safe operation of Boeing 737 or similar aircraft (the 'long runway' option)
- Development of an aerodrome that can support the safe operation of 19-seater Business Jet aircraft (the 'medium runway' option)
- Replacement of the RMS with another mixed passenger and cargo vessel

B-4 Further details of the short-listing process can be found in Atkins' June 2004 Options Paper, an edited version of which was made available to the public in the UK and St Helena.

*Development of Sea Options*

B-5 Considerable work has previously been done to develop the specification of an appropriate replacement to the RMS, both at the time of design of the current ship, and during the 2001 High Point Rendel (HPR) Comparative Study. Atkins' feasibility work confirmed previous conclusions that the unique requirements of St Helena, in particular the relatively small passenger and freight volumes, and the need for the ship to operate in the seas of the South Atlantic, necessitate the provision of a purpose-built mixed passenger and cargo vessel. Specifications were proposed by HPR in their final report, which maximised tourist revenue while serving the island's needs. These were adopted for the feasibility study.

*Development of Air Options*

B-6 A number of previous studies have looked at air access at a conceptual level, identifying the most likely sites for construction of a runway on St Helena and identifying possible air service options. More detailed work was carried out by private sector consortia in response to SHG's April 2003 international invitation, but there remained a number of issues that required further investigation and analysis before it was possible to confirm the technical viability of establishing air access.

B-7 Atkins' feasibility work provides a high level of confidence that a suitable runway can be constructed on Prosperous Bay Plain to support air services to Ascension Island, South Africa and beyond. Atkins have undertaken original topographic and geotechnical survey work on Prosperous Bay Plain, carried out laboratory testing, established meteorological monitoring to confirm weather conditions at the site, and worked in close collaboration with ASSI to develop viable technical options for the two short-listed air options. In carrying out this work, Atkins have gone into a greater level of detail than would normally be associated with a feasibility study, developing outline designs and schedules of quantities. The designs have been subjected to both internal and external checks, and the assistance of experienced quantity surveyors called upon to establish cost estimates. This work has confirmed the technical feasibility of constructing a runway capable of supporting safe operations by aircraft up to the size of a Boeing 737-800 or equivalent on Prosperous Bay Plain.

*Runway Design*

B-8 In the context of the mountainous topography of St Helena, the Prosperous Bay Plain site is a relatively flat area, sited approximately 300m above sea level to the east of the island and extending some 1,700 m in an approximately north-south direction. Beyond this to the north the ground falls away sharply to Prosperous Bay, and to the south lies Dry Gut, a steep-sided valley that cuts across the plain. In addition, there is high ground to the north (the Haystack and the Barn) and to the south (Great Stone Top). This topography places tight constraints on the design of a runway, and much of the design work has focused on achieving a runway length and alignment that will satisfy the requirements of the air regulator, provide sufficient length for safe operations and

which minimises capital expenditure. *Plate B.1* is a panorama of the site of the proposed runway on Prosperous Bay Plain, viewed from the west. *Plate B.2* shows the runway alignment looking south towards Great Stone Top.


***Plate B.1*** **Panorama of Prosperous Bay Plain**

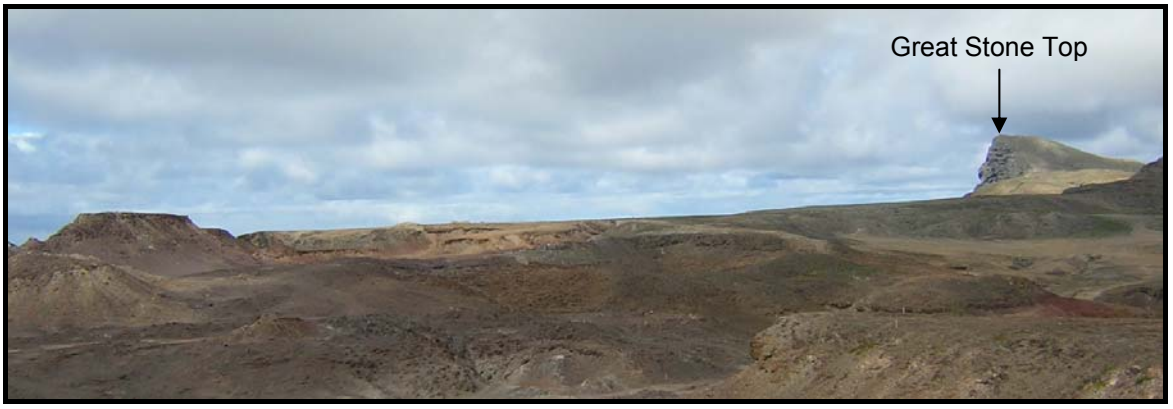



***Plate B.2*** **Runway Alignment facing South**

B-9 A major factor in determining the cost of any runway is the requirement for Runway End Safety Areas (RESAs). ASSI indicated that, given the remoteness of the location and the difficult nature of the terrain on the approaches, they would be unwilling to accept anything less than the minimum required by Annex 14 of the Civil Aviation Procedures (CAP). This is 120m for a Code 2 runway, and 240m for a Code 3 runway.

B-10 The concept behind the design of the 'medium runway' was the safe operation of 19-seat business jets, preferably utilising a Code 2 runway. On closer analysis, the length of runway required for take-off to Cape Town for this type of aircraft is between 1,340m and 1,400m, well in excess of the 1,199m maximum for a Code 2 runway. As a result, the 'medium runway' would be classified as Code 3, and the longer RESAs required. The key conceptual benefit of the 'medium runway' was to avoid the need for expensive construction out into Dry Gut, but classification as a Code 3 runway makes this impossible.

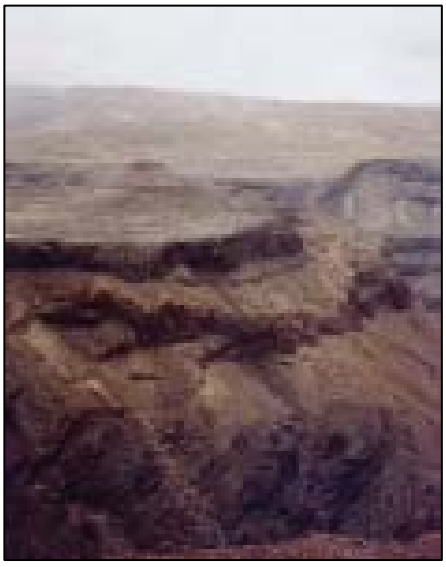


***Plate B.2*** **Northern Approach**

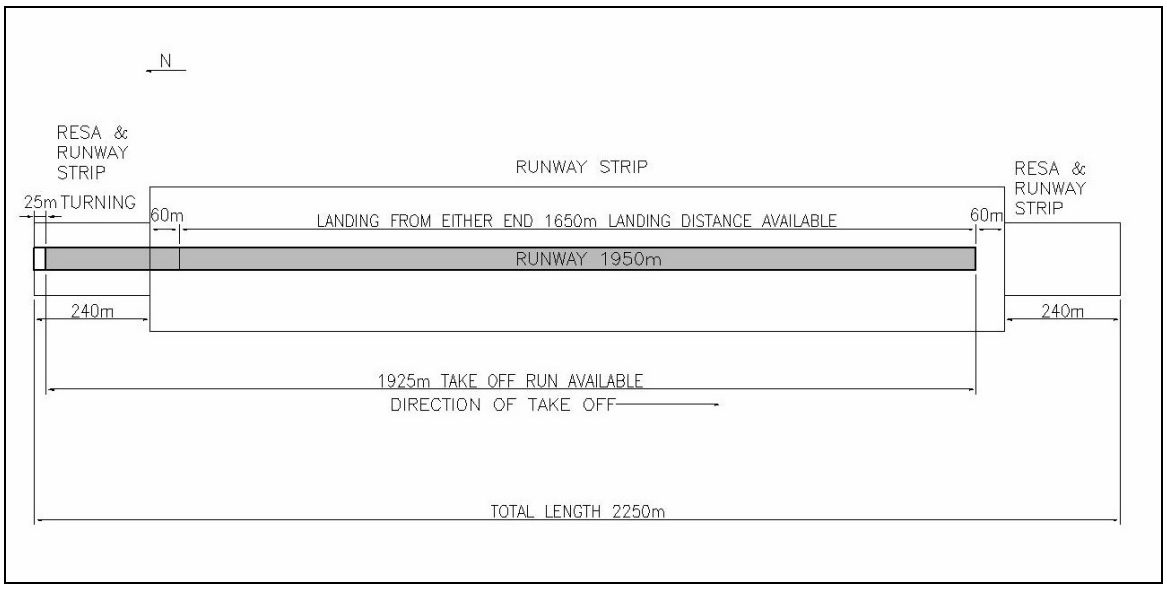
B-11 The total estimated cost for construction of the 'medium runway' is [redacted]. A further [redacted] would be required after approximately 20 years of operation to upgrade the fuel supply system.

B-12 Use of one of the RESAs for take-off would extend the Code 3 'medium runway' available take-off length to 1,674m. Consideration was given to limited operations by Boeing 737 or similar aircraft on this runway. While it is technically feasible to operate Boeing 727-600 and 737-700 aircraft from a slightly modified 'medium runway', performance limitations are likely under cross wind conditions, and the majority of operations would be runway-limiting. ASSI have expressed an opinion that this increases the risk of an undershoot or overshoot on landing, and as a result they might consider imposing further limitations on aircraft operations. The 'medium runway' would not be able to support significant air cargo operations.

B-13 The above, combined with the lack of market interest in a service operated by business jets and lack of flexibility of air operations that could be supported by the 'medium runway', made this option unattractive in comparison to the 'long runway'.

B-14 The recommended option is therefore construction of a 'long runway' with a total runway length (including RESAs and end strips) of 2,250m, capable of supporting the safe operation of Boeing 737-800 or similar aircraft. By making the runway one-directional for take-off it is possible to achieve a Take-Off Run Available (TORA) of 1,925m and a Landing Distance Available (LDA) of 1,650m, allowing unrestricted operations of the design aircraft, while minimising the extension of the runway into Dry Gut. This option provides maximum flexibility for both passenger and air cargo operations. *Figure B.1* illustrates the key features of the proposed runway.

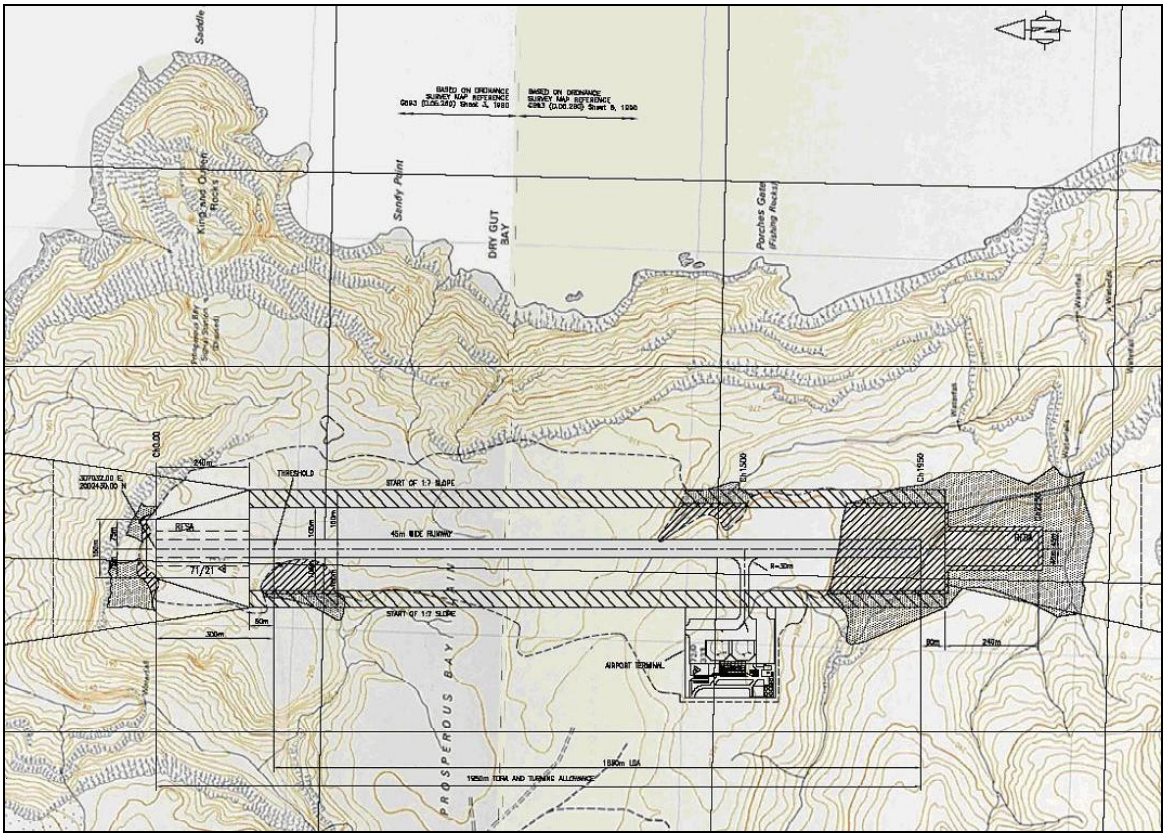
***Figure B.1*** **Long Runway Take-Off and Landing Distances**



B-15 The total estimated cost for construction of the 'long runway' is [redacted], assuming the use of a traditional procurement approach. As with the 'medium runway', a further [redacted] would be required after approximately 20 years of operation to upgrade the fuel supply system.

B-16 Detailed civil engineering design will be carried out as one of the first activities of project implementation. Design will be in accordance with Annex 14 of the Civil Aviation Procedures (CAP), which is a statutory requirement under the ICAO Air Navigation Orders (ANO). In due course, this will permit the airport to be certified under the ANO (Overseas Territories) Order. *Figure B.2* presents the general layout of the 'long runway' developed by Atkins in consultation with ASSI.

***Figure B.2*** **Long Runway General Layout**




*Associated Infrastructure*

B-17 There are two main options for provision of a haul road along which to transport plant and materials to Prosperous Bay Plain: from Rupert's Bay via Deadwood Plain at a cost of approximately [redacted]; or directly up from Prosperous Bay, at a cost of approximately [redacted]. Construction of the latter, rising through a steep valley, presents more of a challenge, but has the advantage of being shorter and providing permanent access for air-sea rescue services located in the Bay. Plate B.3 shows the valley leading from Prosperous Bay to the plain. The route from Rupert's Bay is about four times longer, but across easier terrain. The choice of route will be finalised in consultation with SHG during detailed design.

B-18 ASSI are expected to require the provision of sea rescue facilities, which would need to be deployed whenever there is an aircraft movement. If the haul road is constructed from Prosperous Bay, then this could be utilised to access a facility in the Bay. If there is no access to Prosperous Bay, the operations would need to be mounted from Rupert's Bay, increasing the operating costs of the airport.

***Plate B.3*** **Valley leading to Prosperous Bay**

B-19 Aircraft refuelling facilities on St Helena will be essential to support any air service operations. Consideration has been given to providing bulk fuel storage on Prosperous Bay Plain, but during the early years of operation traffic forecasts do not justify this, and expansion of the existing bulk fuel facilities at Rupert's Bay, combined with road transportation by tanker, offers the best solution.

B-20 No major aircraft maintenance facilities or hangers are proposed for the airport. [redacted], maintenance of aircraft will be carried out in the country of origin, and there will only be a requirement for provision of basic spares and consumables.

B-21 The proposed terminal building is of minimum specification to cater for up to 162 passengers, the payload of a Boeing 737-800.

*Air Service Provision*

B-22 The distance from key destinations (Johannesburg, Cape Town, Ascension), the length of runway available, and the type of aircraft available in the region dictate that air services to St Helena will have to operate to the requirements of Extended Twin Engine Operations (ETOPS ). This dictates the provision of an instrument approach, and limits the choice of air operators to those who have ETOPS capabilities.

B-23 SHG proposes an open-skies policy, to allow competition between airlines, and to ensure that charter flights and air cargo operations are able to use the airport. It will, however, be necessary to establish a regular scheduled service.

B-24 There are a number of possible options for the provision of the scheduled air service. Atkins' recommendation is that the Boeing 737 variants offer the best choice of aircraft for operation to St Helena, based on availability in the region, capacity and technical capability to operate in and out of the proposed runway. A number of different institutional arrangements have been considered, including chartering, wet leasing, purchase of a used aircraft, and entering into a contract

with an established regional airline. There are also a number of possible contractual arrangements.

B-25 While a final decision on provision of scheduled air services will not be taken until the introduction of air access is approved and the market can be tested, scheduled air services are likely be provided through a concession agreement with an existing airline based on sole operating rights for a single route. This would not affect the ability of other airlines to operate services to different destinations, though this may have implications on negotiation of the concession. [redacted]. The length of any concession will have to take into account the need for flexibility as the demand increases. Licensing of such services will be the responsibility of DfT. DfT and ASSI have been closely involved with the feasibility work. SHG, ASSI and potential air operators will commence dialogue upon approval of the project, to ensure smooth approvals once the facility is completed.

***Plate B.4*** **Boeing 737-800**

*Use of Wideawake Airfield, Ascension Island*

B-26 A key issue affecting negotiation of a concession with an air service operator is the use of Wideawake Airfield on Ascension Island, which is by some distance the nearest airfield to St Helena. Wideawake Airfield is operated by the United States (US) military, and their current agreement with HMG allows for only four non-scheduled civilian movements a week, equating to two flights in and out. In addition, the agreement does not allow Wideawake to be designated as a diversion airfield for civilian flights, though the airfield could, if necessary, be used for an emergency landing. Design of the runway on St Helena and modelling of the air service has been based on 'island holding; (an on-board fuel set-aside arrangement), but an enhanced agreement with the US, which would allow Wideawake to be used as a diversion airfield, and provide for an increased level of civilian operations, would significantly improve the operational viability of air services. In particular, many Saints work in the Falklands and on Ascension Island, and the lack of a regular air service would mean expensive and time consuming diversions via Europe and South Africa. Negotiation of the agreement is the responsibility of the FCO, who have been involved throughout the development of this project. Approaches to the US military on the increased use of Wideawake Airfield should commence immediately following a decision to construct an airport on St Helena.

*Cargo*

B-27 The selection of the 'long runway' option maximises the potential for airfreight, including provision by dedicated freight carriers. However, St Helena will still require regular ocean shipping for bulk freight, a service currently provided by the RMS St Helena.

B-28 As part of the feasibility study, Atkins looked at a number of different options for ensuring continued sea freight, including purchase of a used cargo vessel, single voyage chartering, time chartering and entering into a risk sharing agreement with an existing shipping company. A final decision on which option to adopt can only be made by testing market interest once a decision on future access arrangements has been made. However, Atkins concluded that whichever of the above options is adopted, it will be possible to ensure adequate cargo shipping at commercial freight rates equal to or less than those currently charged by AWSL.

*Technical Risks and Uncertainties*

B-29 Construction of a runway on Prosperous Bay Plain will be undertaken using tried and tested civil engineering techniques, but will be considerably larger in scale than anything constructed in St Helena to date. The project will require the excavation and relaying of some eight million cubic metres of fill.

B-30 Project design has been informed by extensive risk analysis, using the Monte Carlo simulation technique to quantify the impact of a range of key risks on achievement of the project goal. Further details of this can be found in Annex I and Section 11 of Atkins' Final Report.

B-31 The topography places tight constraints on the alignment of the runway, and on the approaches. This is further exacerbated by the existence of cloud cover at certain times of the year, dictating the adoption of an instrument approach to ensure that aircraft are able to land in all normal conditions.

B-32 The close involvement of ASSI through project design, the establishment of detailed meteorological data collection, and the adoption of an off-set Instrument Landing System Localiser (ILS LLZ), provide a high level of confidence in the proposed runway design. The early establishment of an automatic weather station under the project will provide further data to input into the detailed design.

B-33 The effects of turbulence over the approaches remain uncertain, and can only be fully quantified by carrying out flight-testing over Prosperous Bay Plain. There is nothing to suggest that this is likely to present a serious problem, but early flight-testing has been allowed for to inform detailed design.

B-34 Efforts have been made to minimise the risk of cost over-runs in the construction of the airport. [redacted]. Atkins have confirmed, through the geotechnical survey and laboratory testing, the suitability of excavated material for embankments, and for use in the production of Pavement Quality Concrete

(PQC). An independent assessment of rates for the major earthworks and pavement items was carried out by quantity surveyors Faithful and Gould, and there is a high level of certainty over these costs

B-35 Key areas of uncertainty therefore centre around the logistics of accessing the site (both access for heavy machinery to the island and the establishment of temporary haul roads in difficult terrain.)

B-36 Atkins have recommended the adoption of a DBO contract for the construction of the runway and associated infrastructure, as a means of effectively transferring the bulk of the remaining risks to the private sector. It is estimated that adoption of a DBO approach may increase tenders for airport construction by up to [redacted], but that the increased level of certainty in the outturn cost outweighs this.

B-37 Detailed design will be therefore carried out by the selected DBO consortium. All survey work carried out during the feasibility study will be made available to the designer, together with available meteorological data and data from early flight-testing.

*Operation and Maintenance*

B-38 A key issue is the ability and capacity of SHG to operate and maintain an international airport, albeit one with minimal facilities. Through the main DBO contract, the prime contractor will be responsible for operation and maintenance of the airport for the first ten years of operation. The regulatory function will be undertaken by ASSI, as part of their responsibilities for the Overseas Territories. ASSI are currently fully funded by the Department for Transport. SHG responsibilities will be confined to provision of customs and immigration services, for which there are already established departments.

B-39 After ten years, it is proposed to re-tender the airport operating concession to ensure a competitive agreement in light of demonstrated passenger growth. SHG will seek technical assistance in the tendering process.

B-40 The project budget includes the net operating costs for the airport up to the year 2015, by which time income from departure and airport taxes, and from taxation of tourism and other economic development, is projected to cover operation costs. Airport operation costs will then be integrated into SHG's annual budget.

B-41 Aircraft maintenance will be the responsibility of the operator.

*Options for review and changes to the project*

B-42 There will be a number of opportunities to review the design of the airport in the early stages of the project.

B-43 A first step will be the development of an output specification to use in procurement of the DBO contractor. The specification will be developed by DFID

in consultation with SHG and with appropriate technical support. The specification will build in the outline design work carried out by Atkins, and will retain the runway alignment and lengths that have been scrutinised by ASSI. Once agreed, it is important that the output specification is not changed.

B-44 Detailed design will be carried out by the DBO contractor, who will be required to develop detailed proposals to meet the output specification. The final design will be the subject of negotiation with DFID and SHG, supported by appropriate technical assistance, and in the overall context of the output specification. In order to maximise the benefits of the DBO procurement route, it is important that no changes are made to the design once the contract is let.

B-45 The DBO contract will be subjected to regular reviews, and there may be opportunities to renegotiate in light of operating experience. However, care will need to be taken to ensure that value for money is achieved in any agreed variations. Finally, in regard to the airport, there will be an opportunity to review the output specification for operations when the concession is re-tendered after ten years from the commencement of air services.

B-46 Initial discussion with airlines regarding provision of air services will commence in the early stages of the project in order to determine likely interest, finalise the procurement approach and select a preferred bidder. It is important to identify a preferred bidder early on, as they will wish to input into the specification of navigational aids and instrumentation. However, detailed negotiations leading to a concession contract will not take place until much nearer to the opening of the airport, allowing the impact of marketing efforts on projected passenger numbers to be taken into account.

B-47 It is proposed that the air service concession agreement be re-tendered after five years of operation to ensure that the terms remain competitive in light of proven increases in passenger numbers.

## Annex C – Institutional Appraisal

### Institutional Context and Management Arrangements

*Political and Legal Context*

C-1 St Helena is an internally self-governing Overseas Territory. This provides for government through a Governor (who is appointed by the Crown) an Executive Council (ExCo), which has the general control and direction of Government, and a Legislative Council (LegCo). ExCo consists of the Governor, three ex-officio members and five elected members of LegCo. These act as the Chairmen of Council Committees, responsible for various sectors of government business. LegCo consists of 15 seats, including the Speaker, three ex-officio members and 12 elected members, who are elected by popular vote to serve four-year terms. The last election took place in June 2001: the next is due in 2005. The Governor retains responsibility for internal security (including police), external affairs, defence, the public service, finance and shipping.

C-2 In the past two years, St Helena has been engaged in a constitutional reform process aimed at striking the right balance between calls by SHG for greater autonomy and HMG's need to meet her international obligations, responsibilities and contingent liabilities. The reform process includes a proposed transition to a ministerial form of government based on a two-tier cabinet system, incorporating a Chief Minister with three to four other Ministers. A decision on whether to accept the proposed constitutional changes will be taken following a consultative poll that will take place in the first quarter of 2005.

C-3 HMG is supporting SHG to ensure that the consultative poll is conducted following the principles of 'best practice', including transparency and neutrality of the campaign process and poll management.

C-4 Should the St Helena people opt for adopting the new constitution, SHG is committed to putting in place an inclusive and transparent mechanism to lead and co-ordinate the numerous activities associated with the transition. These include:

- amendments to supporting legislation
- new processes, documents and tools
- roles and responsibilities of elected officials
- roles and responsibilities of appointed officials
- structure of the public service
- elections and the electoral process
- consultation, training, awareness raising of the general public, elected members, cabinet members and public servants
- fostering a new government culture

C-5 DFID and the FCO have been asked to support this transition. Discussions with the management and councillors have provided a common view on areas and type of support requested. There is also a recognition that support should be provided to SHG beyond the elections into the first year of the

ministerial government. Agreed support to constitutional reform will be funded independently from this project.

*Reform Agenda*

C-6 The St Helena economy is still heavily dominated by the public sector. In 2000, DFID estimated that the public sector accounted for 70% of employment on the island.

C-7 SHG has been promoting a modernisation programme of its public service to better equip it to meet its overall strategic objectives and improve the efficiency, effectiveness and equity of service delivery. At the same time, SHG has undertaken to put in place initiatives that will gradually shift the balance away from the public sector.

C-8 The decisions on access and constitutional reform provide an opportunity to review the structure of the public service, whilst at the same time considering measures to improve the efficiency and effectiveness of systems and procedures, as well as dealing with issues of equity.

C-9 The reform agenda aims towards consolidation of departments, improved use of existing capacity and other resources, tackling specific aspects of the 'working culture', promoting improved budgetary planning and formulation, improved public expenditure management, reviewing of law and practices that hinder reform, and promoting downsizing and sub-contracting.

C-10 Significant effort has already been made to achieve consensus and clarity on a mandate for the Public Service to foster and sustain development by agreeing the National Strategic Objectives. These will guide the reform and resource allocation process:

1. Improved access
2. Improve the standard of education for the people of St Helena
3. Development of a sustainable and vibrant economy to the benefit of St Helena
4. Promote and develop a sustainable workforce
5. Develop a healthy community in a safe environment
6. Develop and establish the democratic and human rights and self-determination for the people of St Helena

C-11 These strategic objectives now need to be translated into policies and quantifiable indicators to provide the road map for overall development of the island. Strategic Objective number one is being dealt with through this project, which will also underpin many of the others.

C-12 At present, a number of institutional barriers exist to meeting the six Objectives and to promoting development in general. These relate principally to the discretionary and non-transparent nature of immigration and landholding legislation. Bureaucracy is also excessive.

C-13 However, key wider economic reforms already under way include the introduction of a liberal and less discretionary inward investment regime, continuing support to private sector development, the extension of competitive tendering, reform of taxation, and the introduction of more appropriate pricing of public services. Linked to all of this is a broad thrust of reallocating expenditure towards activities that contribute towards the six Strategic Objectives.

C-14 These reforms, although not directly within the remit of this project, will be instrumental in ensuring that the wider socio-economic gains of providing access are achieved and that St Helena progresses towards sustainable financial self-sufficiency. The Development Board, chaired by the Governor and composed of representatives from the public and private sectors, will be the engine of the reform programme, providing guidance and advice to ExCo.

C-15 DFID and SHG both agree that, in order to be successful, reform initiatives need to be initiated and implemented by SHG but that, at the same time, SHG needs external support to comprehensively articulate, sequence, implement and consolidate these reforms. Accordingly, DFID 's support to SHG will respect the principles of ownership, finding local solutions, affordability, cost effectiveness and the need to devise inclusive ways of embedding the reform.

*Capacity*

C-16 Limited capacity in terms of skills, competencies, experience and time is an issue that SHG identifies as a key constraint to its ability to move forward quickly with the implementation of the reform agenda. Government departments suffer from capacity gaps, especially at middle management levels, resulting in increased responsibility for the implementation of most initiatives falling on a small number of senior officials, who already have considerable management responsibilities.

C-17 This is a key challenge to overcome. The domination of the public sector as an employer has led to a dependency culture, not only in the form of financial aid but also in terms of technical assistance. There appears to be a shortage of entrepreneurial and managerial skills.

C-18 Issues of recruitment, motivation and retention have been consistently flagged and there is a widespread perception that the loss of government staff to overseas employment is worsening on a year on year basis. In fact, data provided by the personnel department suggests that from 1999 to 2003 there has been a fairly stable attrition of between 5% and 6% per annum with the exception of 2001 when the attrition rose to 6.5%. There is no data available to show what level of staff has been leaving the island, but some departments such as health and education have suffered considerably more than others, with teachers and nurses leaving the island to work abroad.

C-19 SHG is also experiencing a real capacity gap in terms of localising or even filling a number of senior posts such as those of the Chief Secretary, Financial Secretary, Chief Auditor, Attorney General, Public Solicitor, Government Economist, doctors and dentists.

C-20 As a measure to attract qualified Saints back to St. Helena to work for government, SHG has introduced the 'key posts initiative': fixed-term, performance-related contracts for key posts that have not been filled locally at local salary rates. Remuneration and allowances make the key posts attractive to skilled Saints who work abroad and want to return to live in St Helena. This initiative is seen as a short- to medium-term measure to fill existing specific capacity gaps. At the same time, this initiative begins to challenge the stereotypical expectation of a 'job for life' in the public sector, irrespective of performance.

C-21 Overall, heads of departments have accepted the need to introduce such measures. However, there is general resentment that key post holders are remunerated at higher levels than their line managers. This is not unusual in other countries (including the UK), but it highlights the fact that issues of grading and salary will need to be reviewed once a decision on transition to a ministerial form of government has been taken.

*Associated challenges to the reform process*

C-22 Apart from the issue of capacity, challenges currently associated with the reform agenda are:

- Maintaining the political will for carrying out reforms that might not always be popular. Currently, given the decrease in population and the expectation to improve access to the island, there seems to be an environment conducive to reform both on the part of the politicians and of the officials
- Promoting inclusion, dialogue and consultation of the private sector and civil society in key development decision and policy setting
- Sequencing reform initiatives so that they are complementary and incremental
- Concluding and consolidating a set of priority reforms before embarking on further change

*Project funding for Management Arrangements and Institutional Capacity Building*

C-23 The project budget allows up to [redacted] to support project management and wider institutional reform in St Helena. This includes the cost of the PMU as well as support to the implementation of reforms in areas such as immigration, customs, tourism development, private sector development and planning.

*Management and Reporting Arrangements*

C-24 Both OGC and Atkins have identified the need to enhance project management capabilities in both DFID and St Helena, and for DFID to take a lead role in the early years of implementation.

C-25 In DFID, a specific DFID OTD Access Project Team will be formed. This will be overseen by the Head of OTD, with the OTD Engineering and Infrastructure Adviser as Lead Adviser and Project Officer. The project team will encompass administrative support, procurement and legal expertise, and will be

complemented by the expertise of the OTD advisers in Social Development, Economics, Environment, Governance, Education, Health and Statistics. Its main role will be to provide, manage and monitor the main inputs of the project as well as dealing with all main procurement and organising financial audits.

C-26 Given the capacity constraints and lack of experience of managing investments of such magnitude in St Helena, a dedicated PMU will be established to implement and monitor the project. This will be headed by a DFID-recruited PMU Project Manager. The PMU Project Manager will either be an individual or will be sourced through a reputable management firm. SHG will be involved in selection of the Project Manager, but the reporting line will be to the DFID OTD Access Team. There must be an acknowledgement that the PMU Project Manager will act in the interests of both St Helena and HMG. The PMU Project Manager will be an attendee of the St Helena Development Board.

C-27 The PMU will also be staffed with financial/accounting and administrative support. It will contract a supervising engineer to oversee the main contractor and specific TA for short-term inputs as and when needed. The main role of the PMU will be to manage and monitor delivery of the aerodrome and air service contract in line with the Project Memorandum. The PMU will be a temporary body and will be dismantled once the purpose of the project has been achieved.

C-28 Details of the project management structure are provided in *Figure C.1* below. *Tables C.1* and *C.2* provide further details of the DFID OTD Access Project Team and the St Helena-based Project Management Unit, their composition, key responsibilities and skill requirements.

***Figure C.1*** **Management of Access Project**

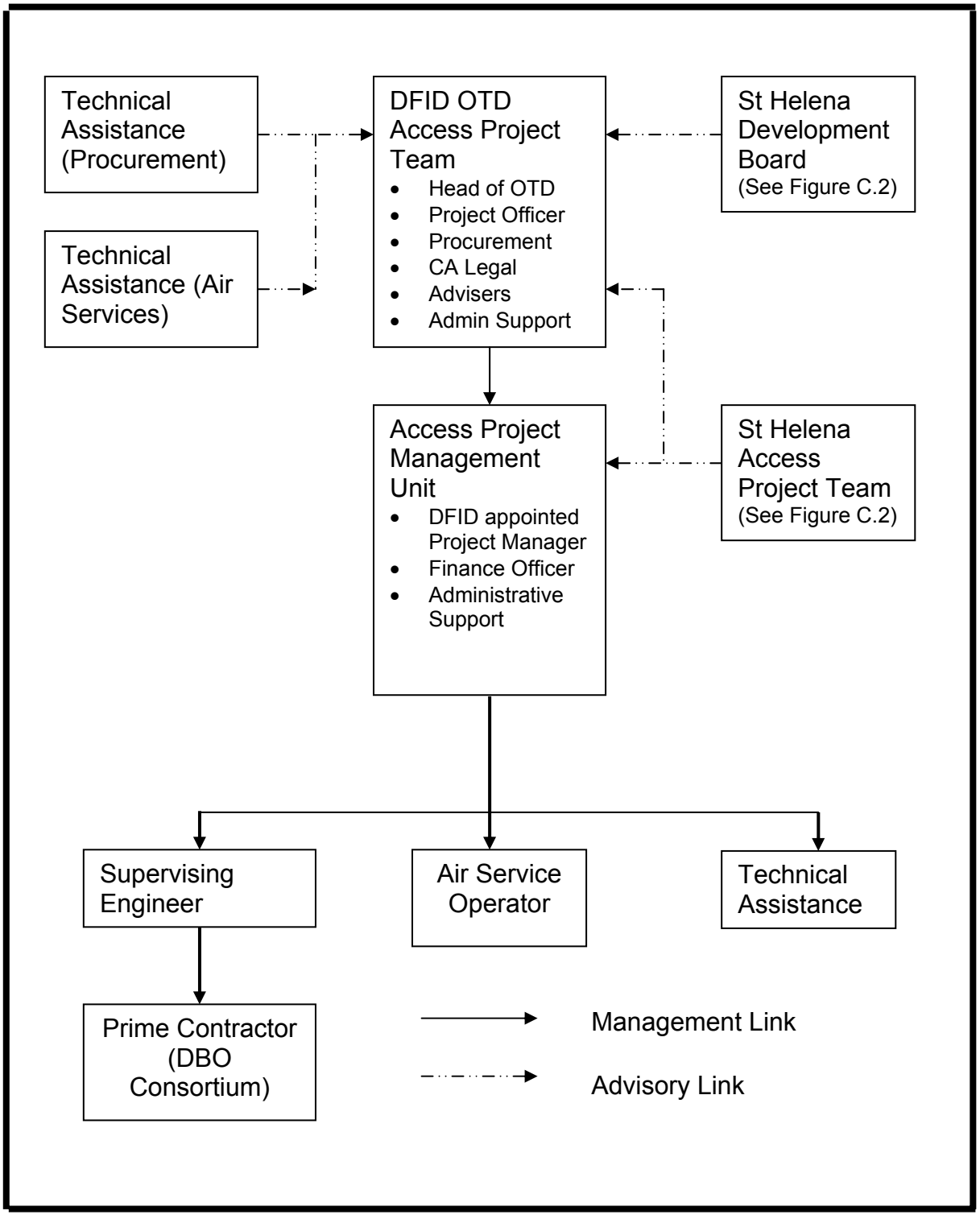


*Table C.1* **DFID OTD Access Project Team**

| **Body** | **DFID OTD Access Project Team** |
|---|---|
| **Composition** | • Head of OTD<br>• Lead Adviser (DFID Project Officer)<br>• CA Legal<br>• Procurement Department<br>• Administrative Support |
| **Advisory Support** | • St Helena Programme Manager<br>• OTD Engineering Adviser<br>• OTD Economist<br>• OTD Governance Adviser<br>• OTD Environment Adviser<br>• OTD Social Development Adviser<br>• OTD Private Sector Development Adviser<br>• OTD Education Adviser<br>• OTD Health Adviser |
| **Authority** | • Budget monitors within the framework of an agreed Project Memorandum |
| **Project associated functions** | • Obtain decision for access; with Governor and SHG, facilitate establishment of Development Board<br>• Obtain funding, set budgets<br>• Authorise procurement of Prime Contractor, Technical Assistance, Air Service<br>• Obtain / act on quarterly and other project reports<br>• Report progress / issues internally<br>• Set up Memorandum of Understanding, Bank Mandate<br>• Authorise release of budget funds<br>• Provide support to the Access Project Management Unit on St Helena<br>• Arrange audits and formal project monitoring |
| **Skill Requirements** | • DFID Project administration<br>• Development advice (Technical, Procurement, Legal, Health, Social Development, Governance, Education, Economics) |

*Table C.2* **Access Project Management Unit**

| Body | Access Project Management Unit |
|---|---|
| **Composition** | • Project Manager (Chair)<br>• Finance/Accounting Officer<br>• Technical Adviser (Engineer's Representative)<br>• Administrative Support |
| **Support** | • Project administration<br>• Technical assistance (St Helena Access Project Team, Supervising Engineer, TA consultants, DFID OTD Access Project Team) |
| **Authority** | • Main implementation body for access<br>• Direct access to the DFID Project Officer<br>• Project Manager sits on Development Board<br>• Project Manager is engaged by the Tender Board for advice on local access related procurement |
| **Project associated functions** | • Manage delivery of aerodrome, Technical Assistance and air services contract<br>• Advise Development Board of access requirements<br>• Timely involvement of DFID/other HMG<br>• Liase closely with OTD Access Project Team on implementation issues<br>• Set terms of reference for additional contracts<br>• Negotiate and agree Variation Orders<br>• Oversee and direct procurement within limits set by DFID/SHG; request resources<br>• Measure and monitor contractor performance, sign off acceptance & confirm payment due<br>• Make recommendations to Development Board (contributions to policy formation)<br>• Report to DFID on progress and pace of decision-making in St Helena<br>• Manage communications, authorise press releases, deal with enquiries & incidents |
| **Skill Requirements** | • Able to take strategic overview of all aspects of the project<br>• Administration of large civil contracts, negotiation & change management, good interpersonal skills<br>• Risk management (activity-based); financial management; environmental monitoring, institutional development, resource management<br>• Understand socio-economic requirements & implications, all aspects of access project |

C-29 The ultimate goal of the project is 'sustainable financial self-sufficiency for St. Helena'. To meet this goal, overall economic development made possible by improved access to St Helena should be actively promoted and coordinated. As stated above, the scope and breadth of the reforms that will enable St Helena to capitalise and maintain development gains encompass many areas such as tourism, immigration, employment, inward investment, tax policy, reforms of legislation, land management and control.

C-30 The St Helena Development Board, as an advisory board to ExCo, will be responsible for taking forward the challenging task of guiding the reform process.

C-31 ExCo is the highest governing body of the St Helena government. It has responsibility for agreeing and delegating implementation of the reform processes and policies. ExCo proposes legislation to LegCo, which approves legislation. The Development Board will brief and advise ExCo on strategic decisions and policies that need to be enacted to further sustainable economic development on St Helena. The composition of the Development Board will include public sector, private sector and civil society representation. In normal circumstances, ExCo will be expected to look favourably on recommendations from the Development Board.

C-32 *Figure C.2* outlines the organisational links between St Helena's bodies responsible for managing wider economic development, including tourism, and for ensuring that this dovetails with the Access Project. *Tables C.3, C.4* and *C.5* provide further details of ExCo, the Development Board, and the St Helena Access Project Team, their composition, key responsibilities and skill requirements.

C-33 The St. Helena Access Project Team, present in both *Figure C1* and *C2*, acts as the link between the PMU and the Development Board for all issues related to access. It is composed of the SHG Project Manager, all Heads of Departments, the Financial Secretary and the Environment Coordinator. It is the functional link between the PMU and SHG departments responsible for provision of services. Importantly, it also liases closely with statutory and non-statutory bodies to ensure that they are aware of their responsibilities and that they provide inputs in a timely manner. The St Helena Access Project Team provides advice to the PMU, and the SHG Project Manager is an attendee to the Development Board.

C-34 The PMU and the Development Board will work, to the extent possible, through the existing statutory and non statutory bodies existing in St Helena. For example, local recruitment related to access will be processed through the public service commission, and access-related local procurement through the local tender board. The PMU Project Manager will act as adviser to the statutory bodies when recruitment or procurement related to access is carried out. In the process, it is envisaged that the capacity of such bodies will be strengthened and enriched through support from the PMU and/or specific technical assistance as and when required.

***Figure C.2*** **Management of Economic Development**

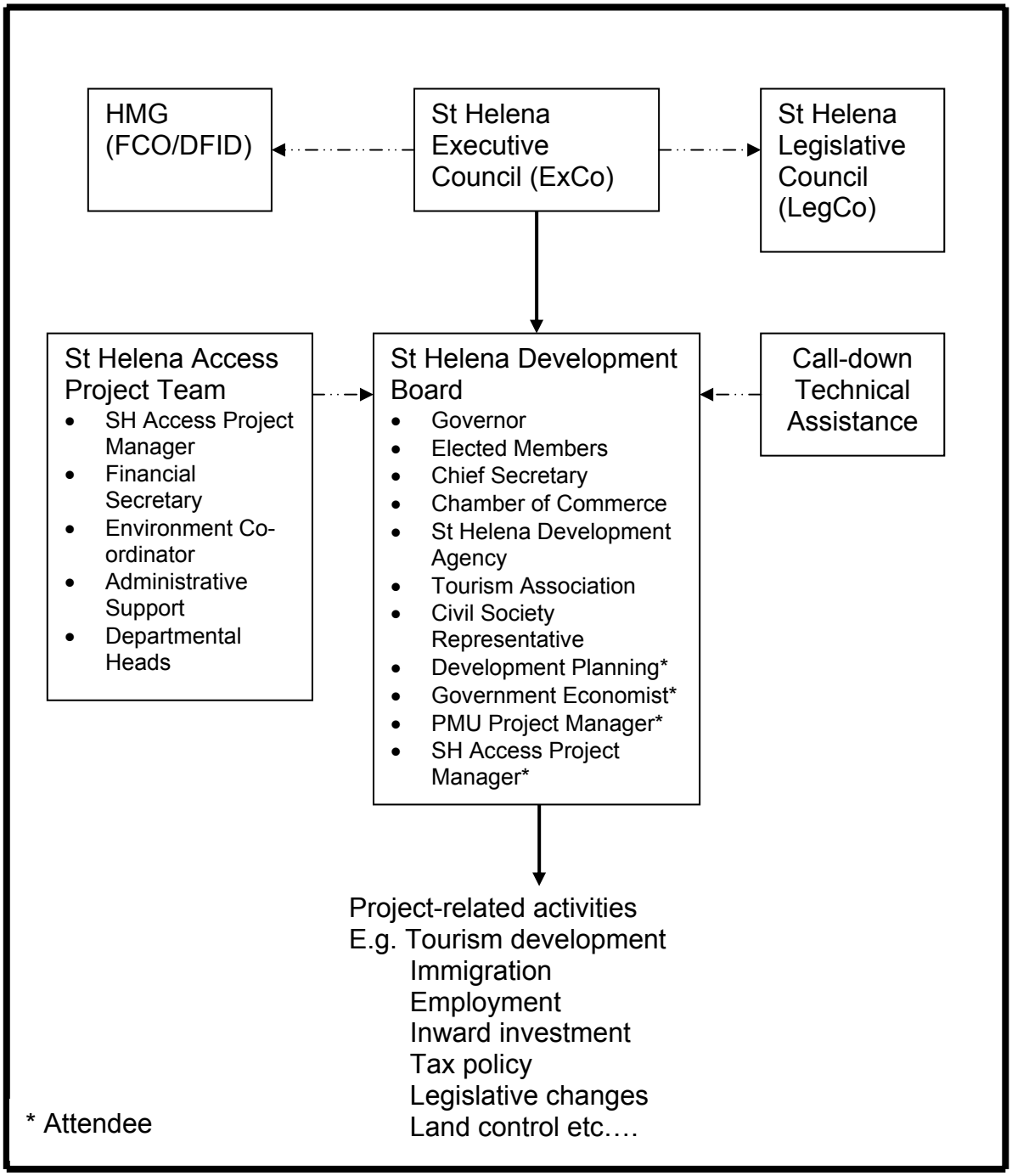


**Table C.3 St Helena Executive Council (ExCo)**

| Body | St Helena Executive Council (ExCo) |
|---|---|
| **Composition** | • Governor<br>• Chief Secretary<br>• Financial Secretary<br>• Attorney General<br>• Elected Members |
| **Authority** | • Constitutional decision making body of the St Helena Government |
| **Project associated functions** | • Providing authority to the Development Board<br>• Reviewing and acting in a timely fashion on recommendations of the Development Board<br>• Proposing and preparing legislation for enactment by the Legislative Council (LegCo)<br>• Creating the regulatory environment related to:<br>o Customs<br>o Immigration<br>o Inward investment<br>o Land use & management<br>o Taxation (taking on board recommendations from the Fiscal Review)<br>• Ensuring SHG functionality encompasses:<br>o Marketing of tourism<br>o Infrastructure development (including telecomms)<br>o Effective management of information and communications<br>o Environmental management<br>o Promotion and encouragement of indigenous investment<br>• Monitoring progress towards achievement of Strategic Development Objectives<br>• Ensuring that St Helena budget priorities reflect wider aims of the project |

**Notes:**

It is essential that ExCo delegates the appropriate authority to the Development Board, and stands back from detailed implementation issues. ExCo will remain the decision making body of the St Helena Government, but substantive debate in this body should be confined to strategic overarching issues.

*Table C.4* **St Helena Development Board**

| **Body** | **St Helena Development Board** |
|---|---|
| **Composition** | • Governor (Chair)<br>• Chief Secretary<br>• 2 Elected Members (or Chief Minister)<br>• Representative, St Helena Chamber of Commerce<br>• Representative, St Helena Development Agency (SHDA)<br>• Representative, Tourism Association<br>• Civil Society Representative |
| **Attendees** | • PMU Project Manager<br>• SHG Access Project Manager<br>• Government Economist<br>• Head of Development Planning (Secretariat) |
| **Advisors** | • St Helena Access Project Team<br>• Call-down Technical Assistance |
| **Authority** | • Main governing body for the ensuring enabling actions for the Access Project, and for integrating other island wide economic development (including tourism)<br>• Empowered to make recommendations to ExCo that ExCo would normally be expected to enact |
| **Project associated functions** | • To inform ExCo of overall requirements of St Helena in readying itself for air access<br>• Propose policy outlines for discussion by ExCo to meet the objectives of the Strategic Development Plan<br>• Highlight strategic resource constraints to ExCo, and submit proposals to address these<br>• Develop Action Plan integrating economic development activities with access-related activities<br>• Set up performance indicators<br>• Monitor Action Plan implementation<br>• Authorise procurement of Technical Assistance |
| **Skill Requirements** | • Interpret requirements from private sector, public sector, independent sector, and the PMU<br>• Able to express and present requirements in ExCo terms and in budgetary terms<br>• Able to prioritise and sequence activities needed to fulfil requirements |

*Table C.5* **St Helena Access Project Team**

| **Body** | **St Helena Access Project Team** |
|---|---|
| **Composition** | • St Helena Access Project Manager<br>• Head of Public Works and Service (PWSD)<br>• Head of the Tourist Office<br>• Environmental Co-ordinator<br>• Financial Secretary<br>• Head of Legal and Lands<br>• Head of the Land Board (if constituted)<br>• Head of Public Health and Social Services<br>• Head of Social Work Division<br>• Head of Education Department |
| **Authority** | • Functional link between Access PMU and SHG departments responsible for provision of services<br>• Attendee of the Development Board |
| **Project associated functions** | • Advises the PMU<br>• Co-ordinate and sequence departmental activities which link into the Access Project<br>• Liaise closely with all SHG departments, statutory and non-statutory bodies to ensure that they are aware of their responsibilities and that they provide inputs in a timely manner<br>• Inform the Development Board on issues relating to available capacity and utilisation of departmental resources<br>• Highlight potential problems to the Development Board/PMU in a timely manner<br>• Develop plans to address problems arising during project implementation |
| **Skill Requirements** | • Organisational skills<br>• Project monitoring, reporting |

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## Annex D - Economic and Financial Appraisal

D-1 This annex discusses the key economic and financial issues raised in Section 3.4 of the main body of the Project Memorandum. It is not intended to cover the full breadth of work carried out by Atkins in the Feasibility Study, but instead to set out the main economic and financial issues and show how these have been addressed in project design. Further detailed economic and financial information is available in Sections 4, 6, 7, 9, 10 and 11, and Appendices B, C, D, E, F, W and AC of Atkins' Final Report.

*Recommendation*

D-2 The Atkins analysis recommends the 'long runway' option as the preferred option. Over the medium to long term, it is likely to cost DFID the least amount of money in terms of support. It is also most likely to deliver the greatest benefits to St Helena.

D-3 In terms of robustness of the recommendation, the worst outcome for air access in NPV terms, with a 3.5% discount rate over a 40-year period, is significantly better than the best-case scenario under sea access. Even under the most conservative "no increase in tourism" scenario, and ignoring the positive developmental value that the airport offers relative to the ship, at the Treasury Green Book recommended discount rate of 3.5% the cost to DFID of the 'long runway' option remains marginally less than that of supporting the ship. At a higher discount rate air access becomes marginally more expensive the ships.

D-4 *Table D.1* provides a comparison between the three short-listed options.

***Table D.1*** **Discounted and cash outlays, Principal Access Options**

| **Measures** | **Ships** | **Medium runway** | **Long runway** |
|---|---|---|---|
| **Net Present Cost*, £m** | | | |
| Baseline (financial support net of surpluses) | [redacted] | [redacted] | [redacted] |
| Confidence level of Baseline | | | |
| Mean value from risk model | | | |
| 95% confidence level from risk model | | | |
| **No tourism scenario*** | | | |
| **Year when HMG financial support ends**** | | | |
| Baseline (Financial / Economic model) | | | |
| Confidence level of Baseline | | | |
| Mean value (risk model) | | | |
| At 95% confidence level (risk model) | | | |
| **Capital Expenditure £m** | | | |
| Initial investment Baseline | | | |
| Confidence level of Baseline | | | |
| Mean value (risk model) | | | |
| At 95% confidence level (risk model) | | | |
| Upgrades / second replacement RMS in 2029 | | | |
| Total Capex to 2048 | | | |
| Discounted total Capex* | | | |

* Discount rate 3.5% ** Assumes commencement of implementation in 2005

*Economic Context*

D-5 St Helena has a population of approximately 3,900. The economy is dominated by the public sector; 70% of all those employed work for the government. The geography of St Helena, in the middle of the South Atlantic, directly accounts for a number of the economic challenges faced by the island. Its isolation and small internal market is key to explaining why private investment in the island has been so low. However, its isolation together with its low crime rate, in the right context, can also be seen as beneficial assets, with a potential for commercial exploitation.

D-6 Current income per capita is around £3,000 per year, 20% of the UK level. Unemployment stands at roughly 6%, and there is anecdotal evidence of suppressed unemployment in the public sector. The economy imports most of its goods with imports exceeding exports in the ratio of 8 to 1. St Helena is now confronted by significant emigration, which has caused problems in filling key government posts. There are few jobs with prospects and many Saints find working overseas pays better. Expensive ex-patriate staff are now filling key posts. Over time the level of support that DFID has provided has generally increased. Government revenue has remained depressed and the island has generally regressed from an economic point of view. GDP tracks changes in DFID financial support closely, which shows a high level of dependence on DFID.

*Access*

D-7 The RMS St Helena is nearing the end of its economic life, and DFID has an ongoing commitment to maintain access to the island. Atkins was commissioned to review various access options. They were asked to explore options that could provide reasonable access, and which had the potential to minimise ongoing DFID costs in providing budgetary support to the island. Their analysis, therefore, was not limited to the costs of access alone, but considered the full impact of the chosen option on DFID's future contributions. This meant looking at the island population, tourism, economic development, and SHG's budget.

*Options*

D-8 Ministers agreed the analysis should look at three access options – a new ship, 'medium runway' and long runway. A new ship is the base case against which the other options were assessed.

i) <u>No Change</u>

D-9 The only way to get to the island, so far, has been by ship. Sea access is provided through a government owned ship, operated under a management agreement with Andrew Weir Shipping Limited (AWSL), as no commercial providers have been willing to provide a regular unsubsidised service to the island. With the current ship coming to the end of its life around 2010, there is again a need to explore which access option offers the best value for money. Air

access has now become technically feasible. This was not the case when access options were looked at in the past, and this has increased the number of options that need to be considered.

D-10 A no change option is considered to be the one that maintains the current situation. This option also provides the base case against which the relative merits of other options are measured. The consultants advised that the purchase of a second-hand ship should be discounted. It was not a realistic option given the rather unusual configuration of the ship – a South Atlantic specification, mixed cargo and passenger ship with integrated freight handling equipment is needed. The analysis therefore looked at the cost of constructing a new ship when the current one comes to end of its life. For the purposes of providing comparability, between different transport modes, it is assumed that two new ships are constructed, the second 20 years after the first.

D-11 The estimated cost of the ship is around [redacted]. If the result of probabilistic risk analysis are taken into account, then the cost that provides a 50% level of confidence is nearer [redacted]. To keep the analysis comparable, it is assumed that [redacted] is spent twice - once in 2009 and again 20 years after that – this takes the total capital cost for the ship option up to [redacted]. This, however, is not the only cost that needs to be considered. Based on current estimates, the direct subsidy required for the ship could average around [redacted] to [redacted] per year. Past evidence shows that the ship option also severely limits the potential for economic development, inhibiting St Helena's ability to improve its economic prospects and achieve financial sustainability.

D-12 Indeed, the no change option is expected to have a negative impact on the economy and the recurrent budget. Under this option, there is little scope for the private sector to make a significant contribution to the economy. Economic growth is expected to be driven by remittances and aid disbursements. These factors have already depressed government revenues and hurt incentives. Their continuance risks cementing St Helena's ongoing reliance on DFID by driving more of the working population abroad. While the level of St Helena's dependence on DFID was fairly stable for a number of years, it has recently started to increase. Lack of local opportunities means that more and more people will leave the island. As key workers leave, DFID funded staff replaced them. Such staff will continue to be needed to maintain basic standards in government, education and health. The forecast used in the economic analysis is based on past trends. The outlook under this option for revenues is regressive and St Helena Government's (SHG) expenditure per capita will remain high. But to put the best possible gloss on the ship option, the Atkins analysis assumes that revenues per capita are somehow increased, despite outward migration and aging population, and the ship subsidy falls to [redacted] per year for the last 10 years of the forecast.

D-13 The analysis concludes that under this option there is no prospect of St Helena ever graduating from DFID budgetary support, a conclusion that is based on proven trends over many years, and in which there is a very high level of confidence.

***Table D.2*** **Government expenditure: RMS replacement**

[Table D.2 has been removed as it contains information that is commercially sensitive.]

ii) Long Runway

D-14 Atkins estimate the capital cost of building the 'long runway' at about [redacted]. If the result of probabilistic risk analysis is taken into account, then the cost that provides a 50% level of confidence is nearer [redacted], rising to [redacted] for a 70% level of confidence. It would be 2,250 metres in length, capable of supporting safe operation of a Boeing B737-800 with up to 162 seats. This is the largest plane that could land, but it is the type of plane that is needed, technical reasons apart, to allow scope for non-subsidised operations. The size of the plane allows seats to be competitively priced and permits tour operators to block book seats. Unless block booking is possible, at competitive prices, tour operators are not really interested in a destination.

D-15 The analysis assumes that the airport would handle one flight a week initially and will eventually move up to around 7 flights a week by 2033, as the number of tourists increase. [redacted] In addition, employment opportunities will attract migrants. These changes will be supported by new inward investment legislation and immigration in order to catalyse development. The underlying reason for changing legislation is to facilitate private capital and import entrepreneurship. Talk of an airport has already encouraged serious private sector interest; one potential investors has bought a land option to build a hotel.

D-16 The analysis indicates that even with no tourism, in NPV terms, the costs of the airport to DFID is similar to that of continuing sea access. With partial tourism, and its subsequent impact on the private sector, the 'long runway' option significantly reduces DFID's support to St Helena. In the case where the tourism projections are met there is a 50% probability that DFID will not have to provide any budgetary support by 2025.

***Table D.3*** **Government expenditure: Long runway**

*[Table D.3 has been removed as it contains information that is commercially sensitive.]*

iii) Medium Runway

D-17 Atkins estimate the cost of building the 'medium runway' at around [redacted]. If the result of probabilistic risk analysis is taken into account, then the cost that provides a 50% level of confidence is nearer [redacted] . The total runway length would be 1,999 metres (including RESAs and strip ends), designed for the safe operation of 19 seat business jets. While it is technically feasible to operate some of the Boeing 737 variants using this length of runway, there would be load penalties, all operations would be runway limiting, and it is likely that the runway would need to be extended in the future to accommodate newer aircraft. Extending the runway is not a practical option if a balanced cut and fill design is adopted initially. In technical terms the costs are in excess of [redacted] but this would require winning of some 2 million cubic metres of fill from a different site in an environmentally sensitive area.

D-18 The limitations of this option, relative to its cost, mean that it should be discounted. There is more than a fair chance that that unless DFID continued to subsidise the air operation, tourism would be curtailed because of the very high ticket prices. The very high cost of any future extension limits the value of this option.

***Table D.4*** **Government expenditure: Medium runway**

*[Table D.4 has been removed as it contains information that is commercially sensitive.]*

*Key Factors Affecting the Analysis*

*Tourism*

D-19 With very limited scope to expand the domestic private sector, and its contribution to the economy, developing an external sector, tourism, offers an opportunity to increase the size of the private sector and enhance SHG revenues. Atkins' analysis established the respective impact of the different access options on the economy. For example, air access offers the potential to develop a greater level of tourism than sea access. Whether this opportunity is crystallised depends critically upon the assumption that the demand for travel to St Helena will actually materialise and the private sector, whether domestic or external, will help develop and nurture this demand.

D-20 St Helena does not offer a typical beach and sun destination. Instead it offers nature, heritage and walks in a sub-tropical climate. Field research indicated the holidays would appeal to an older, but growing, 50+ year-old tourist market. The survey also showed this type of holiday is more likely to attract tourists from the UK, Germany, France and South Africa. It is also quite likely to have greater appeal if it is initially marketed as a dual destination holiday. Demand for the secondary destination market is derived from the demand to travel to the primary destination. All the above factors restrict the demand and are inclined to make tourism to St Helena sensitive to price and the length of time tourists are willing spend travelling.

D-21 A survey of tour operators found that there was little interest in the ship option. The length of travel deterred many potential visitors. The evidence from the visiting tourists carried by the ship confirms this. Tourist numbers in 2009 are expected to be around 10 per week. The number of tourists by ship was therefore capped at 3,320 in 2048 or 64 a week.

D-22 A pre-requisite for growth in tourism numbers is the availability of air access. In the early years the main factor limiting the numbers will be demand – numbers of people willing to actually travel to St Helena at a reasonable fare. People travelling from another holiday destination will want to limit the amount spent on fares. Fares will therefore need to be set at a competitive level – around [redacted] for an economy class return to South Africa. The local infrastructure and supply of accommodation is only likely to limit tourist numbers in the medium term. Primary market research by Atkins indicated there would be interest from Germany, UK and South Africa. Preliminary work suggests 24% of the visitors will come from the UK and 15% from Germany. The customer profile for the airport option is likely to be independent grey haired individuals looking for a mix between competitive fares, heritage, nature walks and new places to visit.

D-23 Tourism will change the structure of the St Helena economy. Currently the majority of the population is dependent on public sector employment (70%) but with increased tourism the private sector will begin to dominate. This will increase the revenues available to government and help offset DFID support. The level of offset will largely depend on how fast tourism grows but could, in the mean case scenario, wholly offset DFID support by 2025. Under the 'medium runway' option tourist numbers are expected to climb to around 350 per week in

2048 from around 10 per week before the introduction of air access, while under the 'long runway' option tourist numbers are expected to level off at around 1,100 per week in 2033. Under the 'long runway' option St Helena is expected to graduate from DFID budgetary support by 2025. The growth rates are fairly modest, reflecting the market and growth from very small absolute numbers. They are supported by evidence of growth rates from similar destinations – the absolute tourist numbers are not used as a proxy. Using an extreme example to provide a feel for a lower bound, one of the most hostile places to visit with very uncertain weather, Antarctica gets over 10,000 tourists per year and has seen an average growth rate in numbers of 10% per year.

***Table D.5*** **Annual projected tourist visitors**

| Access Option | 2009 | 2013 | 2023 | 2033 | 2048 |
|---|---|---|---|---|---|
| Long Runway | 1,493 | 6,375 | 25,789 | 58,601 | 58,601 |
| Medium Runway | 498 | 1,170 | 4,732 | 10,752 | 19,990 |
| Replacement RMS | 696 | 862 | 1,473 | 2,515 | 3,320 |

*Demographics*

D-24 St Helena has a small population as a result of outward migration. The population currently stands at around 3,900. Those aged under 15 are 21% of the total and those above 60 are 19%. The population was projected forward under different access options. The model used is driven by mortality, fertility, and migration assumptions.

D-25 Fertility and mortality assumptions do not change much under sea access options. However, as the number of jobs declines, outward migration causes the age dependent population to increase under the RMS option. By 2033, 50% of the population is unproductive - either too young to work or too old. By 2048 the population falls to around 2,000.

D-26 A combination of a higher rate of fertility and more jobs keep the population growing under the airport options.

D-27 Under the 'medium runway' option the population could climb to 8,000 and under the 'long runway' to just under 9,000. Under these options 60% of the population is generally between 15 and 60 years. Under the 'long runway' we expect to see inward migration and substantial growth in jobs.

*Capturing the Risk Posed by the Economic Options Considered*

D-28 Figure D.1 shows the output of the Monte Carlo probabilistic risk analysis. The risk posed by the different options is shown by the distribution of discounted costs to DFID over the life of project. The distribution captures not only the mean cost but also the full distribution of these costs (the expected returns can be obtained by dividing the mean cost by the cost of the project). The 'long runway' is likely to result in the lowest mean cost to DFID over the project life. Although the 'long runway' has the widest distribution in terms of possible outcomes the most negative cost outcome is still significantly better than the most positive outcome under the ship option.

D-29 The mean outcome for the 'long runway' option in NPV terms is a cost of [redacted]. In other words there is a 50% chance that costs will be no higher. This compares with the mean outcome (50% chance) for DFID under the ship option of [redacted] in NPV terms.

D-30 Figure D.1 shows that we have a 70% level of confidence that the cost of supporting St Helena under the 'long runway' option, over the life of project, is likely to be no more than [redacted] (but we are almost certain (99%) it will be less than [redacted]). The lowest net cost to DFID under the Ship option is [redacted] - we are fairly certain that this is the minimum likely cost under the ship option.

D-31 Under this analysis, if DFID wants to minimise the long term costs, the 'long runway' is clearly the preferred option. This is shown in the graph below.

***Figure D.1*** **Distribution plots of NPV over the Life of Project**

*[Figure D.1 has been removed as it contains information that is commercially sensitive.]*

## Annex E – Social Appraisal

*Introduction*

E-1 This section is based upon a comprehensive access feasibility study undertaken by ATKINS. The study draws upon participatory methodologies and the use of survey data. This section aims firstly to assess how the three options might affect the St Helenian (or 'Saint') community in the short, medium and long-term; and secondly to consider the capacity of the island to cope with the effects of the 'long runway' option, and in particular to manage social and economic change in such as way as to make the most of opportunity and minimise potentially negative effects.

E-2 The information informing this analysis has been obtained from the review of existing studies, meetings with government departments and other relevant organisations in St Helena, and group discussions with members of the St Helenian community in the Falkland Islands, Ascension Island, St Helena, Cape Town, and the UK. Additionally the survey of Saints on St Helena and overseas, while intended primarily to predict demand for air travel, served to reinforce several of the findings on social issues.

*Attitudes to Change:*

E-3 Although some people expressed a degree of apprehension about some aspects of social change resulting from air access, the majority were firmly of the view that change is not just desirable but essential. Overall there is no dispute that the island's current situation is one of decline, in the population, in economic activity, and in the quality of community life. People want to see this decline reversed and if air access and the development of tourism are the way to do this, then they would be welcome. The distinction is made between improved access in itself, and the economic development which could follow, and it is generally recognised that improved access alone will not solve the island's problems. If the decision is made in favour of air access then this is seen as the island's last big chance to re-establish itself.

E-4 Although there is little dispute about the scale and nature of direct benefits of air access there is debate among Saints about the extent to which the island can establish itself as an international tourist destination, and thus the likely pace and scale of economic development and indirect social changes. A widely held view is that St Helena is not suitable for mass tourism and that St Helena should play to its strengths. The approach to tourism needs to keep in tune with the low-key, easy style of life on St Helena, making the most of the friendly, informal atmosphere and the island's security and relative freedom from crime.

*Family and community life:*

E-5 Popular perception is that the current situation has been one of decline in the quality of community life. This is a consequence of both declining numbers to participate and a reducing number of people willing to be proactive organisers. With a declining and ageing population there are fewer potential candidates for

public office. A community that is growing through the addition of active and entrepreneurial people in all stages of life has strong potential to reverse this position.

E-6 Saints are scattered around the globe. Family and social life would be enhanced by the capacity to make short visits (cost permitting) compatible with conventional leave of absence from employment and other commitments. For example, Saints travelling to and from the Falkland Islands reported that it was usual for 11 days out of a 28-day leave to be spent travelling. In addition the costs of staying on Ascension Island, affecting travellers from both the UK and the Falkland Islands, are regarded as high if people were unable to stay with relatives or friends. The survey of Saints found that the expense of the journey and the inability to get time off work were the most frequently given reasons for not having visited the island recently. It is anticipated that the ability to make short visits would permit more frequent visits.

E-7 At the moment there are estimated to be some 150 children in foster care (mostly with grandparents or other family members) while their parents are working overseas. Both the professionals involved and members of the general public believe that this dislocation of family relationships is not good for the children, leading to behavioural and emotional problems, poor performance in school, and low career expectations. There are also numerous families with only one parent on the island. The opportunity for couples and families to be reunited more frequently and for people working overseas to have the opportunity to find employment on St Helena would benefit family life.

E-8 There are general benefits to elderly people and others in need of help and support from within the community, when a greater number of people in their family and social network are present on the island. The ability to move abroad in pursuit of employment tends to be the prerogative of the relatively young, able and qualified. Those left behind find themselves dependent upon a smaller number of relatives, friends and neighbours for support, and a smaller pool of people available for employment in the caring professions. This disproportionately affects children, elderly people, and people in need of social and health care.

*Professional and business life:*

E-9 Business and professional life would be enhanced through the ability to travel quickly, and at relatively short notice. People from a variety of walks of life recognised that however good telecommunications may be there is no substitute for personal contact with colleagues, customers and suppliers. Professionals described the importance of the exchange of ideas through attendance at conferences, short courses and professional gatherings and the value of these interchanges to avoid 'getting stale'. Business people felt that their suppliers did not fully understand the situation on St Helena, while they themselves did not always recognise the range and value of new or alternative products, or to judge whether there would be benefits from changing suppliers. The ability to 'go and see' on both sides would benefit trade.

*Employment:*

E-10 Employment in St Helena has long been dominated by the public sector. It is currently estimated that opportunities for employment are contracting along with the economy as a whole, but that the government sector is contracting faster than the private sector. Data from the 2002 Yearbook shows that a substantial number of government posts are standing empty, and significant concerns are being expressed about the level of resignations from government departments and the difficulty of recruiting people into essential roles. Recruitment and retention problems are widespread in the caring professions, as trained nurses, teachers, and care workers have given up their roles and left St Helena to work in other jobs overseas. The current limitations on access are identified as one of the factors making it difficult to recruit people from overseas into skilled and professional jobs on St Helena.

E-11 The disparity between the salaries and benefits packages paid to expatriates (particularly from the UK) and equally qualified Saints doing the same job is a particular source of resentment. Members of the off-island community were also keen to point out that one effect of low wages on the island is low productivity in the public sector. The feeling was strongly expressed that all these issues need to be dealt with quickly.

E-12 Air access would have the potential to create benefits to people working both on the island and elsewhere. The development of tourism and the wider economy, predicated on air access, would create more jobs and a wider diversity of jobs. It is likely that it would create both full time and part time employment.

E-13 One aspect of benefit related to air access is that it could enhance the working lives of people who choose to remain in off-shore employment. Employers in the Falkland Islands and Ascension Island expressed their expectations that quicker and more frequent services to St Helena would improve the position of their employees over and above the direct personal benefits of quicker access to families and friends. Recruitment procedures might be speeded up and it would be more feasible to interview for relevant posts. Manpower planning issues would be eased with employers able to adopt more flexible policies towards the frequency and duration of periods of leave for their employees, and to consider a wider range of contractual arrangements with their Saints employees, which could be beneficial to career development.

E-14 Employers of Saints in Ascension Island and the Falkland Island are fully aware of the limitations of present access arrangements, and the costs (of all forms) are built in to their contractual relations. People working in the UK, the USA, Europe and elsewhere reported that, not surprisingly, their employers have little understanding of the difficulties of travel to and from St Helena, and find it much more difficult to allow Saints the special leave concessions that they need to visit the island. A number of participants in group discussions described how the only way they could get enough time off to make a visit to the Island was by quitting their job, and taking it on trust that they could get another one when they got back to the USA or wherever.

E-15 The opportunities for new employment associated with the air access options would be felt primarily in the development of the private sector. This would create opportunities for both employees and entrepreneurs. During the group discussions the view was widely expressed that an economy developing through the successful establishment and growth of small and medium sized enterprises was the way forward which would create the most benefit to Saints. A key benefit of air access would be the opportunity for people to start their own businesses. In the course of group discussions a significant number of participants, both on and off the island, expressed interest in starting their own businesses in the tourism sector. Many of these were people already working in relevant service sectors and had experience of developed tourism economies elsewhere.

E-16 It as noted that there are relatively few examples of successful entrepreneurial activity on the island, and that some people gave examples of having been deterred from attempting to set up a business by controls designed to limit competition. While potential entrepreneurs would look to SHDA and the new commercial bank to support their enterprises, they would also rely heavily on personal funds and family support. People are well aware of the issue of business risk. They would welcome government-led initiatives to educate and support new entrepreneurs, and in particular, help to bridge the difficult period before air operations, during which it would be important to invest in new facilities, so that these were actually in place when larger numbers of tourists started to arrive.

E-17 Substantial development in the private sector will create opportunities which may appeal to people who have left the island because they do not feel at ease in public sector employment. It is also probable that the private sector will lead the way to higher wages in all sectors. The Saints survey found that better wage levels are identified as the major factor which would cause people to remain on St Helena, and the second most frequently cited factor which would encourage Saints to return from overseas. Entrepreneurial activity and the influence of people bringing external attitudes to productivity and remuneration into the economy, are likely to act to support government efforts to improve productivity and move away from the 'job for life' ethos in the public sector.

*Attitudes to newcomers:*

E-18 It is unlikely that all the skills, investment, and numbers of people required to support economic development, particularly in the 'long runway' scenario, will be found within the Saints community. To achieve the projected benefits the island must take a positive attitude to:

- foreigners recruited to take up employment
- foreign investors and business partners
- rapidly increasing tourist numbers
- foreigners wishing to purchase property, reside on the island.

E-19 While Saints do not want to be 'ripped off' or flooded with people who could not be assimilated socially, they do think that it would be reasonable to

review existing regulations regarding work permits and permission to reside and buy property in the best interests of the island. Most participants in the group discussions seemed most willing to welcome tourists. Saints expected to benefit not only from the economic opportunities that the growth of tourism would provide but also from access to the leisure facilities which would develop to serve the tourist market. Some reservations were expressed about very exclusive developments which it was felt might engender unwelcome social divisions.

E-20 The general feeling towards investment from overseas was that this would be welcome, provided that a substantial part of the profit stays on the island and ordinary Saints have a fair opportunity to share in the benefits. There is a preference for measures which would stimulate small and medium sized enterprises, both because these would ensure that the majority of benefits are retained locally, and because it is felt that the island is not suitable for mass tourism.

*Education and Training*

E-21 Many of the challenges facing the education sector are rooted in the isolation of the island and the resultant declining population. Schools rolls have declined in recent years such that the Government is under pressure to consider seriously the rationalisation of its primary schools. In the island's only secondary school, it has been necessary to reduce the range of subjects offered in the curriculum to maintain some control over the pupil-teacher ratios. The retention of trained teachers is particularly difficult for St Helena and this has put a further strain on school standards.

E-22 Air access to the island will serve to reduce its isolation and provide new opportunities for schools to develop. During the construction phase of the airport, employment opportunities will increase as will the need for training. Initially, the demand for the practical vocational subjects is likely to increase and it is expected that in time students will come to value education across all subjects, thereby raising standards and motivation levels.

E-23 Currently, with few employment opportunities and the unpredictability of the employment market, it is proving difficult to develop a coherent HRD plan on the island. Improved access by air will help to reduce the uncertainty and enable the ad hoc training activities to be coordinated more effectively by the various government departments, the private sector and the different statutory bodies such as the Vocational Training Advisory Council and the Scholarship Committee. Such action will lead also to the increase in formal accreditation of many of the courses offered on the island. The recently established St Helena Education Sector Support Programme will be able to bring maximum benefit to the new initiatives in education and training.

E-24 With improvements in access to the island, as the economy and contact with the 'outside world' grows, it is anticipated that attitudes towards education and work will be influenced for the better and students' expectations will rise accordingly to include the higher echelon jobs such as teachers, doctors, engineers, architects and lawyers. These 'home-grown' professionals are more likely to remain on the island and add to its social capital

*Health*

E-25 This is a key area of direct benefit from air access through rapid transfer of emergency cases; quicker referrals to specialists in Cape Town or UK; quicker return of laboratory test results; less waiting about in Cape Town for patients and their carers after treatment; shorter travel time for visiting specialists; more efficient delivery and turnover of drugs and; quicker emergency maintenance of medical equipment.

E-26 There are numerous benefits in terms of alleviation of pain, suffering and anxiety. There is potential for cost savings arising for some of these, but there is also the important consideration that air access may offer more choice of access to treatment, raising expectations and potentially presenting new ethical and medico-legal issues. Of course, some patients could not travel by air, but it is estimated that the numbers of cases in these categories would be small.

E-27 It is hoped that air access would improve prospects for recruitment and retention of medical staff. Air access would offer savings of time if staff have to travel off the island to do this, or there may be opportunities for accreditors to visit the island. Air access should also permit a wider range of specialists to visit the island.

E-28 Emergency evacuation by air can be expensive, but these costs need to be considered in the context of the £30-£40,000 that it can cost to divert a ship. Tourists need to have insurance to meet these costs. Charges to visitors for health care and prescription drugs are very moderate by international standards at present. It may be appropriate to review cost recovery in expectation of rising tourist numbers.

E-29 One issue that has been raised in the context of air access is whether there are specific requirements for medical facilities to achieve approval of air operations by ASSI. In particular, there have been questions about ITU and burns treatment. Informal advice from ASSI has indicated that the key requirement is the approval of an emergency management plan, which specifies how the casualties and fatalities of any air accident would be handled. In view of the fact that St Helena would be only a few hours flying time from some of the best medical facilities in the world in Cape Town, a key element of such a plan may be the determination of which casualties would be treated on the island and which would be slated for immediate transfer to Cape Town.

E-30 Genuine concerns have been voiced about the potential for air access to facilitate the introduction of HIV/AIDS and other sexually-transmitted diseases to the island. At the moment it is believed that the island is free of HIV/AIDS and there is a very low incidence of sexually-transmitted diseases. Health education and awareness are the keys to the prevention of such diseases. St Helena already has these measures in place, and will continue to develop them.

*Social care and support for vulnerable households*

E-31 Current policy is based on a three-tier model for people in need of support: firstly, help to remain independent in their own homes; secondly, sheltered accommodation; and thirdly, full residential care. The success of efforts to help people to remain living independently in their own homes is dependent both on home helps and carers who are employed by the Social Work department and on informal support provided by family members.

E-32 There are problems with recruitment and retention of staff. The Department is finding it particularly hard to recruit into the home help and carer positions. Not only have potential recruits moved abroad, but people remaining on the island are less available because they are busy caring for members of their own extended families, as a greater proportion of the younger generation are working abroad and not available to share the burden. Shortages of home-helps in particular makes for difficulty in sustaining elderly people in their own homes and leads to pressure to move people into the next tier of care. This is not in the best interests of the individuals concerns and creates more pressure on other care workers as well as increasing the per capita costs. A source of concern arising from the departure of many people for overseas work is the risk that many migrants will return when they are ill or too old to work overseas any longer and will then become dependent on St Helena's social care resources.

E-33 If the population of the island is small and the economy continues to decline the provision of social care, for elderly people and for people with physical and mental disabilities, is likely to become an increasingly difficult burden.

E-34 By contrast if there was more money flowing into government coffers through direct and indirect taxes, there were more people in the labour force age range and recruitment and retention pressures were eased, then the capacity to provide for children, elderly people and people in need of social care in whatever form would improve – a virtuous circle. More resources and a larger number of residents on the island would make it easier to provide full range of professional services, and offer a larger capacity for informal support.

*Cost of living, availability of goods and services*

E-35 This is an area of potentially mixed benefits and disbenefits. SHG has a policy of supporting an increase in wages. Public sector employees receive pensions based on length of service and salary. Some private sector employers offer pension schemes, but most private sector employees, traders, etc. depend on their savings and then if necessary fall back on social benefits. At the present time social security benefits, utility support, salaries, and pensions are not index-linked to protect people against inflation.

E-36 A large infrastructure project and its associated works, followed by a period of rapid economic development, would create an upward pressure on wages for a number of reasons. These include core funds being introduced into the economy, the economy interacting more actively with the wider world and competing in international labour markets and attitudes and values of the numerous visitors and newcomers to the island. In addition, changes in the costs

of imported goods may be affected both by changes in access and by the volume of trade. In an expanding economy it may be expected that there will be economies of scale; the opposite is true for a contracting economy.

E-37 Upward pressure on wages leads to general inflation. If people are in employment then the effects of inflation may not be severe in terms of real incomes and purchasing power. It is necessary to bear in mind that rising wages in the private sector rates puts pressure on public sector wage structure, but the public sector may be slow to respond, diminishing the real incomes of its employees in the short term. It is widely acknowledged that the people most severely affected by inflation are the unwaged and people dependent on benefits.

E-38 One factor that is likely to inhibit the return to St Helena of people who have built up an entitlement to the state pension in the United Kingdom is the fact that, while UK state pensions can be paid in St Helena, they do not attract the annual increments. For practical purposes therefore, someone in receipt of a UK state pension moving from UK to St Helena is freezing his/her pension at the time of moving. Private pensions can be paid anywhere in the world and do not attract this penalty.

E-39 Under air access options there would be a marked increase in the volume of trade in response to the much higher numbers of people (both residents and tourists) on the island. It is likely that this would increase the choice of goods available. Increased numbers of tourists are also likely to promote the development of retail activity. Shopping is an activity that may be enjoyed by both visitors and residents. As the draft Land Development Control plan observes, it is not just a utilitarian pursuit, but a leisure activity and an opportunity for social interaction.

E-40 The demands of development in the tourist sector would also promote the extension of banking services, telecommunications, and so on. It may be anticipated that these services would also be of considerable benefit to residents.

*Housing and Land*

E-41 Land and housing prices have risen sharply in recent years, and offshore workers' wages are cited as the key driver. Around 90% of respondents to the Saints survey currently in the Falkland Islands or Ascension Island own property on St Helena or intend to buy or build in St Helena in the future. In addition a quarter of respondents from the UK already owned properties and a further quarter were intending to buy or build. As with everywhere else in the world location is a key determinant of price with the highest prices associated with plots in Jamestown. Overall plot sizes have tended to get smaller.

E-42 If the current decline in the economy and the population continues then it is difficult to see how the housing market can be sustained in the long run. A smaller population requires less housing. Some house-owners currently off-shore may decide to sell their properties and reinvest the assets elsewhere rather than return to St Helena. It seems very likely that growth in tourism and the consequent demand for accommodation for both more residents and tourists

would act to increase land and property values. This may have both positive and negative effects.

E-43 For people who already own houses rising values create a 'feel-good' factor and stimulate private consumption, but for those who have not the barriers to entry to the housing market keep rising. People in government-provided housing tend not to be strongly affected since they are rent-payers, and there are other factors which determine the rents for state-provided accommodation.

E-44 A large proportion of the projected demand for tourist accommodation is self-catering properties. It seems likely that this growth in this area would influence both the type of property and the locations in demand. As noted in the draft Plan, conversion of existing buildings to tourist accommodation will be encouraged in most locations and this includes the restoration of derelict, traditional buildings. Growth in demand for self-catering accommodation for tourists and rented accommodation people coming to work on the island in a variety of capacities would likely change substantially the rental market in housing.

E-45 It is expected that the majority of the land required for the airport site would be Crown Wastes within the ownership of the St Helena Government. However, construction of other facilities, such as airport access roads and fuel handling facilities may impact upon productive land and/or land in private ownership.

*Residential Amenity*

E-46 Participants in the group discussions expressed confidence that planning regulations and the existing level of interest in the environment and conservation would ensure protection of the natural environment in the event of airport development. While people agreed that protection of the environment was important, some compromise was inevitable and appropriate. It was observed that "the most important species on St Helena is St Helenians".

E-47 In general, people felt that Prosperous Bay Plain is far enough away from residential areas not to cause much in the way of operational impacts, and that provided construction impacts were handled sensitively they could be tolerated. However, it is noted that there is potential for developments to affect the Ruperts Bay area. This is a location in which there is a residential community in close proximity to industrial facilities. The area is also characterised by historical and cultural connections. Some concerns have been expressed about this area.

E-48 There is concern about possible increased traffic, both due to construction activity, and as a result of economic development under the air access options. More people (residents and tourists) would generate more traffic. Island roads are limited in capacity, and quite difficult to manage for the inexperienced. It is likely there would be more accidents. There is concern that increased freight traffic through Jamestown would damage both residential amenity and the attractiveness of the town centre to tourists, and as far as possible it should be routed elsewhere.

E-49 Overall, the development of tourism and the desire to capitalise on the island's attractions would provide incentives to conserve and restore historic sites and buildings, encourage awareness of flora, fauna and landscape, and promote ways to enhance the environment, creating a more attractive place to live.

*Security*

E-50 St Helena is regarded as a very secure place. Concerns have been voiced about the possibility that air access would have a detrimental effect on this important aspect of island life. Increases in the numbers of visitors, the frequency of flights, and people's ability to get away from the island's jurisdiction quickly are factors which it is suggested would lead to increases in crime, particularly the use of drugs. Maintaining a largely crime-free environment is seen as important in maintaining St Helena's current way of life and the island's attractiveness to tourists. St Helena is committed to a "level playing field" for both tourists and residents; there will be no toleration of crime or public disorder.

E-51 Fear of crime can be out of step with the real risk of becoming a victim of crime. In general par ticipants in the group discussions took the view that increases in drug use or petty crime were part of wider social trends in the world, and developments could not be ascribed solely to changes in access. Crime rates may increase e.g. trafficking in illegal drugs, etc. However public perception may exaggerate the risk of crime and both the real and perceived situations need to be monitored and addressed.

E-52 Serious crime is very rare at the moment but on the few occasions when it does occur it is very expensive to deal with. Professionals such as lawyers, pathologists, scientists, etc. all have to be brought in from the UK and the current duration of the journey means that these costs are high. While air access would reduce the amount of time these highly paid people would have to spend travelling, it may also be that larger numbers of visitors and residents increases the possibility that a serious crime would be committed. It was noted that while St Helena is a highly policed society at the moment, the police, fire and rescue services, like other parts of the government service, are suffering from problems of recruitment and the retention of trained and experienced officers. One of the major benefits of air access would be the greatly reduced time it would take for help to arrive in the event of a disaster or major incident.

*Access to flights and affordability*

E-53 To maintain the commitment to 'reasonable access at reasonable cost', and for the direct benefits of air access to be felt in full, it may be necessary to put in place an arrangement for a degree of protected provision for Saints and other island residents that would ensure access to reasonably priced flights at relatively short notice, and avoid Saints being squeezed out by tourist bookings. [redacted]. However, projected fares for the 'medium runway' option are much higher and a degree of subsidy may be called for to meet this requirement.

## Annex F – Environmental Appraisal

*Introduction*

F-1 This annex summarises the key environmental issues identified in an environmental scoping exercise undertaken during 2004 by Atkins Management Consultants as an integral part of the St Helena Access Feasibility Study. More detailed environmental information is available at Sections 8 and 11, and Appendices S, T and V of Atkins' Feasibility Study Final Report (hereafter the Atkins' study/report). A bibliography of relevant technical reports and other publications that have informed this work is contained in Appendix S.

F-2 The Atkins' study examines the three short-listed options for access: a replacement for the current ship; a 'medium runway' capable of operating small business jets; and a longer runway capable of handling medium-sized aircraft such as Boeing 737-800s or equivalents. Environmental scoping has focused on the 'long runway' option since the impacts of the 'medium runway' option would be contained within that assessment. The replacement ship option would be largely neutral in environmental terms.

*Background*

F-3 The site selected for the construction of an airport at St Helena is located within a kilometre of the eastern coast of the island, on Prosperous Bay Plain, a relatively level area of dry, unpopulated land, with little vegetation, at an elevation of around 300m above sea level. It is bounded to the north, east and south by rugged topography and high sea cliffs. The Plain has been designated as a Habitat Management Area under the National Parks Ordinance (2003), largely on account of its unusual geological features and the unique assemblage of invertebrate fauna associated with these.

F-4 The 'central basin' of Prosperous Bay Plain – an area of about 60ha – has, in particular, been identified as a 'hotspot' of invertebrate endemicity (notably of spiders), deserving of rigorous protection and international recognition. This has been confirmed during ecological studies carried out in 2003/4 by UK specialists funded from the FCO's former Environment Fund at the request of the SHG. At least twenty invertebrate species identified from Prosperous Bay Plain are reported to occur nowhere else in the world. The Plain is also an important habitat (among others on the island) for the endemic Wirebird and a number of endemic and indigenous plant species.

F-5 The proposal to undertake such a major project at this ecologically sensitive location has attracted considerable interest among international conservation NGOs and individual scientists. While it would appear that there is appreciation of the need for an airport at St Helena in order to meet the aspirations of its people and to secure long-term social and economic benefits, it can be anticipated that such organisations and individuals (and the media) will take a close interest in the development of the project. They will expect to see the highest standards of environmental assessment and risk management applied to the project by SHG and DFID.

F-6 As detailed elsewhere in this project memorandum, the airport will comprise a runway 2,250m in length (orientated north/south), and terminal and ancillary facilities, the construction of which, with associated earthworks, will involve the disturbance of approximately 100ha of the land surface of Prosperous Bay Plain, including approximately 15% of the area of the central basin. In determining the optimum runway alignment and the location of the terminal and other facilities, the feasibility study has taken full account of the environmental factors noted above. It has sought as far as possible to balance the technical and regulatory criteria for the establishment of air access at St Helena, with the need to protect and, if possible, enhance the environment at the chosen site and within the area of influence of the airport and access routes. The project provides an opportunity to bring about a long-term beneficial effect by arresting the gradual and uncontrolled decline of the adjacent habitat whose global biodiversity significance has only recently been fully appreciated.

F-7 The Environmental Scoping Report (Appendix S of Atkins' study) builds on and updates earlier environmental screening and analysis, for example by Cairns-Wicks in 1999 and High-Point Rendel in 2001. It is based on a review of available literature, consultations with relevant specialists in the UK, and consultations and site investigations at St Helena in June 2004. The report reviews the history of environmental protection at St Helena; considers local institutional structures, procedures and capacity for undertaking environmental impact assessment; draws together available environmental information relevant to the short-listed access options (sea, medium runway, long runway); and provides impact scoping with respect to the airport, construction haul routes, operational access routes, and tourism development.

*Environmental Impact Assessment (EIA)*

F-8 Atkins' study has confirmed the findings of previous work that in view of the scope, complexity and sensitivity of this major project, a full project EIA will be required. They have proposed that this should take the form of an integrated Environmental and Social Impact Assessment (ESIA) and have provided outline terms-of-reference for this at Appendix T of their final report. They have recommended that the ESIA should be undertaken following a public consultation and disclosure process in St Helena, through which terms-of-reference would be agreed and finalised. Such consultation would take place during the first 6 months of the project, with the ESIA starting about 15 months later in parallel with the final design process (see project implementation plan at Appendix AF of Atkins' final report for detailed scheduling).

F-9 Atkins' TORs required them (among other things) to inform the preparation of draft terms-of-reference for the environmental impact assessment at both project and strategic levels. While to the extent possible Atkins have scoped some of the off-site, indirect, potential impacts associated with tourism development, they have concluded (and DFID and SHG have accepted) that a strategic environmental assessment would not be appropriate in the absence of any specific current policy initiative on which it could be based.

*Environmental legislation, assessment procedures and institutional issues*

F-10 St Helena's Environment Charter, signed jointly with the UK Government in September 2001, commits SHG to ensuring that 'environmental impact assessments are undertaken before approving major projects' and 'open and consultative decision making on developments and plans which may effect the environment'. Although St Helena has some environmental legislation of relevance to the project, there is no specific legislation relating to the conduct of EIAs, or for associated regulatory procedures. Local requirements relating to environmental impact assessment are currently based on planning guidelines rather than on legislation. Atkins have therefore recommended that where local guidelines do not exist or are not sufficient for the purposes of this project, a composite best-practice approach based on a combination of UK, European Commission and World Bank guidelines should be adopted.

F-11 The SHG's human resource capacity in the field of environmental management and regulation is currently insufficient to handle a project of this magnitude, complexity and sensitivity. Nor is it necessarily optimally placed within the government system to be able to discharge its responsibilities effectively. The consultants have therefore proposed that the SHG should consider establishing an expanded and independent environment agency (or similar) with responsibility for all environmental regulatory and management functions including, initially, oversight of all environmental aspects of the airport project and associated developments.

F-12 Atkins have recommended that this agency should be supported by externally sourced specialist environmental technical assistance. This could be on a part-time basis initially, but would need to become full-time for the duration of the construction phase of the airport when an Environmental Regulator, with adequate delegated authority, will be required. The Environmental Regulator will be recruited by SHG/DFID and will report directly to the Project Management Unit. A local counterpart environmental technician (if available) would also be appointed to provide specialist support and continuity into the operational phase of the project. Financial provision for this technical assistance is included in overall project costs.

*Impact scoping of the airport site*

F-13 The main potential impacts of airport construction are on the Prosperous Bay Plain ecosystem and specifically on landscape, with just under 100ha affected by the construction (including the filling of Dry Gut) and on the globally important endemic invertebrate community in the Central Basin of the Plain as noted in F-4 above.

F-14 While the impact on the landscape and invertebrates will be significant, it is expected that through careful design, construction and subsequent restoration, the effects can be substantially mitigated. The interim findings of the ecological research on invertebrates referred to above has already influenced the proposed location and alignment of the runway during outline design. It could be argued that the engineering achievement of the runway, whose colours will largely blend

into the landscape, may more than mitigate other visual loss. But as this is the only feasible site for an airport on the island, some change in the landscape will inevitably have to be tolerated. The visual impact of the substantial embankment in Dry Gut will be limited, other than when viewed from the seaward direction.

F-15 In addition to the major landscape impacts, the scoping study has identified and provided preliminary observations on a range of other potential environmental impacts and issues, many of which will require more detailed attention in the ESIA. These include impacts on flora, fauna (invertebrates, the Wirebird and other birds) and such issues as meteorological data, acquisition of construction materials, noise, air quality, fuel storage, drainage, water supply, solid and hazardous waste management, power supplies, navigation systems, emergency procedures, construction camp, and health and safety.

*Impact scoping of haul and operational access routes*

F-16 It is considered likely that the development of access routes to the airport site, both for construction and operational purposes, could potentially have at least as great an environmental impact as the construction of the airport itself. The ESIA will therefore pay particular attention to these.

F-17 Three options for haul routes were examined in detail. The one via Turks Cap was eliminated because of rock fall risks and poor landing potential. The route from Prosperous Bay would be short (at 3.8 km) and the cheapest to construct. It would also offer the advantage of rapid access from the airport site to the sea in the event of an emergency. But it has few other advantages and would represent a significant intrusion into a largely unknown (ecologically) and wild landscape. The route from Rupert's Bay would be much longer (14.2 km) and although it would have some impact on Deadwood Plain - an important Wirebird habitat - this could be mitigated by a combination of careful route planning, the timing of construction to avoid the main breeding/nesting season, and the creation of additional Wirebird habitat in adjacent areas. This route would appear to offer development potential and could also be used as an operational access route.

F-18 Five potential operational routes, all of approximately a similar distance from the air terminal to Jamestown, were examined (but not in detail) as part of the scoping study. Choice of a route will ultimately depend on a range of wider developmental and other factors, eg zoning for tourism infrastructure and commercial development, traffic flows, public safety, and ease of access for emergency vehicles. Short-listed options will require further scrutiny from an environmental perspective during the ESIA. The two potential routes running through Fisher's Valley would require particular attention as this valley has been identified as possibly the only site on the island with potential for designation under the Ramsar Convention as a wetland site.

*Impact scoping of tourism development*

F-19 The environmental impact of tourism development is expected to be minimal while tourist numbers remain below 200/day. As numbers increase to

200-500/day, impacts may occur on some marine activities (such as dolphin watching) and in some wilderness walking areas (such as the central peaks) in which case some level of control may be required. Above 500/day, impacts would increase significantly both on the natural environment and on use of utilities. The consultants have recommended that carrying capacity assessments should form an important part of the ESIA.

*Environmental impact assessment process and public consultation*

F-20 Atkins have proposed that the key stages of the ESIA process should be as follows:

- Finalise draft ESIA TORs
- Develop public consultation and disclosure plan
- Develop project description and distribute to stakeholders together with TORs
- Hold public meetings to receive stakeholder feedback on the TORs
- Finalise ESIA TORs
- Undertake ESIA simultaneously with design stage
- Develop mitigation strategy and environmental management plan
- Consult with stakeholders on draft ESIA report
- Finalise ESIA
- Implement environment management plan

F-21 The public consultation and disclosure process is important both for reasons of transparency and information dissemination, and so that there can be the widest possible input by interested and affected parties, with a view to achieving consensus on desired outcomes, promoting ownership of the process, and reducing the potential for misunderstandings and conflict.

*Environmental management plan, mitigation and monitoring*

F-22 The objective of the environmental management plan (EMP), which would be developed during the ESIA and constitute its main output, would be to provide a framework for the implementation of the ESIA recommendations for best practice in environmental management and of the mitigatory actions proposed. The EMP would address such matters as: environmental management policies and systems (to include a pollutant spill contingency plan); health and safety management plan; waste management plan; training plan; traffic management plan; mitigation and restoration policies, plans and procedures; monitoring activities; and a plan for integrating implementation of the EMP with the overall project development plan. Relevant elements of the EMP, which will be developed in conjunction with the final design process, will be carried forward into construction as contractual obligations.

F-23 Atkins' study has identified outline mitigation strategies and cost estimates for these. For example, key strategies will be developed for land reinstatement programmes for the airport environs and access routes, with the objective of creating environmental conditions favouring recolonisation by invertebrates and endemic plants. Other mitigatory activities will be dependent

on the choice of access routes; for example further investigations on Wirebird ecology and the creation of additional habitat may be required if the Rupert's haul/operational route is selected.

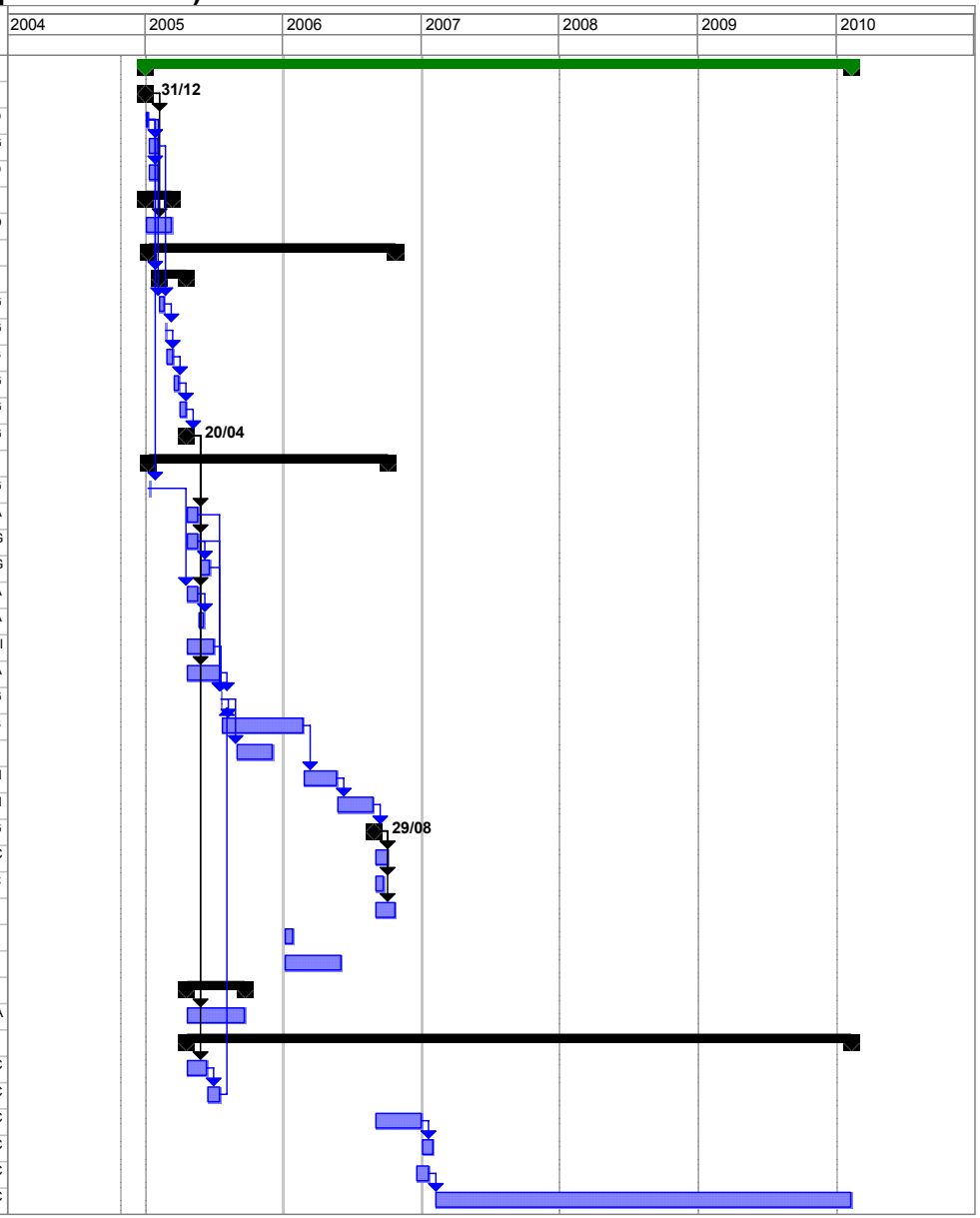
F-24 Throughout the construction process compliance monitoring of the EMP will be the responsibility of a full-time Environmental Regulator, assisted by a local counterpart ecologist, both of whose costs will be met through the project.

*Costs*

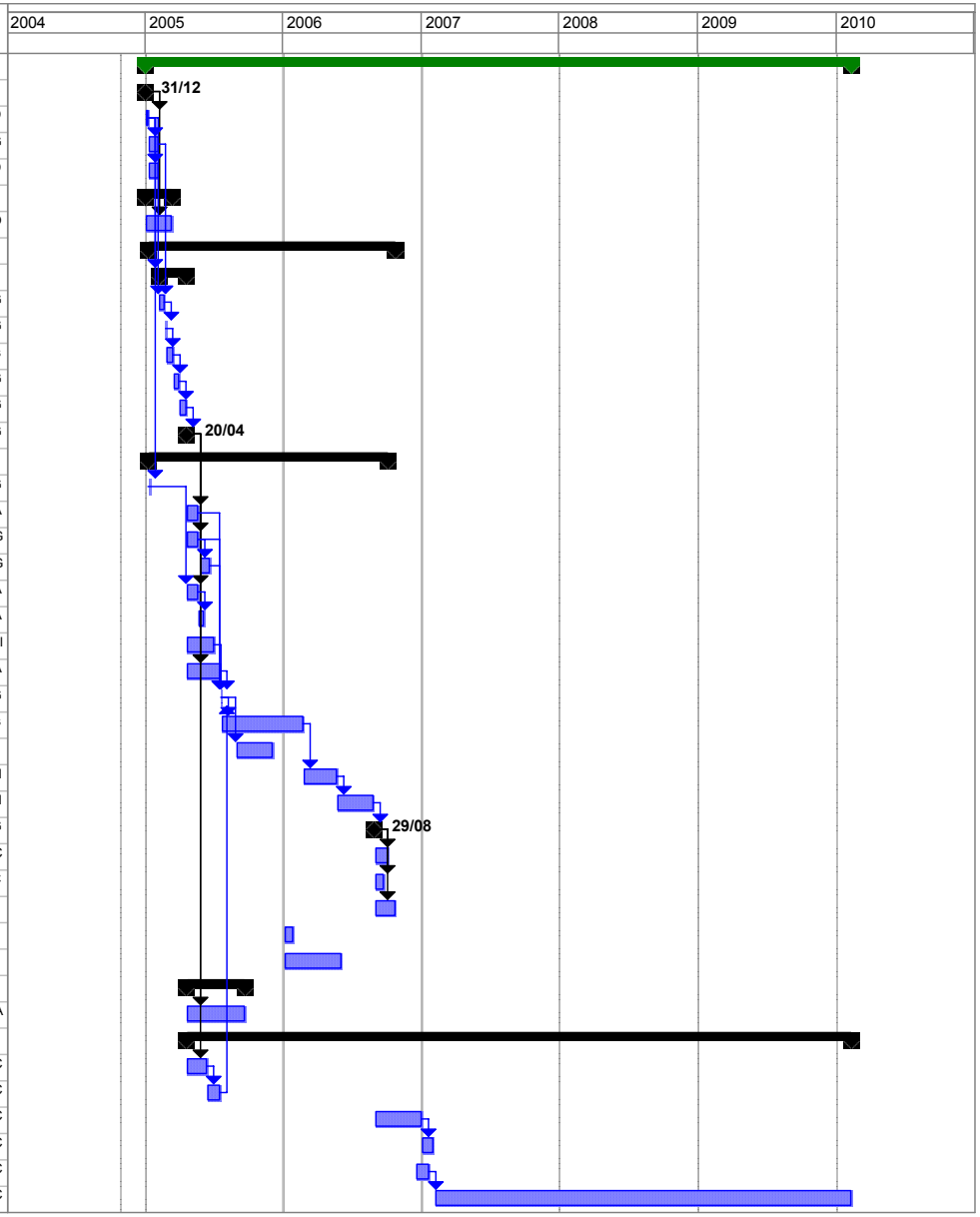
F-25 The cost of undertaking further environmental work associated with the development of the 'long-runway option' for air access is estimated to amount to a total of [redacted]. At less than 1% of the total estimated project cost this falls within the norm for a project of this nature. Of this, the environmental and social impact assessment would account for [redacted]; the mitigation costs (including further ecological studies) [redacted]; and institutional support costs [redacted].

# Annex G – Implementation Plan (long runway under DBO procurement)

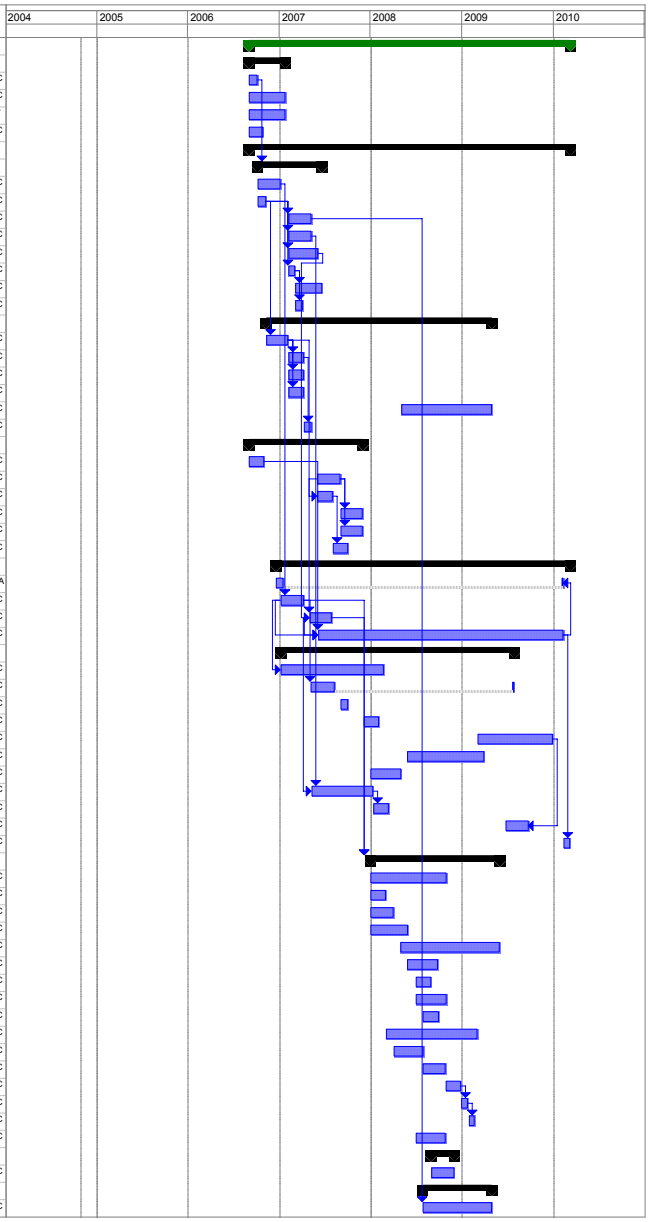
| ID | Activity | Owner |
|---|---|---|
| 1 | **PHASE 1** | |
| 2 | Ministers approval | |
| 3 | Appoint DFID/SHG team for aerodrome project | DFID |
| 4 | Agree contractual arrangements between SHG, DFID & 3rd Parties | DFID/SHG |
| 5 | Clarify interactions with other OTD programme initiatives | DFID |
| 6 | **INTERNATIONAL AIR SERVICE AGREEMENTS** | |
| 7 | Clarify ASI agreements | DFID/FCO |
| 8 | **PROCUREMENT** | |
| 9 | **Procure TA& Legal Contracts** | |
| 10 | Develop TOR for TA and Legal advisors | DFID/SHG |
| 11 | Issue TOR for TA & Legal contracts | DFID/SHG |
| 12 | Competition for TA & Legal contracts | 3rd Parties |
| 13 | Review tenders | DFID/SHG |
| 14 | Agree Mandate | DFID/SHG |
| 15 | Award TA & Legal Contracts | DFID/SHG |
| 16 | **Procure Design, Build & Operations Contract (Principal Contract (PC))** | |
| 17 | Issue Prior Information Notice | DFID/SHG |
| 18 | Draft Employers Requirements | DFID/SHG/TA |
| 19 | Agree with SHG on concessions, warranties & other obligations | SHG |
| 20 | Prepare enabling legislation | SHG |
| 21 | Draft and issue OJEU | DFID/SHG/TA |
| 22 | Recommendation of shortlist recipients of ITN | DFID/SHG/TA |
| 23 | Prepare contract documentation | Legal |
| 24 | Prepare ITN | DFID/SHG/TA |
| 25 | Issue ITN | DFID/SHG |
| 26 | Competition for contract | 3rd Parties |
| 27 | Contractor site visits | 3rd Parties/SHG |
| 28 | Review tenders | DFID/SHG/TA/Legal |
| 29 | Negotiate contract with preferred bidder | DFID/SHG/TA/Legal |
| 30 | Award design, build & operations contract | DFID/SHG |
| 31 | Issue initial sub-contracts (inc. supply contracts) | PC |
| 32 | Set up contract arrangements | SHG/PC |
| 33 | Initiate recruitment programme for Saints workers | DFID/SHG/PC |
| 34 | Procure communications ship | DFID/SHG/PC |
| 35 | Communications aircraft market testing | DFID/SHG/PC |
| 36 | **UK & OVERSEAS REGULATION** | |
| 37 | Security regulation | ASSI/DFT/TA |
| 38 | **ENVIRONMENTAL IMPACT MANAGEMENT/REGULATION** | |
| 39 | Consultation on EIA TOR | PC |
| 40 | Finalise EIA TOR | PC |
| 41 | Implement EIA | PC |
| 42 | Complete EMP | PC |
| 43 | Appoint TA environmental regulator | PC |
| 44 | Support SHG and implement EMP during construction | PC |



| ID | Activity | Owner |
|---|---|---|
| 1 | **PHASE 1** | |
| 2 | Ministers approval | |
| 3 | Appoint DFID/SHG team for aerodrome project | DFID |
| 4 | Agree contractual arrangements between SHG, DFID & 3rd Parties | DFID/SHG |
| 5 | Clarify interactions with other OTD programme initiatives | DFID |
| 6 | **INTERNATIONAL AIR SERVICE AGREEMENTS** | |
| 7 | Clarify ASI agreements | DFID/FCO |
| 8 | **PROCUREMENT** | |
| 9 | **Procure TA& Legal Contracts** | |
| 10 | Develop TOR for TA and Legal advisors | DFID/SHG |
| 11 | Issue TOR for TA & Legal contracts | DFID/SHG |
| 12 | Competition for TA & Legal contracts | 3rd Parties |
| 13 | Review tenders | DFID/SHG |
| 14 | Agree Mandate | DFID/SHG |
| 15 | Award TA & Legal Contracts | DFID/SHG |
| 16 | **Procure Design, Build & Operations Contract (Principal Contract (PC))** | |
| 17 | Issue Prior Information Notice | DFID/SHG |
| 18 | Draft Employers Requirements | DFID/SHG/TA |
| 19 | Agree with SHG on concessions, warranties & other obligations | SHG |
| 20 | Prepare enabling legislation | SHG |
| 21 | Draft and issue OJEU | DFID/SHG/TA |
| 22 | Recommendation of shortlist recipients of ITN | DFID/SHG/TA |
| 23 | Prepare contract documentation | Legal |
| 24 | Prepare ITN | DFID/SHG/TA |
| 25 | Issue ITN | DFID/SHG |
| 26 | Competition for contract | 3rd Parties |
| 27 | Contractor site visits | 3rd Parties/SHG |
| 28 | Review tenders | DFID/SHG/TA/Legal |
| 29 | Negotiate contract with preferred bidder | DFID/SHG/TA/Legal |
| 30 | Award design, build & operations contract | DFID/SHG |
| 31 | Issue initial sub-contracts (inc. supply contracts) | PC |
| 32 | Set up contract arrangements | SHG/PC |
| 33 | Initiate recruitment programme for Saints workers | DFID/SHG/PC |
| 34 | Procure communications ship | DFID/SHG/PC |
| 35 | Communications aircraft market testing | DFID/SHG/PC |
| 36 | **UK & OVERSEAS REGULATION** | |
| 37 | Security regulation | ASSI/DFT/TA |
| 38 | **ENVIRONMENTAL IMPACT MANAGEMENT/REGULATION** | |
| 39 | Consultation on EIA TOR | PC |
| 40 | Finalise EIA TOR | PC |
| 41 | Implement EIA | PC |
| 42 | Complete EMP | PC |
| 43 | Appoint TA environmental regulator | PC |
| 44 | Support SHG and implement EMP during construction | PC |



| ID | Activity | Owner |
|---|---|---|
| 45 | **PHASE 2** | |
| 46 | **FINAL DESIGNS** | |
| 47 | Finalise enabling works designs | PC |
| 48 | Finalise aerodrome designs | PC |
| 49 | Approval on designs | ASSI/DFID/TA/PC/DFT |
| 50 | Phased public consultation in support of EIA | PC |
| 51 | **CONSTRUCTION** | |
| 52 | **Construction Enabling Works** | |
| 53 | Workforce mobilisation delay period | PC |
| 54 | Advance enabling pack | PC |
| 55 | Upgrade of access road from Govt Garage | PC |
| 56 | Construction of temp access road to terminal area | PC |
| 57 | Construction of temporary haulage road | PC |
| 58 | Preparation of site for works and accommodation | PC |
| 59 | Site accommodation construction | PC |
| 60 | Ecology site boundary fencing | PC |
| 61 | **Prosperous Bay/Rupert's Bay** | |
| 62 | Off Load Facility | PC |
| 63 | Temporary Harbour Construction | PC |
| 64 | Container Storage Areas | PC |
| 65 | Container Cranes etc | PC |
| 66 | Haul Road Paving and Lighting | PC |
| 67 | Offices | PC |
| 68 | **Power** | |
| 69 | Temporary Power and Fuel Store | PC |
| 70 | Generator House | PC |
| 71 | Generator Fuel Store | PC |
| 72 | Generator Workshops/Office/Store | PC |
| 73 | Supply Generators | PC |
| 74 | Distribution Grid | PC |
| 75 | **Construct runway** | |
| 76 | Mobilise TA team to site | TA |
| 77 | Main Workforce Mobilisation | PC |
| 78 | Main Plant delivery | PC |
| 79 | Major Earthworks | PC |
| 80 | **Temporary Re-Supply** | |
| 81 | Communications ship service | PC |
| 82 | Temporary runway construct...maintain | PC |
| 83 | Aircraft Contract | PC |
| 84 | Aircraft Fuel | PC |
| 85 | Runway Completion | PC |
| 86 | Runway Imports | PC |
| 87 | Internal Roads | PC |
| 88 | Terminal Area Earthworks | PC |
| 89 | Runway Repair Storage Area, Building and Kit | PC |
| 90 | Boundary and Security Fencing | PC |
| 91 | Hand over plant & equipment to PWSD and local contractors | PC |
| 92 | **Facilities** | |
| 93 | Apron and Taxiways | PC |
| 94 | Interceptors | PC |
| 95 | Aerodrome Fuel Farm | PC |
| 96 | Ruperts Bay Bulk Fuel (aviation) | PC |
| 97 | Terminal and Medical (inc. services & security) | PC |
| 98 | ATC Tower | PC |
| 99 | Fire Station | PC |
| 100 | A/C Equipment Storage inc E Recovery | PC |
| 101 | General and Buildings Workshop | PC |
| 102 | Power and Utilities | PC |
| 103 | Communications | PC |
| 104 | AGL | PC |
| 105 | Navaids | PC |
| 106 | Met Station | PC |
| 107 | Navaids calibration | PC |
| 108 | Obstacle lighting | PC |
| 109 | **Cargo Facilities** | |
| 110 | Cargo Shed | PC |
| 111 | **Access Roads** | |
| 112 | Permanent Road Surfaces | PC |




NB. This implementation plan assumes a start date of 31 December 2004. Elapsed times remain valid, but dates will need to be adjusted based on the actual start date.

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## Annex H - Project Inputs

*Project Budget*

H-1 Details of the assumptions on which the following cost estimates have been based are given in Appendix C to Atkins' Final Report. Atkins' outline design has been subjected to an internal review, and an external review by LEAPP consultants. Cost estimates were reviewed by Atkins' in-house quantity surveyors, Faithful and Gould, and have been independently reviewed by quantity surveyors E C Harris.

H-2 The breakdown below is based on Atkins baseline cost estimates for the long runway. The level of contingency has been set to achieve a 70% level of confidence that these costs will not be exceeded, based on the Monte Carlo analysis of construction using a traditional procurement approach. Atkins' advice is that adoption of DBO procurement will increase the level of confidence for the same capital outlay.

1) Airport Construction Capital Costs

| Item | Estimated Cost (£000's) |
|---|---|
| Preliminaries (including shipping) | |
| Haul Road | |
| Aircraft Pavement | |
| Temporary Runway | |
| Buildings (Terminal, sea rescue, workshop, fire station etc.) | |
| Access Road | |
| Security | |
| Utilities | |
| Aviation Fuel provision | |
| Sub-total | |

2) Equipment

| | |
|---|---|
| Rescue and Fire Fighting Service (RFFS) equipment | |
| Vehicles | |
| Navigational Aids | |
| Sub-total | |

3) Design/Procurement costs

| | |
|---|---|
| Design costs | |
| Estimated premium for DBO procurement route | |
| Sub-total | |

4) Supervision/Technical Assistance

| | |
|---|---|
| Engineering and specialist aviation consultants | [redacted] |
| Resident Engineer | |
| Contract support | |
| Quantity surveying | |
| Sub-total | |

5) Contingency

| | |
|---|---|
| From Monte Carlo analysis to achieve 70% confidence | [redacted] |

6) Airport and Air Service Operational Costs

| | |
|---|---|
| [redacted] | [redacted] |
| | |
| Sub-total | |

7) Environmental Management

| | |
|---|---|
| Environmental Impact Analysis | [redacted] |
| Environmental mitigation (including further ecological studies) | |
| Institutional support | |
| Sub-total | |

8) Institutional Support

| | |
|---|---|
| Support to institutional development, tourism, marketing, customs, immigration security etc. (Institutional costs subsumed into St Helena budget from 2015) | [redacted] |

**TOTAL** [redacted]

*Projected Cash-Flow*

H-3 Expenditure in 2005/2006 is primarily on technical assistance with the procurement of the DBO contractor, carrying out the ESIA, and commencing some of the institutional development work to build capacity on St Helena.

H-4 Construction is expected to commence in late 2006, with the bulk of the capital expenditure spread over the next four years.

H-5 [redacted].

H-6 It is proposed that DFID will continue to monitor the project to the end of the DBO contract period in 2020. At this point, SHG will seek further bids from the

private sector to operate and maintain the airport. For the last five years, the project will be fully self-supporting.

H-7 All costs are in current day prices. It is not possible to provide a meaningful estimate of inflation in project costs over the course of the project. To a large extent it will depend on the country of origin of the DBO and air service contractors. If, as is likely, these are South-Africa based, then based on recent trends, inflationary costs could be more than compensated for by changes in the exchange rate. For example, over the years between 1998 and 2003, South African inflation amounted to approximately 40%, while the Rand depreciated by nearly 48% against the UK pound. This equates to an effective annual deflation of 1.5%.

H-8 In contrast, if we were to assume an annual inflation rate of 2.5%, as recommended in the E C Harris report, the cash cost over 10 years would be approximately [redacted].

H-9 In light of the above, the overall project budget is presented in constant 2005 prices.

H-10 *Table H.1* gives the cash flow of project expenditure over the financial years 2005/6 to 2015/16, both in 2005 prices and allowing for an annual inflation rate of 2.5%. The amounts in 2005 prices are illustrated graphically in *Figure H.1*.

***Table H.1*** **Project Expenditure**

| **Financial Year** | 2005/ 2006 | 2006/ 2007 | 2007/ 2008 | 2008/ 2009 | 2009/ 2010 | 2010/ 2011 | 2011/ 2012 | 2012/ 2013 | 2013/ 2014 | 2014/ 2015 | 2015/ 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Estimated costs (£000s) in 2005 prices** | [redacted] | | | | | | | | | | |
| **Estimated costs (£000s) inflated at 2.5%** | [redacted] | | | | | | | | | | |

***Figure H.1*** **Expenditure Profile (Constant 2005 prices)**

*[Figure H.1 has been removed as it contains information that is commercially sensitive.]*

## Annex I – Risk Assessment

I-1 The key risks, identified in Atkins' Final Report, were subjected to formal probabilistic modelling using the Monte Carlo simulation technique, providing confidence levels for economic and financial outcomes. The outputs of this modelling can be found in Section 11 of the Atkins Final Report.

I-2 The following assessment identifies specific risks to project success, and explains how the project has been designed, as far as possible, to mitigate these. Some risks will, by their very nature, remain outside the control of the project. In these cases, their impact on the project is discussed.

*Capital Expenditure Risks*

**C1 Construction cost over-runs** as a result of shipping delays, variation in the assumed rate of cut and fill operations, unforeseen ground conditions and environmental protests. The choice of a DBO contract transfers a large part of this risk to the prime contractor (at a premium). As part of the feasibility study, Atkins carried out physical and geotechnical surveys on Prosperous Bay Plain, backing up site logging and observations with laboratory testing to confirm the suitability of excavated material for fill and use as concrete aggregate. The airport design developed by Atkins has been subjected to both an internal review and to an external review by Leading Edge Aviation Planning Professionals (LEAPP), and the costs estimates reviewed by an independent economic consultant and respected quantity surveyors. An independent EISA will be carried out in the early stages of project implementation. Internationally respected ecologists, Philip and Myrtle Ashmole, who have previously carried out an FCO funded environmental survey on Prosperous Bay Plain, have been kept informed throughout project preparation, and are of the opinion that, if properly implemented, the project will contribute positively to the protection of an environmentally sensitive area. Given that tourism, and ecological tourism in particular, is likely to become the mainstay of the St Helena economy, it is in the interests of SHG to ensure that adequate environmental protection measures are taken.

**C2 Escalation in costs through poor project management.** Both Atkins and the OGC have highlighted an existing lack of capacity within DFID and the SHG to manage a contract of this scale. This risk is mitigated in a number of ways. The choice of a DBO contract effectively transfers the risk of poor construction management to the prime contractor. Proposals for overall project management are robust and include substantive technical assistance to provide and build capacity over the course of the project. Key stakeholders with the ability to affect project progress (including SHG, ASSI, FCO, DfT and renowned environmentalists) have been involved throughout project development. The project will continue to be regularly reviewed by the OGC team, and will take into account their advice based on best practice across UK government procurement.

**C3 Unplanned infrastructure costs** to support tourism on the island. This is a potential risk in the later years of the project as tourism increases and the current population decline is reversed. DFID has in recent years, and through its

current development assistance, supported significant projects to improve water, sewerage, electricity and roads on St Helena. All of these projects have encouraged SHG to work towards full cost recovery for basic services through adequate tariffs and budgetary allocations. It will be essential for SHG to put in place appropriate tax and tariff structures to ensure that increased tourism leads to increased funds being made available for infrastructure maintenance and improvements. A fiscal review is currently underway and will focus on the reforms necessary.

*Operational Risks*

**O1 Breakdown of the RMS St Helena** before the airport becomes operational. The current RMS St Helena is expected to reach the end of its economic working life around 2010. The ship has been plagued with reliability problems throughout its operational life, and operation and maintenance costs have noticeably increased over the past few years. The RMS undergoes regular maintenance, and is operated under contract with Andrew Weir Shipping Limited. In the event of a major breakdown, it would be necessary to charter a ship to provide essential access to St Helena. This would result in unavoidable increased costs in maintaining access to the island during the construction period.

**O2 Insufficient demand to justify scheduled airline services**. Extensive research has been carried out during the feasibility study to estimate the demand for air services both from tourism and from Saints. While there is a high degree of confidence in the projected figures for air travel, there remains a low risk that passenger numbers will be insufficient to justify a weekly scheduled service, the minimum required in order to develop a tourism market on the island. There are a range of options for air service provision which can be used to mitigate the impact of any shortfall in passenger numbers. It is expected that the air service will be provided through a concession agreement, and it should be possible to pass on part of this risk to the operator. [redacted].

**O3 Airline capacity unable to meet demand** from increased tourism. The converse of the above risk is that the airline awarded a concession to provide air services is not able to keep up with increases in tourism demand. Flights to St Helena will be ETOPS, requiring appropriately equipped aircraft and experienced crew. In this situation, increasing capacity is not simply a case of putting on additional flights. This would have the affect of limiting tourism growth, and this has been modelled in the Monte Carlo simulation. A level of flexibility needs to be included in the air service concession agreement, and periodic re-tendering of this concession will help to maintain air service provision in line with demand.

**O4 FCO/SHG unable to reach agreement with US Military over the use of Wideawake airfield** on Ascension Island. The current agreement with the US military allows for only four international non-scheduled aircraft movements a week, covering all non-military flights into the airfield. The US Military will not allow the airfield to be used as a designated diversion for scheduled or non-scheduled civilian flights. There is a level of uncertainty in regard to the status of the services currently being operated by a private airline under contract to the RAF. Use of Wideawake airfield on Ascension Island is not essential for the

operation of air services to St Helena. However, a significant proportion of the passenger demand from Saints comes from workers on Ascension and the Falklands Islands, and the ability to use Wideawake as a diversion airfield would negate the need for island holding. There is a clause in the current agreement with the US military for regular reviews. Responsibility for negotiating any changes to the agreement lies with the FCO, who have been involved fully in this aspect of the project throughout the feasibility study. It is expected that a suitable agreement can be reached. If this were not possible, then it might be necessary to arrange for a shipping charter to provide access from Ascension to St Helena. The costs for this have been modelled in the Monte Carlo simulation.

**O5 Inability to establish alternative sea freight arrangements** on a commercial basis. Atkins have approached international shipping market to research a range of options for provision of sea freight, and conclude that it should be possible to make suitable arrangements for cargo on a commercial basis. This can only be certain when the market is tested. The level of risk is very low.

*Tourism Demand Risks*

**T1 St Helena unable to attract substantial inward investment** as a result of protective legislation. Current SHG policy towards immigration and inward investment is seen as restrictive and lacking in transparency. This is likely to restrict interest from the private sector in investing in St Helena. These issues have been discussed with SHG in the course of project preparation, and SHG has indicated willingness to address them. SHG ExCo has agreed to review legislation in regard to inward investment and immigration, and has announced this in the St Helena press. One role of the Development Board will be to monitor progress in addressing these issues, provide technical support, and promote the adoption of appropriate policies.

**T2 St Helena unable to attract tourists** in sufficient numbers due to a lack of facilities and suitable accommodation. The feasibility work included extensive market research into the tourism market, and the project includes substantive support to marketing and tourism development. Existing tourist accommodation on St Helena is scarce and generally of a fairly basic nature. This is unlikely to be attractive to tourists and there will be a need to develop a range of accommodation options. SHG is keen to promote both indigenous development, and attract inward investment to provide suitable accommodation. Proposals have already been received from a private sector organisation wishing to construct an exclusive hotel complex, and SHG are currently in discussions with them. The proposed airport is consistent with providing the air service requirements articulated by this organisation. This is another area that will be monitored closely by the Development Board.

**T3 Downturn in regional or global tourism.** A downturn in tourism, for example following an act of terrorism or a downturn in the global economy, is likely to have a negative impact on passenger numbers. This scenario has been modelled as part of the Monte Carlo simulation. St Helena, as a niche tourist destination, may suffer less from this than those dependent on high volume

tourism, but this remains an external risk. It will be in St Helena's interests to diversify the economy as far as is possible, and one of the responsibilities of the proposed Development Board will be to lead on this as part of wider development activity on St Helena. Professor Pissarides of the London School of Economies, in his review of the Atkins economic analysis, indicated that experience shows that other economic development follows major growth in a single dominant sector (tourism).

I-3 The following matrix summarises the likelihood and potential impact of these factors on the success of the project.

**Figure I-1 Risk Matrix**

| Probability / Impact | Low | Medium | High |
|---|---|---|---|
| **Low** | O1, O3, O5 | C1, C2, O2 | |
| **Medium** | C3, O4, T3 | T2, T1 | |
| **High** | | | |

I-4 Overall, the project is medium risk, and management arrangements are designed to actively manage this risk. There is a very low risk that the project will fail to deliver improved economic development in comparison to any sea access option.

## Annex J – Environmental Screening Note

| Section A – Basic Information |
|---|
| **Project Title:** St Helena: Access |
| **Project Cost:** [redacted] |
| **Duration:** 2005-2015 |
| **Country:** St Helena |
| **Department:** Overseas Territories Department |
| **Lead Project Officer:** Nigel Kirby, Engineering and Infrastructure Adviser |
| **Officer responsible for environmental screening:** Dick Beales, Senior Natural Resources and Environment Adviser, OTD (and earlier: Rebecca Cairns-Wicks (1999), and Tim Sumner, Jane Lovel and High-Point Rendel (2001)). |
| **Brief description of intervention:** Transformation of St Helena's economy by the construction of a runway and associated facilities allowing the safe operation of Boeing 737 or equivalent aircraft and the introduction of scheduled air services. |

| Section B – Assessment |
|---|
| **Environmental issues:**<br><br>1.The possibility of establishing air access to St Helena and the construction of the necessary runway and associated facilities has been under consideration for a number of years. The potential environmental effects have been the subject of a number of studies since at least 1995. Environmental screening (and more detailed environmental appraisal, including scoping and baseline studies) has been undertaken as access options have been identified and refined since the mid-1990s.<br><br>2.The first formal screening environmental screening of options for the establishment of an airport at Deadwood Plain or Prosperous Bay Plain (or by seaplane to James Bay) was undertaken by Dr Rebecca Cairns-Wicks, then the St Helena Government's Environmental Coordinator, in 1999. This screening exercise was based on: (a) the author's personal knowledge of the island; (b) a review of the relevant legislation and development plans for the island; (c) consultations with scientists working on the island (notably McCulloch on Wirebirds, and Ashmole & Ashmole on invertebrates); (d) a review of an earlier (Dec 95) public questionnaire survey that had produced 787 responses; and (e) consultation with St Helena's Advisory Committee on the Environment. This concluded that a full environmental impact assessment (EIA) would be required were an air access project to go ahead, and that in the meantime – in anticipation of Prosperous Bay Plain being the selected site for an airport – |

additional detailed surveys of invertebrate taxonomy and ecology should be undertaken. It also recommended that the EIA should take account of Dr McCulloch's work on Wirebird status and ecology. *Reference: Cairns-Wicks, R (1999) Environmental Screening Note: Air access to St Helena.*

3. In 2001, High-Point Rendel were commissioned to undertake a comparative study of various options for air and sea access then being considered, including further environmental appraisal of two potential airport sites (Deadwood Plain and Prosperous Bay Plain). In addition to confirming Cairns-Wicks' findings, this study provided a greater level of detail and the essential preliminaries for a full EIA once a preferred access option had been identified. The information is contained in Chapter 6 (Environmental Screening Review and Environmental Appraisal) and Appendix C (Environmental Screening Review and Environmental Appraisal for the Air and Sea Access Options for St Helena and its Dependencies) of High-Point Rendel's Final Report to DFID and SHG, dated June 2001. An environmental screening note (in DFID format) was appended at Annex C.4 to Appendix C. High-Point Rendel recommended that Strategic Environmental Assessment should be undertaken in parallel with the project EIA, which would also extend consideration of environmental effects to Ascension Island and (to a lesser extent) Tristan da Cunha, and contribute to a National Strategy for Sustainable Development for St Helena. *Reference: High-Point Rendel (2001) St Helena – Comparative Study of Air and Sea Access. Final Report.*

4.During 2003-04, Philip and Myrtle Ashmole undertook further studies for SHG (funded from the FCO's Environment Fund) on the invertebrate fauna of Prosperous Bay Plain, producing a useful and timely Interim Report in December 2003 that included observations and recommendations as to how potential adverse environmental impacts of airport development might be mitigated. Their final report was published in December 2004, together with a companion guide to the invertebrates of Prosperous Bay Plain. In addition to its importance as a baseline study of invertebrate faunas, the report provides (in Chapters 6 and 7) valuable ecological information about the proposed airport site. It also sets out clear recommendations and suggestions as to actions that should be taken (both pre-construction and subsequently) to minimise adverse impacts on - and where possible to restore - environmentally sensitive habitats on the Plain. *Reference: Ashmole, N P & Ashmole, M J (2004) The Invertebrates of Prosperous Bay Plain St Helena.*

5.Atkins Management Consultants were commissioned in April 2004 to undertake an access feasibility study with a view to recommending a fully justified preferred option to SHG and HMG. As part of this Atkins were required to assemble and review all environmental appraisal activities undertaken to date and to provide outline terms-of-reference for an EIA of the preferred access option. Atkins recommended against a strategic environmental assessment in view of the lack of a relevant current policy initiative on which it could be based. In their final report (December 2004) Atkins have provided an Environmental Impact [scoping] Report (Appendix S) based on the earlier screening and other analyses, and outline terms-of-reference for an Environmental and Social Impact Assessment (Appendix T). *Reference: Atkins (2004) St Helena Access Feasibility Study. Draft Final Report.*

| |
|---|
| 6.The key environmental issues/actions identified for further specific attention in the ESIA are those concerning: public consultation and disclosure; airport construction impact and mitigation; haul and operational access routes impact and mitigation; tourism and other development impacts and mitigation; environmental management plan and compliance monitoring; and institutional support. |
| **Next steps:** A comprehensive Environmental and Social Impact Assessment (ESIA) will be required. This has been scheduled into the Project Implementation Plan and will take place in parallel with the final design process. |
| **Any other comments:** Financial provision for the ESIA has been included in the project budget. There is also financial provision for mitigation activities (including further baseline studies, if required) and for input of specialist environmental technical assistance throughout the construction period in support the Environmental Planning and Development Section of the SHG's Development and Economic Planning Department. |

| **Section C – Sign off** | |
|---|---|
| ***Environmental adviser:*** *Original signed by Dick Beales (Senior Natural Resources and Environment Adviser, OTD)* | **Date:** *18 January 2005* |
| ***Lead project officer:*** *Original signed by Nigel Kirby (Engineering and Infrastructure Adviser, OTD)* | **Date:** *18 January 2005* |