



**UK Research
and Innovation**

JESP – Job Analysis Questionnaire

JESP JOB ANALYSIS QUESTIONNAIRE

Job Title: Director of Polar Operations, Engineering and Infrastructure (Director POEI)
Department: Operations and Engineering
Location: BAS - Cambridge

1. OVERALL JOB PURPOSE

In a sentence or two explain why the role exists

The BAS Director of Polar Operations, Engineering and Infrastructure (Director POEI) is one of four directors who support the Director of British Antarctic Survey (BAS), Professor Dame Jane Francis. This senior leadership role contributes significantly to the realisation of BAS's ambitions, vision and mission. BAS' mission (as agreed in an MoU with the FCDO, MoD, DSIT and UKRI) is to undertake world class science and to support the UK presence in Antarctica through world-leading polar logistics.

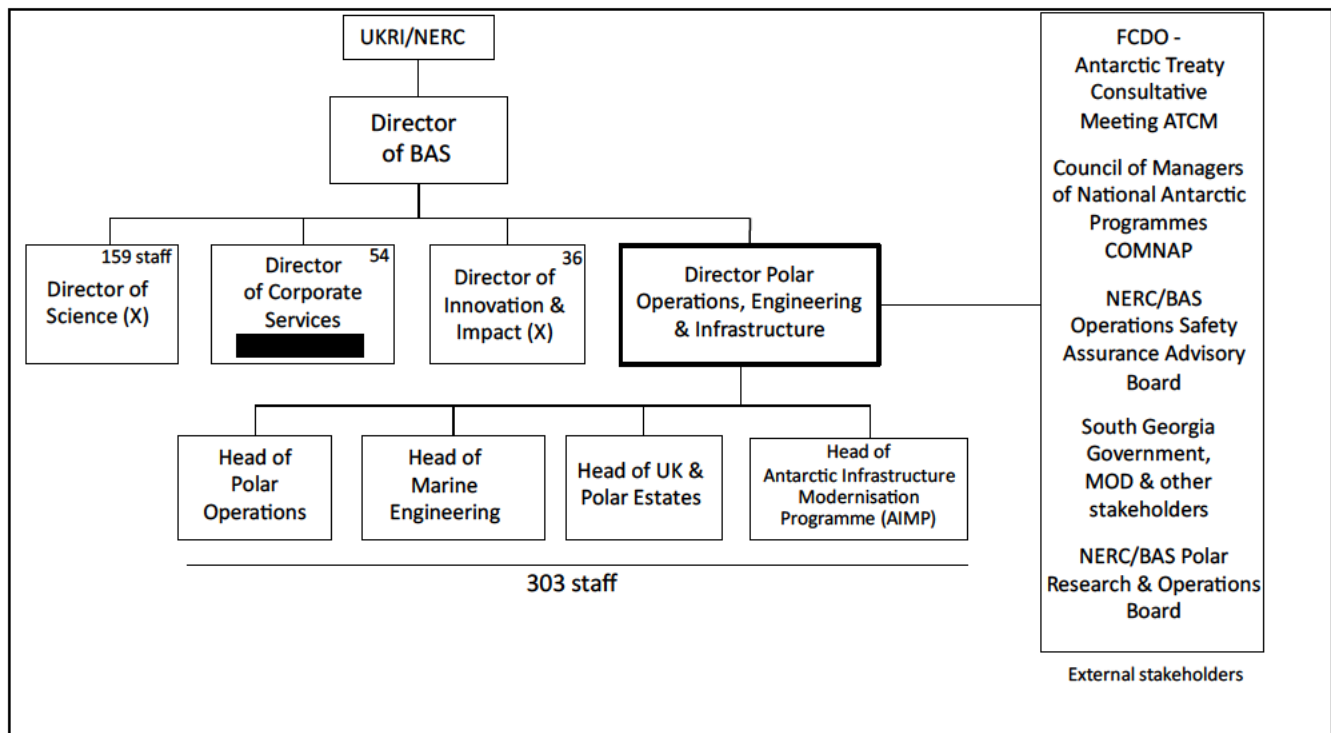
The Director of Polar Operations, Engineering and Infrastructure will have primary responsibility (acting on behalf of Director BAS) for strategic leadership and development, management and effective deployment of ~ £60M p.a. budget within the Antarctic Logistics and Infrastructure (ALI) budget (~71% of the total BAS budget). This is a significant role in scale and complexity and provides unique challenges in terms of the remote and often extreme polar operating environment, the heightened safety requirements of BAS staff, the variety of infrastructure that is used and the isolated facilities that are supported.

2. OBJECTIVES

Please attach a copy of key job objectives

3. POSITION IN ORGANISATION

Please attach an organisation chart showing line management/direct reports



4. KEY ACCOUNTABILITIES

List the main accountabilities and the approximate percentage of time likely to be devoted to each main area of accountability.

Activity	% of time
<p>Strategic Leadership – The Director of Polar Operations, Engineering and Infrastructure (Director POEI) will develop and own the strategy that brings together and delivers all areas of polar activities, including ship and aircraft operations, Cambridge and Arctic/Antarctic estates, engineering support, polar training, health and safety, financial sustainability and integration of the Antarctic Infrastructure Modernisation Programme (AIMP). The strategy ensures safe, high quality and collaborative support for all members of BAS, UK polar community and international collaborators in the Polar Regions and Cambridge. The postholder works collaboratively with the BAS Centre Director and the three BAS Directors of Science, Innovation and Corporate Services to ensure strong leadership and governance across all BAS activities, and proactively engage with the BAS Executive Team, BAS Management Team and other BAS committees that involve high level strategic leadership.</p> <p>They will also work at strategic level with NERC/UKRI and external stakeholders such as the FCDO, MOD, and international Antarctic programmes from many nations</p>	Daily
<p>Financial/Budget Management – the postholder is responsible for the resource and capital budgets for Polar operations, engineering and infrastructure and to meet financial targets. The resource budget of £47M (23/24) is the largest component of the Antarctic Logistics and Infrastructure (ALI) budget, which itself is ~71% of the BAS total resource budget (£85M in 23/24). The Polar operations,</p>	Weekly

<p>engineering and infrastructure budget is crucial in providing the logistics support for all UK scientists across all Research Councils with grants to work in Antarctica, thus ensuring the UK presence in Antarctica as required by the FDCO.</p> <p>They are also responsible for £7.1M annual capital budget for BAS facilities (polar + Cambridge) and for working collaboratively with the Senior Responsible Owner (SRO) and Head of the Antarctic Infrastructure Modernisation Programme (AIMP) to ensure that Phase 2 of the modernisation programme (£290M) is well managed and ultimately delivers the intended benefits through effective delivery and integration of modernisation outcomes with future BAS operations.</p>	
<p>Health & Safety, Risk Assurance – the postholder is responsible for Health and Safety in polar operations (working closely with the BAS Director of Corporate Services and BAS Head of Governance, Risk and Assurance), which not only involves activities in Cambridge but also the health and safety of everyone who works in the remote and extreme polar regions.</p> <p>They are responsible for the good governance of the team of Safety Managers in charge of air, land and sea activities wherever the ships, aircraft and people are engaged across the world. They also ensure that operational risks are clearly identified, mitigated, and communicated as appropriate, including to NERC/UKRI and to the BAS/NERC Operations and Safety Assurance and Advisory Board.</p> <p>The postholder is also works closely with the BAS Medical Unit (BASMU), part of Derriford NHS Hospital in Plymouth, which specialises in extreme medical care and provides doctors for BAS Antarctic stations and ships. BASMU advises and supports BAS on medical emergencies and evacuations (for which the postholder is responsible), pandemic response, and other issues relating to medical circumstances.</p>	Daily - weekly
<p>External Stakeholders engagement – the postholder will work productively with a variety of important NERC/UKRI/Government stakeholders. These include the Polar Regions Department of the Foreign and Commonwealth Development Office (FCDO), with which BAS has an MoU to define its mission and is a critical contact with government affairs. The postholder is a member of the FCDO Delegation to the annual Antarctic Treaty Consultative Meeting (ATCM), the annual meeting of the 57 nations that have a presence in Antarctica and govern the continent through discussions at the ATCM. The postholder has an important part to play in Working Group 2 of the ATCM that discusses operations, safety, stations and science support in Antarctica. They are expected to present Working and Information papers for the meeting in order to engage other nations.</p> <p>The postholder will be a member of the UK NERC/BAS Operations and Safety Assurance Advisory Board, which provides expert advice to BAS and NERC on topics such as fire issues, safe construction, investigation of accidents, etc. The Board is also composed of external members from the Cabinet Office, Navy, other ex-military specialists, fire brigade, international polar organisations and other expertise relevant to Polar Operations.</p>	Monthly

<p>The postholder will provide BAS representation on operational matters on the international Council of Operators of National Antarctic Programmes (COMNAP), which brings together logistics experts from all polar nations to ensure maximum collaboration and sharing of expertise. The postholder is likely to hold a position on the Executive Committee of COMNAP or a specialist group.</p> <p>The post holder is also a member of the BAS Review Group, a high level advisory and oversight board that ensures the UK presence in Antarctica is provided by BAS. The Board consists of members of DSIT, Cabinet Office, MoD, FCDO, UKRI, NERC, BAS. The MoU from the Board defines the mission of BAS, particularly that BAS will provide the UK presence in Antarctica through operational support.</p> <p>The postholder will maintain good relations with members of the MoD (especially RAF and Navy) to ensure that sharing of expertise and facilities can be developed. For example, the RAF provide air-drops of fuel to Antarctica, an exchange build due to good relationships.</p> <p>The Falkland Islands Government and the Government of the South Georgia and the South Sandwich islands (both overseas territories) are also critical stakeholders with which the postholder must develop good relationships to enable cordial relations and efficient working practices.</p>	
<p>Change Management – this role will proactively engage in the BAS Transformation Project to ensure that transformational change, especially that resulting from change across the span of polar operations, is well planned and executed, and the benefits are well communicated to BAS and external stakeholders.</p> <p>Additionally, they will work collaboratively with NERC to ensure that transformations in polar operations (ship, estates, science support etc) help to optimise the management and delivery of research projects from the UK and international science community. They will engage with the Net Zero programme to reduce the carbon footprint of BAS’s activities in the polar regions and the UK.</p>	Monthly
<p>Line management – the postholder will line manage direct reports (Head of Polar Operations, Head of Estates, Head of Engineering, Project Director of Antarctic Infrastructure Modernisation Programme AIMP) and management oversight of ~350 employees within the polar operations, engineering and infrastructure teams (including mariners, pilots, engineers, estates, seasonal Antarctic staff, logistics experts and Cambridge polar operations support).</p>	Weekly to monthly
<p>Outreach – the postholder will give presentations about polar operations and Antarctic logistics to external audiences such as the MoD, FCDO meetings, All Party Parliamentary Group on the Polar regions, other international polar organisations, schools and other national and international meetings of relevance. They will also champion and raise awareness of BAS EDI activities.</p>	Quarterly

5. BUDGET RESPONSIBILITY

Please quantify below:

- the financial resources (budgets) controlled or influenced by the role holder
- the nature of the responsibilities; and
- the directness of the role holder's impact on those resources

The postholder is responsible for the resource and capital budgets for Polar operations, engineering and infrastructure and to meet financial targets. The resource budget of £47M (23/24) is the largest component of the Antarctic Logistics and Infrastructure (ALI) budget, which itself is ~71% of the BAS total resource budget (£85M in 23/24). The Polar operations, engineering and infrastructure budget is crucial in providing the logistics support for all UK scientists across all Research Councils with grants to work in Antarctica, thus ensuring the UK presence in Antarctica as required by the FDCO.

They are also responsible for £7.1M annual capital budget for BAS facilities (polar + Cambridge) and for working collaboratively with the Senior Responsible Owner (SRO) and Head of the Antarctic Infrastructure Modernisation Programme (AIMP) to ensure that Phase 2 of the modernisation programme (£290M) is well managed and ultimately delivers the intended benefits through effective delivery and integration of modernisation outcomes with future BAS operations.

6. MANAGEMENT/LEADERSHIP

- Please state how many staff the role holder will have overall management responsibility for and whether they are admin or professional staff.
- Please also specify the number of direct reports and their grade levels.
- Describe briefly the role holder's input to the people management process
- Provide one or two examples of the type of issues (management/leadership challenges) that the role holder will be expected to deal with.

The post-holder has line-management responsibility of four direct reports, including the Head of Polar Operations, Head of BAS Estates, Head of BAS Engineering, and the Project Director of Antarctic Infrastructure Modernisation Programme (AIMP).

They also have management oversight of between 300-350 employees within the polar operations, engineering and infrastructure teams. These include a diverse workforce comprising mariners, pilots, engineers, estates specialists, logistics teams, and field safety experts such as field guides, doctors, polar station managers, meteorological forecasters and seasonal contract staff (e.g mechanics, cooks, builders, plumbers, runway supervisors, boating experts, diving specialists).

The post holder is also responsible for line-management of the AIMP Project Director, to work with them to ensure that the £600M project of modernisation of facilities in Antarctica is successfully led and on time, and that there is a smooth hand-over to the BAS staff who will run the new facilities during their 30-40 year life span.

7. CONTEXT & CURRENT ISSUES

- Please set the scene for the role holder's work including how it fits into wider developments.
- Please outline issues/challenges the role holder will be expected to deal with and the part the role holder will be expected to play in dealing with those issues/challenges

BAS's polar logistics, engineering and infrastructure activities cover all areas of polar support, including transport (the new icebreaker £250M RRS *Sir David Attenborough*, five aircraft and specialist vehicles), logistical support by BAS personnel (an experienced team of pilots, mariners, safety experts, and staff with polar logistics and estates experience) and infrastructures (five Antarctic stations, one Arctic station and the Cambridge estate).

The Director POEI also leads BAS's engineering capabilities involved with the ship and aircraft, and engineering innovations to support scientific activities. In addition, the Director will have responsibility for health & safety in polar activities.

A major Government investment to [modernise UK Antarctic infrastructure](#) has involved the building of a [new polar research ship \(the RRS Sir David Attenborough\)](#) and new Antarctic facilities, including a new science support building in Rothera station, and a replacement aircraft. This Antarctic Infrastructure Modernisation Programme (AIMP) (~£700M of government funding) is transforming how the British Antarctic Survey enables and supports frontier science. As part of this transformation, BAS has implemented a number of change-management initiatives. The Director of Polar Operations, Engineering and Infrastructure has a crucial role to play in ensuring that business transformation is strategically-led, efficient and effective, and that infrastructure modernisation activities are fully integrated into the operations and logistics that support science activity in Antarctica and the Arctic into the future.

The Director POEI also represents BAS/UKRI on international polar platforms, such as the Council of Managers of National Antarctic Programs (COMNAP) and is a member of the FCDO's UK Delegation to the annual Antarctic Treaty meeting of the 57 nations that ensure Antarctica is maintained for peace and science. The Director also represents BAS/UKRI at meetings with MoD and other relevant external stakeholders.

8. JUDGEMENT

- Judgement in this context refers to the requirement to apply reasoning and experience to situations in order to form a sound judgement on the way forward. Such judgements might apply to strategic, policy, operational or professional issues.
- Please highlight by way of example 2 or 3 issues/challenges which typify the judgements required in the role.
- In setting out those examples please state:
 - the extent to which the role holder will be personally accountable for the results and
 - the potential impact of those judgements in either positive or negative terms.

The postholder is personally accountable for the following:

- Decisions regarding the future strategy of BAS polar operations and its delivery plan, developed in collaboration with all in BAS polar operations and agreed with the BAS Executive Team (consisting of the BAS Directors).
- Decisions regarding the financial management of the budget for polar operations, including investments, cuts, planning etc, in collaboration with BAS Executive Team, BAS financial teams and NERC.
- Decisions regarding structure and staffing of BAS polar operations, engineering and Infrastructure departments, and ensuring that appropriate skilled staff are recruited and trained (in liaison with BAS HR and Operations teams)
- Decisions about recommendations put to the FCDO regarding the logistic support required to ensure the UK presence in Antarctica, in collaboration with BAS Director and the BAS Review Group (consisting of DSIT, MoD, FCDO, UKRI, NERC).

Environmental impacts

The post holder is responsible for ensuring that all logistic activities that support the UK presence in Antarctica are environmentally responsible and sustainable, as required by the Environmental Protocol that the UK signed and that has been implemented into UK law by the Antarctic Act 1994. Breach of the environmental regulations (e.g. fuel leakage, poorly maintained equipment, pollution from logistics failures) would cause reputational damage and impact UKRI, as well as impact the FCDO and the international Antarctic Treaty community.

Impact on UK security in the polar regions

The MoU between BAS, NERC, UKRI, DSIT, and MOD states that the part of the mission of BAS is to support the UK presence in Antarctica, South Georgia and the South Sandwich Islands. This geopolitical presence is underpinned by the logistical support of BAS polar operations, led by the postholder. This requires the operation of ships, stations, aircraft and other logistics that enable UK personnel to be present in the region, and to find alternative solutions if logistics issues occur.

The postholder is also responsible for the operation of the UK station within the international research village at Ny Alesund on Svalbard, Norway. The FCDO expects UK scientists to provide a soft diplomatic presence in the Arctic, a region where the UK has no territory but has increasing concerns about security. The presence and successful operation of the UK station on Svalbard is a signal of the long-term commitment of the UK to the Arctic region.

Impact on science

The post-holder is responsible for the effective and efficient operation of logistic activities in Antarctica that underpin UKRI's world-class science. This underpins all science undertaken by *any* UKRI Research Council member (not just NERC) that holds a grant to undertake science in Antarctica.

Impact on international reputation

The UK is considered to be world-leading in polar research, especially Antarctic research (second in terms of science outputs after the US which has a far greater number of researchers in Antarctica). The postholder is responsible for the provision of excellent polar logistics, critical for maintaining the UK's science capability in the polar regions, both via appropriate world class logistics and novel engineering developments.

Impact on safety

The postholder is responsible for safe operations in Antarctic and safety of BAS staff and all UK and international partners working in BAS stations. Accountability is held by the Executive Chair of UKRI thus it is crucial that the postholder has safety high on their agenda.

9. INFLUENCING

- Influencing in this context looks at the requirements to get results through persuasion and negotiation rather than through exercising direct authority or control. It includes the requirement to convince others inside and outside the organisation of the merits of particular about courses of action.
- Please highlight by way of example 2 or 3 issues/challenges which will typify the requirement of the role to get results through influencing

- The postholder works closely with NERC/UKRI/Government stakeholders, such as the Foreign and Commonwealth Development Office and MoD, to provide advice on polar operations and safety issues. Advice on, for example, the state of the Halley station on the fracturing ice shelf, is transmitted to NERC and UKRI to alert them to potential safety concerns (listen to and acted upon to help solve the situation).
- Similar issues regarding safety issues in Antarctica are passed by the postholder to Ministers, via BAS Director and FCDO, to alert them to potential issues with the UK presence in Antarctica.
- The postholder provides BAS representation on polar operational matters on external platforms such as the Antarctic Treaty Consultative Meetings (ATCM), Council of Operators of National Antarctic Programmes (COMNAP), and other external bodies relevant to polar operations. This can include advice on trials of new technical facilities, highlighting issues of concern in the polar environment, advice about new shipping developments etc. These inform the international polar community, are well respected from the UK and advice acted upon.

10. PROFESSIONAL COMPETENCE

- Please give details of any relevant professional competence (which must be based on formal qualifications and experience) required for the role.

- Master's degree; Bachelor's degree plus professional qualification, or equivalent, including MBA;
- Chartered professions and post graduate professional qualifications.
- Specialist Antarctic experience (or similar remote region).
- Extensive experience in operations management, preferably in polar operations. This specialist knowledge is gained as a result of many years of deployment in the field, particularly through whole seasons.

11. ADDITIONAL INFORMATION

Please add any additional comments you consider would be helpful

Signature of line manager Date