



**Antarctica  
New Zealand**

# **Scott Base Redevelopment Project Commercial Risk Allocation Plan**



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### Approved by

Name	Function and Job Title	Date	Signature
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### Intended Audience

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Project Steering Board	Various
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### Associated Documents

Name	Version	Link
xxxxxxx	xxxxxxx	Insert hyperlink



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## 1 Terms & Definitions

Term	Definition
Client	Refers to Antarctica New Zealand ('Ant NZ').
Contractor	Relates to any party contracted to carry out work for Antarctica New Zealand, excluding consultants. Includes logistics contractors and the Main Contractor.
Main Contractor	Refers to the party engaged to complete the construction of the base, i.e. a construction company.
Risk	The effect of uncertainty on objectives.
Risk Allocation	Contractual allocation of risk to organisations.
Risk appetite	Amount of risk that the organisation is willing to pursue or retain.
Risk categories	A group of potential causes of risk.
Risk management	Coordinated activities to direct and control an organisation with regards to risk.
Risk Management Plan	The document which outlines the risk management framework, specifies the approach & strategies, the management components and resources to be applied to risk management within the project.
Risk owner	Person or entity with the accountability and authority to manage a risk.
Risk treatment	Process to modify risk.

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## 2 Purpose

### 2.1 Principles of risk allocation

The principles of risk allocation are intended to be objective 'rules of thumb' with the interest of maximizing the efficiency of resources within project by all of the participants. The dangers of short-sighted risk transfer or inadvertent risk retention can jeopardize the success of any project, including cost and time implications for the Client and Contractor.

### 2.2 Assigning risks

Once risks are identified, each risk must be clearly assigned to the respective parties to the contract who are best positioned to control or mitigate the risk. To do so, each party's role in the project must be clearly defined; only then can the individual risks be properly allocated. It is essential that any exposure to risk must be commensurate with the benefits derived from participation in the project, and the participant who can best control the outcome of an event or task be assigned responsibility for any associated risks.

### 2.3 Allocation of unavoidable risks

The Contractor should bear all risks over which they can exercise reasonable control. These include all matters relating to selection of construction methods, equipment and execution of work, except where this control is impaired by the action of third parties.

Truly unpredictable risks (natural disasters, force majeure, etc) are properly allocated to insurers. Antarctica New Zealand may in some cases choose to be a self-insurer, particularly as Antarctica New Zealand are in the position to understand the local natural environment in greater detail than any insurer could.

In the area of third-party effects, risks should be allocated to those best able to deal with the third party. This principle would assign to Antarctica New Zealand the risks related to government agency regulations for example. Risks associated with labour and subcontractor agreements and disputes should be assigned to the Main Contractor.

The allocation of risks due to general economic factors (material, labour price escalation, foreign exchange rates, etc) will need to be considered in the construction contracts due to the long construction programme. The client may assume part of these risks through rise and fall of costs clauses, and other relief provisions.

The general guidelines for risk sharing include:

1. If a risk is imposed upon a party, an opportunity for reward to the party should exist for properly dealing with the risk.
2. A risk should be allocated to the party which is in the best position to control.
3. A risk should be allocated to the party in whose hands the efficiency of the system is best promoted.
4. A risk should be allocated to the party which is best able to manage it financially.
5. Steps should be taken to assure that risks are actually allocated as intended.
6. Allocate sufficient risk to participants to motivate them to perform properly.
7. Consider the degree of control over the risk to be allocated when assigning risk responsibility.
8. Consider the participant's risk appetite.
9. Consider the participants' ability to control risks allocated to them.
10. The client is likely to retain risks of a national or international character, such as foreign currency devaluation or trade sanctions.
11. Share mutually dependent risks on a preselected, rational basis, rather than overlapping them. This action will prevent conflict and inadvertent assumptions of loss because of inability to determine fault.

Following allocation, all parties involved must continue the risk assessment process and work through risk mitigation measures.

### 3 Draft Commercial Risk Allocation

Category	Risk	Risk Allocation				Comments
		Client / Ant NZ	Consultants / Designers	Logistics Contractor	Main Contractor	
External / Force Majeure	Force majeure event results in additional cost and time.	100%	0%	0%	0%	Definition of force majeure to be clearly defined and agreed due to severity of regular weather events.
External / Weather	Weather event results in construction delays over one month	100%	0%	0%	0%	The Main Contractor needs to be aware of the working conditions at Scott Base and plan accordingly. Project schedule contingency to be allocated appropriately.
External / Economic	Exchange rate movements and cost increases results in changes to the cost of the project.	100%	0%	0%	0%	Review potential construction cash flow against project schedule and timing of funding availability. Optimal procurement options to be generated for on-site and off-site work, particularly those impacted by foreign exchange.
Technical / Scope	The project scope and associated budget as set by Antarctica New Zealand are exceeded by the designers (i.e. designers fail to design to budget) caused by scope creep resulting in adverse value management outcomes or cost increases.	33%	33%	0%	33%	Designers to design to scope and budget. Early Contractor Involvement (ECI) contractor input for cost estimates.
Technical / Scope	Design phase project scope changes caused by Antarctica New Zealand instructions results in adverse value management outcomes or cost increases.	100%	0%	0%	0%	Consultants to advise Antarctica New Zealand of the implications of scope change. Project Controls Manager to review and manage all change requests.
External / Economic	Poor business case caused by incomplete or inaccurate content results in insufficient funding.	100%	0%	0%	0%	
Technical / Design	Poorly coordinated design and documentation caused by Consultant non-performance results in cost and schedule increases.	0%	100%	0%	0%	Allow specific coordination activities in design schedule. Ensure Design Lead consultant owns design coordination activities.  Antarctica New Zealand to consider contract management across Consultants.
Technical / Design	User requirements not incorporated into the design and documentation (i.e. brief not met) caused by Consultant non-performance results in expectations not being met over the life of the project and project outcome not fit for purpose.	0%	100%	0%	0%	Ensure design brief is clear and is updated to meet evolving project requirements. Allow specific coordination activities in design schedule. Ensure Design Lead consultant owns design coordination activities.
Commercial / Procurement	Building materials, equipment and/or labour not available when needed, resulting in a delay and possible cost increases to the project. Caused by late delivery / logistics issues Caused by poor planning/procurement	100%	0%	0%	0%	The contractor is responsible for ensuring that materials, equipment and/or labour are at the appropriate staging points (port, airport, etc). Antarctica New Zealand responsible for delays that occur in transit (breakdowns, weather, etc).
		0%	0%	0%	100%	
Management / Quality	Equipment failures caused by breakdowns result in a delay to the build. Equipment owned by Ant NZ Equipment owned by Contractor	0%	0%	0%	100%	It is important that the Main Contractor ensures equipment is maintained and continuously operating.
		0%	0%	0%	100%	
Management / Resource	Lack of appropriately trained project workforce caused by staff churn results in loss of IP, re-work, project delays and additional costs.	20%	20%	0%	60%	Issues include re-training, abortive work and poor coordination. It is important the Main Contractor and Designers own the risk to maintain appropriately trained workforce. The Antarctica New Zealand portion relates to training for the Antarctic conditions.
Management / Construction	Temporary workers accommodation insufficient caused by poor planning results in project delays and cost increases, as well as potential impact on Antarctica New Zealand BAU activities.	50%	0%	0%	50%	Temporary workers accommodation is a key constraint to the project and requires careful planning by Ant NZ., with the Main Contractor to coordinate requirements.
Management / Environmental	Environmental Management Plan non-compliance or major environmental incident caused by Main Contractor instigated environmental incident results in project delays, costs and reputational damage to Ant NZ.	0%	0%	0%	100%	Current site conditions to be clearly defined by Antarctica New Zealand and verified by Main Contractor. Main Contractor to provide Environmental Management Plan for approval by Antarctica New Zealand to audit Main Contractor against Environmental Management Plan.
Technical / Assumption	Site conditions differ from prior investigations, resulting in additional time and cost. Caused by varying: Site contamination Drill and blast volumes Existing structure contamination	100%	0%	0%		Whilst this requirement may appear onerous it is important that the Main Contractor is motivated to manage this risk. Main Contractor may need to peer review existing site condition surveys and verify on site.
		100%			100% 100%	

External / Weather	Snow drifting on site caused by expected and unexpected weather events results in additional work, cost and time delays.	0%	0%	0%	100%	
Management / Resource	Untimely sign-off of project deliverables / funding caused by internal procedures and/or unavailability of key personnel results in delays and additional cost.	100%	0%	0%	0%	Antarctica New Zealand sign-off requirements to be clearly established.
Commercial / Logistics	Damage to materials caused by mishandling and/or weather exposure during transit results in product warranties being voided.	50%	0%	50%	0%	Liabilities should be shared between the logistics contractor and Ant NZ. Clear delineation of material handling responsibility e.g.: Christchurch to Christchurch Airport; Christchurch Airport to Staging area; Staging area to site, consideration of inclusion in insurance policies
Management / Quality	Rework caused by work not meeting specified quality requirements results in delays.	0%	0%	0%	100%	
Management / Construction	Damage to new and/or existing installations caused by unrestrained Foreign Object Debris results in additional time and cost.	0%	0%	0%	100%	
Management / Logistics	Lack of access for cargo supply caused by icebreaker unavailability results in project delays and additional costs,	100%	0%	0%	0%	Antarctica New Zealand to ensure suitable contingency plans are in place for cargo access.
Management / Health and Safety	Fatality or serious harm incident caused by health and safety incident on site results in project delays, possible additional costs, reputational damage and potential prosecution for Ant NZ.	45%	10%	0%	45%	Safety in Design to be addressed throughout design phase with Main Contractor input at ECI phase.  A strong health and safety culture to be nurtured on site led by Ant NZ.
Management / Resources	Team breakdown caused by personnel conflict issues (within Main Contractor team and between Antarctica New Zealand and Main Contractor teams) arise on site results in project delays and additional cost.	50%	0%	0%	50%	Screening process for site based personnel to be implemented.
Management / Construction	Poor performance by Main Contractor results in time, cost, quality, etc. issues.	0%	0%	0%	100%	It is important that the Main Contractor is motivated to manage this risk, and Antarctica New Zealand have recourse in the event of significant non-performance and Main Contractor termination.
Management / Environmental	Comprehensive Environmental Evaluation is delayed resulting in project delay.	100%	0%	0%	0%	Antarctica New Zealand to allow sufficient contingency/float in project scheduling for potential/reasonably foreseeable CEE delays.
Management / Resources	Resource constraints caused by concurrent McMurdo Station Redevelopment results in project delays.	100%	0%	0%	0%	Antarctica New Zealand to robustly communicate project requirements (cargo, shared equipment and resources) to USAP.
Management / Stakeholders	Lack of public communication results in loss of public confidence in the project.	100%	0%	0%	0%	Antarctica New Zealand to develop and implement a robust communications plan to ensure public and stakeholders are informed of project objectives and progress.
Technical / Design and Construction	Temporary camp not fit for purpose caused by: <ul style="list-style-type: none"> <li>Construction team capacity incorrectly quantified and allocated</li> <li>Antarctica New Zealand capacity for operations, science, other incorrectly allocated (or not quantified)</li> <li>Design, consent, fabrication, installation, build error</li> </ul>	100%			100%	RFP response must detail the tasks, number of resources and resource roles for each season.  Antarctica New Zealand to sign-off on temporary base design (will require input from wider Design Contractors). Any delay due to sign-off remains the responsibility of Antarctica New Zealand.
Management / Operations	Operation of temporary base substandard in the following areas: <ul style="list-style-type: none"> <li>Cooking</li> <li>Cleaning</li> <li>Laundry</li> </ul>	100%				Antarctica New Zealand is best placed to own this responsibility and risk due to having the seasonal staff and existing processes.  If allocated to the Main Contractor, understanding of the current operational processes will need to be demonstrated during the site visit. An operational management plan must be submitted with the RFP.
Management / Operations	Maintenance of temporary base, including: <ul style="list-style-type: none"> <li>Snow management</li> <li>Power</li> <li>Portable Water</li> <li>Waste Water</li> </ul>	80%			20%	Antarctica New Zealand is best placed to own this responsibility and risk due to having operational maintenance staff and existing intellectual property. However, the Main Contractor would retain responsibility over anything related to the design, consent, fabrication, installation, build of the temporary base facilities.



Technical / Design and Construction	Delay of construction of temporary camp caused by: <ul style="list-style-type: none"> <li>Lay down area undefined</li> <li>Lay down area insufficient</li> <li>Footpath holding not fit for purpose</li> <li>Antarctica New Zealand approval delay</li> <li>Disagreement between Contractors and/or Antarctica New Zealand as to design</li> </ul>	100%			90%	Antarctica New Zealand to specify size of lay down area and distance to construction site. Main Contractors to detail any requisite changes within the procurement process. Antarctica New Zealand responsible for providing any plausible requested changes.
		10%			100%	
		100%			0%	
		10%	10%		80%	
Technical / Design and Construction	Delay in build of new base caused by: <ul style="list-style-type: none"> <li>Temporary camp schedule overrun</li> <li>Lay down area undefined or insufficient</li> <li>Footpath holding not fit for purpose</li> <li>Design issue</li> </ul>	0%			100%	Antarctica New Zealand have a responsibility to initially define the lay down area, and to provide an agreed lay down area as per any changes requested by the Main Contractor and accepted by Antarctica New Zealand.
		50%			50%	
		0%			100%	
		0%			100%	
Technical / Design and Construction	Delay of demolition of existing base caused by: <ul style="list-style-type: none"> <li>De-canting existing base delay (including storage out of Main Contractor scope area)</li> <li>Antarctica New Zealand personnel delay</li> <li>Antarctica New Zealand decision on partial or full demolition</li> <li>Demolition personnel, plant, consent, health and safety risk/issue</li> <li>Grounds health and safety (including hazardous substances)</li> </ul>	100%			0%	
		100%			0%	
		100%			0%	
		0%			100%	
		0%			100%	
Management / Operations	Transition of operations from temporary base to new base before full hand-over	60%			40%	Antarctica New Zealand must make the required staff available for handover, shadowing and any other such activities defined as necessary by the Main Contractor and Antarctica New Zealand.
Technical / Design and Construction	Re-purposing of materials	10%			90%	Antarctica New Zealand to specify. Main Contractor to apply specification.
Management / Logistics	Demolition materials transport back to New Zealand impacted by: <ul style="list-style-type: none"> <li>Logistics related delay</li> <li>Demolition materials not at dedicated site by allocated time for loading onto transport</li> <li>Quality of demolished materials (e.g. nail remediation for stacking) poor and impacts</li> <li>Loading of demolition materials into crates or other defined container</li> <li>Quantification of demolition materials incorrect</li> </ul>	100%			100%	Main Contractor responsible for estimating quantity of demolished materials created. Antarctica New Zealand to validate this.
					100%	
					100%	
					100%	
		10%			90%	
Management / Health and Safety	Health and safety risk/issue within the construction site				100%	Main Contractor will manage all entry into and out of the construction site, making it solely responsible for the actions of all people within the area.



Management / Health and Safety	Health and safety risk/issue in the base area outside/excluding the construction site	70%			30%	Antarctica New Zealand has overall responsibility, but is reliant on the Main Contractor managing personnel in line with health and safety site regulations.
Management / Health and Safety	Main Contractor personnel (including sub-contractors) wellbeing impacted due to lack of activities/stimulation	10%			90%	Antarctica New Zealand to state current base activities and confirm which of these are required for Antarctica New Zealand personnel in the temporary base (e.g. pool table). Main Contractor to submit a wellbeing management plan with the RFP that outlines what is to be provided over and above the Antarctica New Zealand offering.
Management / Scope	Unexpected or poor outcome due to aspects of final solution unapportioned.	90%			10%	Main Contractor has opportunity to ensure full scope offering, but can only know what Antarctica New Zealand shows them at the site-visit or makes available through documentation.
Management / Scope	Variations raised by the Main Contractor due to: <ul style="list-style-type: none"> <li>• Scope unapportioned</li> <li>• Change in Antarctica New Zealand requirements</li> <li>• Deviation from scope or schedule</li> </ul>	TBD 100%			TBD 0%	
External / Weather	Reduced productivity due to Antarctic conditions				100%	
Management / Budget	Budget is insufficient for completion of Main Contractor scope due to overspend in other areas (e.g. logistics, Antarctica New Zealand personnel costs, etc.)	100%				Antarctica New Zealand to establish what the maximum lump sum price available for the Main Contractor is, and undertake a high level prioritization of Main Contractor responsibilities.
Management / Resources	Subcontractor issues including: <ul style="list-style-type: none"> <li>• Poor performance</li> <li>• Termination of contract</li> </ul>	10%			100% 90%	Should a sub-contractor be removed, Antarctica New Zealand need to approve the replacement and arrange the logistics of suppliers to Antarctica and New Zealand. The Main Contractor will present a mitigation plan with the RFP.
Management / Resources	Incorrect process or practice undertaken by personnel at Scott Base due to insufficient site induction.	20%			80%	Responsibility of Antarctica induction is with Antarctica New Zealand, while construction zone induction is Main Contractor.
Management / Resources	Incident or implication to time/cost/quality as a result of lack of communications	TBC			TBC	Main Contractor responsible for all communications relating to the construction area. Antarctica New Zealand responsible for all communications outside of the immediate construction area.
Management / Quality	Reporting against KPIs is inaccurate	10%			90%	Antarctica New Zealand to put in place quality controls to verify Main Contractor reporting