FIFTH
PRINCE EDWARD ISLANDS
MANAGEMENT COMMITTEE
MEETING

26 FEBRUARY 1998

Prof V R Smith

AGENDA
of the
FIFTH PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE MEETING

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VENUE: *Department of Environmental Affairs and Tourism (DEA & T)*
Directorate: Antarctica and Islands
8th Floor Conference Room (Rm 813)
Fedsure Forum (North Tower)
cnr Pretorius and van der Walt Streets
PRETORIA, 0002

DATE: *26 February 1998*

TIME: *10:00*

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1. WELCOME AND OPENING

2. MINUTES OF THE FOURTH PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE MEETING (16 October 1997) *Doc 2*

Matters arising:

2.1 Report-back on the status of the Tourism EIA (par. 2.1) *(Dr S Jackson)*
2.2 Removal of rubble and building waste (par. 2.10) *(Mr R N Skinner)*
2.3 Breaching of dam / other alternatives (par. 2.17) *(Prof V R Smith / Mr J C Loock)*
2.4 Replacement / removal of huts (par. 2.20) *(Mr R N Skinner / Prof S L Chown)*
2.5 Application to capture penguins on Marion Island (par. 2.24) *(Prof S L Chown)*
2.6 Appointment of a new Management Committee (par. 2.26) *(Mr D J van Schalkwyk)*
2.7 Concrete slab at the point on Marion Island (par. 3.1) *(Prof S L Chown)*
2.8 Recommendation regarding fresh vegetables (par. 3.1) *(Mr D J van Schalkwyk)* *Doc 2.8*
2.9 Radionuclide Monitoring Station on Marion Island (par. 5.8) *(Mr R N Skinner)* *Doc 2.9*
Containment Wall

3. SACAR 3 APPLICATIONS

3.1 Dr C J Augustyn (for Dr R J M Crawford) *Doc 3.1*
3.2 Mr A Rowland (for SA Weather Bureau) *Doc 3.2*
3.3 Dr I Meikeljohn (for Dr J C Boelhouwers) *Doc 3.3*
3.4 Dr D J Marshall (for Prof S L Chown) *Doc 3.4*
3.5 Mr J C Loock *Doc 3.5*
3.6 Mr M Murphy (for Department of Public Works) *Doc 3.6*
3.7 Dr P W Froneman (for Prof C D McQuaid / Prof J R E Lutjeharms) *Doc 3.7*

3.8 Prof R J van Aarde
3.9 Dr P G Ryan
3.10 Maj A W Johnson (for SA Air Force) Doc 3.10
3.11 Mr H Valentine (for Department of Environmental Affairs and Tourism)
3.12 Prof V R Smith
3.13 Prof A R W Hughes
3.14 Prof D S Butterworth
3.15 Dr M N Bester

4. NEW ITEMS

4.1 Structural Engineer's Report - 1997 Marion Take-over *(Mr C J Jacobs)* ***Doc 4.1***

4.2 Proposal for Repeater Station *(Mr R N Skinner)* ***Doc 4.2***

4.3 Electrified fencing for Prof R J van Aarde's project *(Mr R N Skinner)*

4.4 Alien plants and invertebrates at the Prince Edward Islands *(Mr R N Skinner)* ***Doc 4.4***

4.5 Poultry products *(Mr R N Skinner)*

4.6 Team problems due to management plan

4.7 Fishing vessel visit

4.8

4.9

4.10

5. DATE OF NEXT MEETING

6. CLOSING

Doc 2

FOURTH MEETING OF THE PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE (PEIMC)

MINUTES OF THE MEETING HELD ON 16 OCTOBER 1997 AT THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEA&T), ANTARCTICA AND ISLANDS CONFERENCE ROOM (Rm 813), FEDSURE FORUM , 315 PRETORIUS STREET, PRETORIA

PRESENT

Prof S L Chown (*Chairman*)	-	University of Pretoria
Dr S Jackson	-	University of the Witwatersrand
Prof V R Smith	-	University of Stellenbosch
Mr J C Loock	-	National Monument's Council (NMC)
Dr A J Hall-Martin	-	National Parks Board
Mr D Hendrikse	-	Department of Public Works (PWD)
Mr C Jacobs	-	PWD
Mr D J van Schalkwyk	-	DEA&T
Mr R N Skinner	-	DEA&T
Ms C A Jacobs	-	DEA&T
Ms M R Mohlala (*Minutes secretary*)	-	DEA&T

APOLOGIES

Dr D G M Miller	-	DEA&T
Dr A Berruti	-	BirdLife South Africa

1. WELCOME AND OPENING

The Chair welcomed all the committee members to the meeting, with a special welcome to Mr Hendrikse, Mr Jacobs and Ms Mohlala, and tendered apologies from Dr Miller. He advised that Dr Berruti had indicated that his commitments to BirdLife South Africa would prevent him from attending future meetings and he was therefore not available to renew his contract.

The following items and documents were added to the agenda:

2.27 SACAR 3 applications (par. 4.3) *(Prof S L Chown)*
5.8 Radionuclide monitoring station at Marion Island *(Mr R N Skinner) / Doc 5.8*
5.9 Environmental section of 1998/99 SACAR 1 project proposals *(Prof S L Chown) / Doc 5.9.*

2. MINUTES OF THE 3rd PEIMC MEETING (19 MARCH 1997)

After one amendment, namely that CITES should consistently be referred to as such and not SITES (p.12, par. 4.7), the committee accepted the minutes as an accurate reflection of the 3rd PEIMC meeting, and they were signed accordingly by Mr van Schalkwyk who had stood in as Chair for this meeting. The Chair thanked him for standing in while he was on sabbatical.

MATTERS ARISING:

2.1 Sub-committee to investigate the impact of tourism to Marion Island

Prof Chown stated that there was no harm in advising the press regarding the Tourism Environmental Impact Assessment (EIA), but no positive or negative statements in this regard were to be made. Dr Jackson said that the draft EIA, compiled by Mr R Heydenrych (who had liaised with the scientists on Marion Island), would be sent to 8 international reviewers, including New Zealand, England and Australia, in due course. She agreed that discretion was necessary when dealing with the press, but that the public must be made aware that this document was available for comment. She suggested that a short press release be drafted in order to do so. The Chair recommended that the EIA be placed on a Web Site for easy access. This was acceptable to the committee and Dr Jackson undertook to draft the press release. Mr van Schalkwyk felt that a spokesperson should be nominated to deal with the press and that copies of the EIA should be made on request. The Chair stated that these matters could be finalised by DEA&T, with all requests for copies of the EIA to be forwarded to Dr Jackson. He thanked everyone for the work that had been done and was happy with the developments. Mr Skinner undertook to liaise and finalise the matter with Dr Jackson.

2.2 Establishment of Marion Island as a LTER site

The Chair stated that he had been in contact with Dr Miller in this regard, and that the matter should be referred to SACAR as a potential source of funding.

2.3 Workshop to discuss the Management Plan/SANAP

Mr van Schalkwyk advised the committee that due to a shortage of personnel, the COMNAP meeting in August and the Liability Annex meeting in November 1997, this workshop had been postponed. It would be kept in mind, however, and a decision may be made at the coming SACAR meeting.

2.4 Declaration of Marion Island as a World Heritage Site

The Chair reported that he now had documentation on what was required and that it was a long process which would require another sub-committee. He continued that there were no resources to do this at present, but that he was investigating the matter and would report back to the committee early next year. Dr Hall-Martin commented that National Parks Board was currently looking at World Heritage Sites proposals and would assist in this matter if required.

2.5 Waste disposal and incineration policy/Containment wall to prevent seepage on Marion Island

Mr van Schalkwyk informed the committee that there had been much discussion with the Chief Directorate: Environmental Management regarding setting up Environmental Health and Safety Management Systems for Marion and Gough Islands, and that Mr P Gildenhuys had been tasked to do so. He continued that unfortunately the personnel involved had subsequently been withdrawn and that a work study investigation of the Directorate: Antarctica and Islands had been initiated to incorporate the environmental component accordingly.

With regard to the containment wall, Mr Hendrikse reported that PWD was looking at utilising "Terra Force" instead of concrete, which would look better aesthetically.

The Chair stated that it must be decided whether or not to revise the PEIMP, as its provisions in terms of incineration were not adhered to. Mr van Schalkwyk mentioned that Mr Lexow from PWD had attended the last PEIMC meeting, and had undertaken to ensure that all the problems were addressed. He added that he had received no feedback as yet, but that these matters could be forwarded to the meeting between PWD & DEA&T the following day. The committee was satisfied that the Chair would represent the PEIMC at this meeting.

2.6 Removal of backup hydrogen generator

Mr van Schalkwyk advised the committee that the Weather Bureau had recommended the utilisation of cylinders as backup in case of emergencies, which would cost about R 20 000, and that the backup hydrogen generator could thus be removed from the Island. Prof Smith commented that 12 cylinders would cost about R 3 600 per year to hire. The Chair stated that such a recommendation would be made and that this matter would also be addressed at the PWD/DEA&T meeting.

2.7 Irradiation policy and costs involved

Mr van Schalkwyk reported that all eggs were irradiated by Hepbro and only deboned chickens were sent to Marion Island. The Chair thanked DEA&T for investigating the available options, mentioning that Hepbro should be kept in mind for future reference.

2.8 Rat guards

Mr van Schalkwyk stated that there had been much discussion on this matter and that a new Captain (Capt. Davidson) had been temporarily appointed. He continued that certificates had been issued stating that the SA Agulhas had been rat - free over the past month and that tying the rat guards to the mooring ropes was currently being investigated by Mr Oosthuizen and Capt. Davidson. He advised that anyone who saw no rat guards on the ship was to report the matter immediately. The Chair stated that this issue was of huge concern, as South Africa would be in a position of extreme embarrassment if additional rodents were to get onto the Island. Dr Jackson felt that keeping the rat guards on the ropes was a fairly simple task, and that the rat free certificates were meaningless if there were no rat guards, with Prof Smith supporting that other ships had them on. Mr van Schalkwyk suggested that all the concerns be noted in a letter for discussion with the Acting Director-General in an attempt to tie up loose ends in this regard.

2.9 Appointment of a full-time Conservation Officer

The Chair stated that in line with Dr P G Ryan's suggestion of appointing a full-time Conservation Officer, this would solve some of the above - mentioned problems. Mr van Schalkwyk informed the committee that the three posts in the Chief Directorate: Environmental Management for SANAE, Marion and Gough had fallen away and that this would be discussed at a meeting later that afternoon. He continued that contract workers could possibly be appointed, but that full-time personnel were necessary and funding was essential to do so. The Chairman felt that this matter must be referred to SACAR and the AMC, and stated that as it was important to have a Conservation Officer on the Island, he was willing to forfeit one takeover personnel member for this purpose.

2.10 Removal of rubble and building waste

The Chairman thanked Mr J van der Merwe's (Weather Bureau) team, the Directorate: Antarctica and Islands and PWD for removing some of the waste from the Island. He continued that the hut at Laekop had completely fallen apart, that the others would as well soon and that if they were not repaired it would result in health risks and environmental problems. He felt that as much a possible should be done during takeover, that the team was also to assist, and that DEA&T must liaise with PWD in this regard. Mr van Schalkwyk asked Mr Skinner to set up priorities at the PWD/DEA&T meeting the following day, i.e where rubble was located, etc.

2.11 Retrieval of weather buoy on Prince Edward Island (PEI)

Prof Smith reported that he had received a vague map from Ms E Popich, but that the weather buoy could not be located. He added that there was no PEI voyage in 1995 when it was supposedly picked up, according to Doc. 2.11. The Chair stated that the weather buoy must be retrieved if the intended dedicated voyage took place.

2.12 South African Navy (SAN): 75th birthday celebration

Mr van Schalkwyk stated that the SAN had indicated that there would be no voyage to the PEIs as originally planned.

2.13 Dedicated voyage to Prince Edward Island
2.14 3-person beach survey per helicopter

These two items would be discussed under item 3.1.

2.15 Fishing in Exclusive Economic Zone (EEZ)

The Chairman informed the committee that Dr Ryan had submitted a paper stating that between 5000 to 20 000 birds had been killed over the past few years, but that the impact on PEI could not be measured as no bird counts were available. He then suggested that Sea Fisheries be requested to supply the PEIMC with copies of the permits issued. Mr Skinner mentioned that a chain of command had been set up initially, but that it was no longer working. He said that when copies of the permits issued had been requested, he had been advised telephonically that all the necessary stipulations had been included and that the team leader on Marion Island would be informed regarding the vessels with permits. Mr Skinner recommended that a draft letter or report be compiled for discussion with the Acting Director-General. The Chair mentioned the possibility of a SAN voyage and that a CCAMLR representative must be on board. Mr van Schalkwyk stated that the matter would be discussed with Sea Fisheries and that someone with experience, and the programmes best interest at heart, must be included if such a voyage materialised, and that a few nominations should be cleared and on standby. Dr Ryan would be contacted and advised accordingly.

Mr van Schalkwyk suggested that this committee recommend to the Acting Director-General that he and Prof Chown be tasked to deal with this matter. This was acceptable to the committee. It was the general consensus of the PEIMC that Prof Ryan undertake a quick voyage to PEI, should one arise, especially in terms of alien introductions, etc. Alternatively Mr D Nel should undertake this trip. Mr van Schalkwyk requested that Dr Ryan submit a draft code of conduct to be included in permit regulations. The Chair would take up the matter with Dr Ryan.

2.16 Survey Proposal: National Monuments Council (NMC)

Mr Loock stated that an initial SACAR 1 proposal had been submitted to visit Marion Island, and that subsequently a report and a follow up SACAR 1 proposal had now been tabled. In support of their involvement, he mentioned that the NMC had legal obligations to Marion Island and that the Cultural History Museum had been approved by DEA&T to curate all items. Prof Smith commended that the report submitted was excellent and that as only one further voyage was necessary it should be supported. This was seconded by Dr Jackson. Mr Loock stated that additional literature had been obtained, which would be valuable. The Chair requested that the size, number, location, etc. of the proposed stakes (markers) must be included in the SACAR 3 form to be tabled at this committee early next year.

2.17 Breaching of dam

Prof Smith reported that the peat surrounding the dam was being washed away by between 7-15 metres per year, but that the dam wall was not necessarily the cause. He said that the building activities were a possible cause. The Chair mentioned that there was a lot of seepage from underneath the dam wall and suggested that Mr Loock and Prof Smith must investigate the matter during the next takeover and make a recommendation accordingly.

2.18 Request for petrel monitoring

The Chairman stated that in reaction to a letter from Dr M Brooke, his request had been directed to Drs Ryan and Crawford, who would address it as far as possible. The matter was now handled by the Biological Sciences Task Group.

2.19 Visit from New Zealand Environmental Officer

Mr van Schalkwyk reported than this matter was on ice at present and could be deleted from this agenda. He undertook to address it accordingly, if a need arose in the future.

2.20 Replacement/removal of huts

Mr Hendrikse advised that PWD was responsible for accommodation, but that additional accommodation for scientific research was to come from SANAP. He confirmed that the original funding had been obtained from the then Department of Transport.

Mr van Schalkwyk stated that PWD was responsible for all the accommodation requirements irrespective and that according to Treasury approval, only the funding of fuel, globes and furniture had been redirected to DEA&T. He felt that the problems between the two Departments must be ironed out the following day. Mr Hendrikse agreed. The Chair said that all the huts, except the one at Kildalkey, were to be replaced and the state of the huts were environmentally a threat in terms of health and safety. Mr Loock requested whether one hut, preferably with its graffiti, could be made available to the NMC for historical purposes, when returned. He was asked to direct his request to PWD in writing.

2.21 Proposed amendments to the management plan

The Chair stated that the document must remain "as is" at present, and could be reviewed at a later stage.

2.22 Re-siting of M-net satellite dish

The Chair advised that the dish had not been moved, as it was no longer receiving and would be removed accordingly. Mr Skinner advised that the M-Net sponsorship with the team had expired, and technology (new decoder) had not been provided, but that there may be a new one following in future. Mr van Schalkwyk recommended that someone from the PEIMC be involved if the dish was resited.

2.23 Conservation Officer's Reports

The Chair stated that Mr Nel, the first Conservation Officer, was consistent and went more than the extra mile. Dr Jackson commented that his helpfulness with the Tourism EIA was to be commended. The Chairman also recommended that this committee draft a letter of thanks to Mr Nel for his good work. Prof Smith mentioned that the BSTG had suggested that he be reimbursed for his efforts and that perhaps this committee should recommend this as well. Mr Skinner advised that there were no longer notch increases, with Mr van Schalkwyk adding that he had already been appointed on a higher notch due to his Conservation Officer status. The Chair closed by emphasising the bird strike problem, stating that blinds must be installed during the next takeover and that the availability of oil dispersant on the Island was a necessity.

2.24 Application to capture penguins on Marion Island

Mr van Schalkwyk provided a brief rundown of developments in this regard, stating that the Norwegians had originally requested Macaroni Penguins but now wished to capture Rockhoppers instead. It was decided to refer the application to Mr J Cooper of the SCAR Bird Biology Working Group to review and refer to referees in light of the recent decline in Rockhopper Penguins on Marion Island. The Chair undertook to contact Mr Cooper in this regard. It was also felt that the approval of this request was within the ambit of the PEIMP, as it met the educational purposes criteria.

As regards the care, quarantine, transfer, etc. of the birds, the committee recommended that the Norwegians must take care of all these aspects, as soon they took delivery of the penguins which would be on the Island as soon as they were captured. The final decision was that if the removal of the penguins was a threat to the conservation of the species, the PEIMC would not support the application, but if it was not a threat the application would be approved.

2.25 Concept Master Plan: Marion Island

Mr van Schalkwyk advised the committee that no new plan had been received, but that it had been discussed by Messrs Holzhausen (PWD), Dreyer and himself and decided that the kitchen would in the interim be upgraded. Mr Jacobs informed that the PWD Engineer was in the process of completing his take-over report, with recommendations on the structural stability of buildings. Mr van Schalkwyk felt that a short-term maintenance plan, a long-term plan (perhaps rebuilding the base) and the level of funding must be determined. Mr Hendrikse agreed that these aspects must be addressed and that the time-scales and so on could be decided at the PWD/DEA&T meeting.

2.26 Committee Members: Re- and new appointments

The Chair mentioned that the present PEIMC's term-of-office was drawing to a close on 12 January and 1 March 1988, and that the Acting Director-General must appoint a new committee. He recommended that Mr Cooper replace Mr Berruti and that Dr Ryan be co-opted for his knowledge of the fishing aspects. Mr van Schalkwyk stated that this matter would be attended to.

2.27 SACAR 3 forms for all personnel

The Chairman recommended that all groups, not just scientists, visiting Marion Island must submit SACAR 3 forms. Mr van Schalkwyk stated that this was already being implemented and requested that the PEIMC meeting be scheduled earlier next year in order that PWD and DEA&T could timeously address relevant matters.

3. MARION ISLAND RELIEF VOYAGE

3.1 Management Report

The Chair stated that the relief voyage had gone reasonably well, especially in terms of the Management Plan, and provided a brief rundown of his report, highlighting the serious environmental concerns regarding the collapse of the concrete slab at the point. Mr Hendrikse advised that "Terra Force", which was more aesthetically pleasing, would be used to address this problem and would be discussed further at the PWD/DEA&T meeting.

The Chair mentioned that the laboratories were not fully maintained, but that most were structurally sound, expect for the ionospheric laboratory which was to be referred to DEA&T to decide what to do with. The Chairman strongly recommended that in terms of the team members, perhaps someone aside from the diesel mechanic could be appointed to take care of year-round maintenance. Dr Hall-Martin agreed that regular maintenance was better than rush jobs once a year and that such a person would also be able to advise better what needed to be done during takeover.

The Chair mentioned that a large rodent had been spotted on Marion Island and that the situation was being carefully monitored, but that rat guards on the ship were thus essential. Prof Smith stated that he had been involved in the programme for 27 years and that there had been an increased introduction of alien species over the last few years. In accordance with the mandate of the PEIMP to stop alien introductions, the PEIMC recommended that no fresh vegetables be taken to Marion in the future. The Chair mentioned the possibility of cross-contamination via the orange containers. Mr Skinner stated that a high pressure hose was used to clean these containers and that specific containers were allocated to Marion, Gough and SANAE respectively, that PWD was also instructed to do this, but that although DEA&T had attempted to get specific sheds allocated at the harbour, this was not possible. Prof Smith suggested that the plants outside the stores in Cape Town be eradicated by spraying once a year, and the Chair recommended that the areas where the containers stood should be treated with herbicide. He also said that the new-issue boots had holes in the sides where seeds could easily accumulate. Mr Skinner undertook to advise Mr Valentine of the Clothing Committee accordingly.

Regarding the erection of the VHF repeater, the Chair mentioned that an EIA had not been done prior to the Marion voyage and that one was done hurriedly on the Island. He recommended that all the alternatives should be investigated and that in future all such items must be directed through this committee first. Mr Skinner said that there had been a misunderstanding between the Pretoria and Cape Town offices and that Mr F Hofman was requested to discuss the issue with the Chair directly on the way to Marion before doing anything. The Chairman asked DEA&T to express the committee's appreciation to Mr Hofman for the good job done with the removal of the rhombic antennas.

The Chair stated that the visit to PEI had been very successful, due to the coordination of Mr Valentine and that Mr Skinner was please to convey the committee's thanks to him. He also mentioned the excellent cooperation from the South African Air Force. He continued that there had been no evidence of human visits, but that much debris had been washed ashore. The Chair requested that a new alien species, also present on Marion, be eradicated on PEI as soon as possible.

In closing, the Chair mentioned the significant differences seen first hand between Marion and PEI, stating that this huge discrepancy was largely due to the fact that there were no cats, mice or alien plants on PEI, and that it was therefore important to keep PEI alien free. Last but not least, he praised the former and present expedition teams for their excellent adherence to the provisions of the PEIMP.

4. MATTERS ARISING FROM TASK GROUP MEETINGS

4.1 Oceanographic Sciences Task Group meeting (8 August 1997)

4.1.1 Marine and Island Biology Workshop

The Chairman stated that the request for such a workshop, received from Dr Miller, did not fall within the remit of this committee. He suggested that the matter be referred to the Biological and Oceanographic Sciences Task Groups to organise, pending the availability of funding. This was accepted by the committee who supported the proposal.

4.2 Biological Sciences Task Group meeting (10 September 1997)

4.2.1 Policy decision: Number of participants in relief voyages

The Chairman advised that 64 persons were allowed on Marion Island in accordance with the PEIMP, but that there had been a lengthy debate on this issue at the BSTG meeting, with conflicting views expressed. Mr Hendrikse stated that the base was utilised by a small team throughout the year, and that the four weeks of the takeover period did not justify extending the base. Prof Smith commented that the toilets leaked as they were not properly maintained, that the laundry facilities were insufficient and that meals took so long because there was a lack of adherence to scheduled meal sessions. Mr Hendrikse said that two extra washing machines could be taken down next year, but that the rest was as a result of poor maintenance. Prof Smith agreed that with good discipline and management, the base could handle 64 persons.

4.2.2 Decrease in number of Gentoo Penguins at Marion Island

The Chair advised the committee that there had been a decrease in the number of Gentoo Penguins and provided a rundown of the report received from expedition member, Ms M Greyling, on the Island. He was concerned that the late takeovers affected the pairing of the birds due to the disturbance around the base area and recommended that the Marion takeover be shifted earlier if at all possible as the weather was also better then. Mr Skinner indicated that this would not be possible this year or next year due to existing SANAE commitments, but that it could be considered as from 1999/2000. Dr Hall-Martin enquired whether other vessels could be used for relief voyages, and Mr Skinner replied that SAN vessels had to be reserved at least two years in advance and were not equipped to undertake oceanographic work which was done during relief periods.

5. NEW ITEMS

5.1 A new topographic map for Marion Island

The Chair referred to Doc. 5.5 and stated that the completion of the maps using either SPOT or RADARSAT fine beam data was quite expensive. Mr Skinner said that if the Department of Land Affairs was pressurised to complete the maps, satellite data - which was more expensive - would have to be used.

5.2 ISO certification of PEIMP

Mr Skinner was unable to shed any light on this subject.

5.3 Implementation of the recommendations of the Marion Island Master Plan

This item was handled under item 2.25.

5.4 Planning period before execution of request for maintenance work to be done

Mr Hendrikse reported that any new requests required three years of planning as follows: one year for the suggestion/recommendation, another year to obtain funding and a third year for the implementation thereof. The Chair stated that this would be kept in mind.

5.5 Prince Edward Islands: Mapping

This matter was addressed under item 5.1.

5.6 Draft Policy Plan: Prince Edward Islands

Mr Loock reported that he had visited Marion Island with two people and that they had covered everything they intended to do. He advised that certain artifacts could be dated, especially military equipment, and that any comments could be forwarded to him as Doc. 5.6 was only a draft document.

5.7 Survey of Historical Sites on Marion Island

The Chair congratulated Mr Loock and his team for the excellent document produced and added that copies were available from Ms Jacobs. Prof Smith felt that it would be worthwhile if this document could be published for distribution to expedition members, etc. Mr Loock stated that the document needed to be revised and information added. The Chair recommended that a copy of the document "as is" be forwarded to Marion with the next takeover and that the document be published once it had been updated after the next visit to Marion Island.

5.8 Marion Island: Radionuclide Monitoring Station

Mr Skinner advised the committee that South Africa had signed and become a party to the Comprehensive Nuclear-Test-Ban Treaty and mentioned that a request regarding the possibility of establishing a radionuclide monitoring station on Marion Island had been received. He added that Doc. 5.8 had been tabled for information, and that any suggestions in this regard must be passed through the PEIMC. Prof Smith undertook to e-mail the details of the USA's present station operators on Marion to Mr Skinner to determine whether it was necessary to replace the existing station. Mr Skinner would keep the committee informed of developments.

5.9 Environmental section of 1998/99 SACAR 1 project proposals

Profs Smith, Chown and van Aarde, and Drs Bester and Boelhouwers' proposals were endorsed by the committee for onward transmission to SACAR. Dr Ryan's proposal was also endorsed, but with regard to his request to visit PEI, he was to indicate what he intended to do there and the matter was deferred to the next meeting. Dr Crawford's project was recommended, but he was also required to provide an indication of his intentions when visiting PEI.

6. DATE OF NEXT MEETING

This item was not discussed.

7. CLOSING

The Chair thanked the committee for their involvement over the past two years. He also thanked DEA&T and the Directorate: Antarctica and Islands for their assistance and for all the lunches. He stated that the composition of the committee could change entirely and that they would be advised accordingly in due course. Mr Loock expressed the committee's thanks to the Chair for his efficiency.

PROF S L CHOWN
CHAIR

DATE:

Doc 2.10

CONSERVATION REPORT - SEPTEMBER 1997

1) Repair of huts

During the past month Jan made a few trips to Repetto's and managed to fix the roof and waterproof the hut. Jan plans to try and get out to Greyheaded and Mixed Pickle during this month to fix these up for the summer season.

2) Gentoo breeding success close to Base.

As predicted in an earlier report (July 1997) the Gentoo penguins close to base bred much later than elsewhere on the island. As predicted this late breeding has led to dismal breeding success. The 50 nests monitored by Michelle at Trypot, failed to fledge any chicks. This is due to the return of the predatory skua's coinciding with the vulnerable post-brooding stage of the chicks. Breeding success at other colonies further away from base (which bred much earlier) has been much better. This is due to chicks being bigger and congregated in creches by the time the Skua's returned.

In this regard, thought should be given to moving take-over slightly earlier in the year, so as to not interfere with the breeding season of the Gentoo Penguins. I realise that this will only be possible once building on the Antarctic base has been completed. If take-over is restricted to the month of April (i.e. ending before the end of April), this problem could be alleviated. This would have added benefits of better weather conditions and longer daylight hours.

3) Navy vessel

If a Navy vessel does come down to patrol the South African EEZ and packages are delivered to Base by means of a helicopter, I would appreciate it if these pilots could be informed about the flying restrictions which exist on the island. As this visit will probably coincide with the period when all the penguins are on eggs, the highest level of caution

should be exercised. All flights close to the island should be restricted to functional ones (i.e. in a straight line between the ship and the helipad). No sight-seeing or photography trips should be allowed close to the island.

The Captain of the vessel should also be informed about conservation measures applying to vessels in the close proximity of the island. These include:

(i) No poultry of plastic waste to go overboard,

(ii) Lights to be kept to a minimum during night,

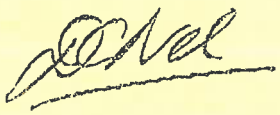
(iii) Dumping of kitchen waste and ejection of sewage should occur between sunset and sunrise and not closer than three nautical miles from the islands coastlines and in their lee,

(iv) All batteries, lubricating oils and waste fuel to be stored for return to S.A.

(v) Burnable material to be incinerated.

That concludes this month's report. In conjunction with Jan, I am compiling a list of jobs that need to be done during the 1998 take-over, for the meeting between DEAT and PWD. This should be completed within a few days time.

Yours sincerely



Deon Nel

From: "Marion Island" <marion@cis.co.za>
To: Steven Chown <stevec@scientia.up.ac.za>
Date sent: Sun, 2 Nov 1997 21:22:52 +0000
Subject: RE: Conservation Report - Marion Island
Copies to: "Kobus Booyse" <ant_jj@OZONE.PWV.GOV.ZA>
Priority: normal

CONSERVATION REPORT - MARION ISLAND - OCTOBER 1997

1) Matters arising from meeting with PWD, concerning the 1998 take-over

I have received a comprehensive report on this meeting from Kobus Booyse. I was very pleased to hear the about the work that is being planned for this take-over. I have the following comments.

1.1) Prioritisation of tasks

The work load for this take-over will be very large. Due to the weather and other unforeseen factors it is quite possible that not all planned tasks will be completed. It is thus necessary to prioritise tasks. In this regard I feel that tasks which are long overdue (i.e. tasks which should have been completed by 1993) should receive the highest priority (such installation of incinerator, macerator and blackout blinds). Tasks which are imminent environmental threats, and that cannot wait another year, should be tackled next (this includes replacement and maintenance of huts, and cleaning up and cementing over the landfill at the point).

I feel that the modification of the Helihanger into an emergency base is a task that should receive low priority at the moment. Marion base has numerous laboratories and other buildings that are not connected to the main living area. In case of a fire in the main living area, there will more than enough space in the other buildings for people to stay in. All that is required of an E-base on Marion Island at the moment, is a safe place for storage of blankets, clothes, food and a reliable radio.

1.2) Cleaning up of the point.

I am pleased to hear that a wall will be built at the point to contain the erosion of cement and plastic bags. If this wall is built very strongly this should work well. However, behind

the food store there is a area (approximately 10 metres by 10 metres) which has been used as a landfill in the past. This area is full of old coils of wire, and other pieces of junk metal and plastic. This area is impossible to clean up by hand as all the rubbish is stuck together and lying about 2 metres thick. During Northerly storms the waves also sweep up here and remove a lot of this rubbish. The only answer I can see in this area is to place a slab of concrete of all this rubbish.

1.3) Huts

I am very pleased to hear that Mixed Pickle and Repetto's huts will be replaced and that maintenance will be done on all other huts. I would however, like to point out that Greyheaded is the hut that is in the worst condition at the moment. Jan, who has been out there in an attempt to fix the hut up, agrees with me that this hut will definitely not last another year. Due to the impact of the longlining industry on the Greyheaded Albatross population, this hut is used very frequently at the moment and for the next three years. At the moment this hut is being propped up on rocks and an empty fuel drum. Due to this the whole frame has twisted and is beginning to fall apart.

1.4) Toilets at huts

The main reason behind my motivation for some sort of fibreglass cubicle toilet, was to have a strong structure which is enclosed and will stand up to the elements. Firstly there are no tools or material at the huts with which to construct toilets and secondly, toilets constructed out of koskassie planks get blown over by the wind and also allow birds to get into the toilet hole, which get stuck there and die. A fibreglass cubicle-type toilet which can be tied down well, is ideal. If a plastic 200 litre drum, with a clip-on lid can be dug in underneath this cubicle, this would be perfect. This drum can then just be replaced on an annual basis. If this is not possible then a fibreglass cubicle toilet over the normal long-drop system will be sufficient for now.

2) Timing of Take-over

I have also heard that the take-over period will be longer than usual in order to complete all the above tasks. As mentioned in previous reports (October 1997) and in a report placed by Michelle Greyling, we strongly urge that take-over should rather start earlier to allow for this extra time. As can be seen by

the data supplied by Michelle, late take-overs lead to dismal breeding success of Gentoo Penguins close to the base area. As a high proportion of these birds breed close to the base area this has a significant effect on the population. I am fully aware of the practical limitations surrounding the timing of take-over, however I urge that if it at all possible, the take- over period should not extend beyond the middle of May.

3) Measures to prevent further introductions of alien species

As the Management Committee has taken a strong stand (and quite rightly so) on this issue, I feel it is time that we clean up our own house with regard to possible introductions of alien species during the take-over period. I would like to propose the following measures, which could possibly be introduced in the near future:

3.1) All take-over personnel be issued with new white soled gumboots (some team members were issued with such boots this year). These should not be used prior to coming down to the island. These boots can thus be worn inside and outside of base (as they will not mark the floors). A rule can thus be made that these boots are the only shoes to be worn outside of base (i.e. even on the catwalks). If a person wishes to wear other shoes on the catwalks, these should be brought to conservation officer, who will inspect the soles for seeds and clean them with a herbicide if necessary. This can be done on one of the first evenings of take-over.

3.2) The necessity of fresh produce needs to be investigated. Marion base does not have a facility for storing fresh fruit and vegetables (i.e. a cool, dry and well ventilated room). The result is that most of the fresh produce actually ends up going rotten (due to storage in a damp confined area) and being thrown into the sea. Given the high risk that this produce poses of introducing alien seeds and insects, it seems that we are running this risk unnecessarily. I have also found that due to the fact that most people coming to the island are not expert cooks (some less than others!) and don't have a lot of spare time to spend in the kitchen, most people actually prefer using frozen pre-sliced vegetables than spending a long time peeling and slicing vegetables (my personal experience from three Marion teams).

It is thus my personal opinion that we are running a high risk with very little benefit. So either we need to increase the benefit (by building a proper cool room for fresh produce) or reduce the risk (by limiting the amount of fresh produce

allowed onto the island). I realise that this is a sensitive issue and that there will probably be a lot people who disagree on this point. However, I would appreciate it if it could be considered by the management committee.

4) Minimum distance from the coast for legal Fishing vessels.

Due to many reports placed to Sea Fisheries from our side, permit holding fishing vessels will not be allowed fish closer than 3 Nautical Miles (ca 6 km) to the coastline of Marion and Prince Edward Island, as from the first of November. I feel that this is another big step towards minimising the chances of fishing gear washing up on our coastline and thus causing entanglements of penguins and seals.

5) Illegal vessels

An illegal vessel has been sighted close to the island on two separate occasions. Lights were seen to the North East of the island on the evenings of the 26 October and 1 November. On both occasions we tried to call them on the marine band but did not receive a reply. This have been reported to Sea Fisheries.

That concludes this months report. I will be spraying the Agrostis gigantea plots as soon as get a reasonably wind still day with no rain, as it is now the middle of spring and the plants are beginning to grow. I would also appreciate it if the minutes from the Management Committee meeting could be forwarded to me as soon as they are available.

Yours sincerely

Deon Nel
MARION ISLAND
Tel: +27 12 3511805
Fax: +27 12 3511705

CONSERVATION REPORT - MARION ISLAND -
NOVEMBER 1997

1) Alien Plants

The *Agrostis gigantea* plots were sprayed with herbicide on 22 November. The entire area was sprayed and the effects of the herbicide are starting to show. The full effect should be clear within the month.

The *Rumex acetostella* has started to flower around Gentoo Lake again. It is still too early to judge whether this species has increased in area during the past year. This species showed a large increase in area during the previous year (Dr. Niek Gremmen *personal communication*).

During the past few months we have been mapping the presence of *Sagina procumbens* in Zone 3 on an incidental basis. This species has been noticed in the vicinity of Puisie (i.e. Crawford Bay, South Coast), around Swartkops Hut (West Coast) as well as between Repetto's and King Penguin Bay (North East Coast). This species thus seems to have successfully colonised the furthermost extents of the island. This species has also shown a rapid increase in the area from Blue Petrel Bay to East Cape over the past 10 years (Gremmen).

During the summer months further incidental surveys for *Agrostis stolonifera, Sagina procumbens* and *Poa pratensis* will be conducted. All three species are expected to increase their distribution and become common and widespread during the next 50 years.

2) Suggested quarantine measures (Conservation report - October 1997)

I have received very positive feedback from Dr. Niek Gremmen regarding the quarantine measures for take-over voyages, suggested in last month's report. Dr. Gremmen added that

if footwear is going to be inspected and sterilised, this should be done by the new conservation officer on the ship *en route* to the island. I feel this is an excellent idea and would like to see this implemented for the 1998 relief voyage. Methods of effectively sterilising footwear as well as marking shoes which have inspected, need to be investigated. I suggest that a highly adhesive sticker is used to mark sterilised shoes.

The above measure along with the issuing of new gumboots to all personnel will be a huge step towards minimising further introductions of alien species.

3) Legal Toothfish boats

Two legal Toothfish boats (the *Koryu Maru* and the *Aquatic Pioneer*) arrived during this month. We have had frequent communication with the observers onboard these vessels and have learned that to date they had caught 14 Whitechinned Petrels and 1 Giant Petrel. This comes despite the fact that they are now only allowed to set lines during the night time. It seems that night setting will definitely limit the amount Albatrosses caught, however Whitechinned Petrels are still at risk during moonlit nights.

After frequent sightings of illegal vessels during the latter part of last month and the early part of this month (all were reported to Seafisheries), no more illegal vessels have been noted since the permit holders arrived.

Yours sincerely

Deon Nel

From:	**"Marion Island" <marion@falcon.mweb.co.za>**
To:	**"Kobus Booyse" <ant_jj@OZONE.PWV.GOV.ZA>**
Date sent:	**Sat, 3 Jan 1998 23:08:34 +0000**
Subject:	**Conservation Report**
Priority:	**normal**

FOR ATTENTION: KOBUS BOOYSE

CONSERVATION REPORT - MARION ISLAND - DECEMBER 1997

1) Transfer of the Captain of the Aquatic Pioneer to island Sick Bay for medical treatment.

On the 25th at 16h00 we had HF radio comunication with the Aquatic Pioneer. At this time the Aquatic Pioneer was fishing on African Rise which is approximately 200 Nautical miles to the East of the island. We were told by the observer, Rob Pienaar, that the Captain of the vessel had blacked out the previous night and fallen and hit his head on the deck. He had suffered from concussion for about 2 minutes afterwards and had been suffering from continuous nose bleeding since then. At this stage they were merely seeking medical advice. Johan Botha, our Medical Officer, gave them medical advice, asked them to perform certain tests on the Captain, and to stay in radio contact concerning the Captain's condition. We then set up further radio scheds with the vessel. At 16h00 the following day (26/12/97) we were informed that the Captain's condition had worsened and that he was still suffering from intermittent nose bleeds as well as low blood pressure. Our medical officer then asked them to perform further tests on the Captain. As the Captain bent down to perform one of tests, he felt dizzy and his nose started bleeding profusely again. At this stage Johan become worried that the Captain was suffering from internal bleeding which was causing intracranial pressure on the brain. Johan then recommended that the Captain be transferred to the island for a proper examination. All involved (including the team leader, Jan Joubert, and myself) were in agreement that this situation could be critical. We then contacted Mr. Dirk van Schalkwyk who gave authorisation for the transfer to be made. I then spoke to the Rob Pienaar and asked him to take the following measures to prevent the possible transfer of alien species to the island: He was to spray out and clean the rubber dinghy to be used in the transfer, he was to inspect both his clothes as well as the Captain's for any outward signs of propagules, he was to scrub the soles of their shoes and he was to bring the absolute minmimum onto the island (i.e. only one fresh change of clothing). The vessel was also to remain at a minimum distance of 200m offshore. Both he and the Captain were more than willing to comply with these regulations.

At 22h00 on the 27th the Captain, Mr. Antonio Gordo and the observer, Mr. Rob Pienaar were transferred onto the island. They were transferred by means of a rubber dinghy onto the personnel carrier and then hoisted by means of the crane onto the land. The dinghy thus did not make any contact with the land.

Johan Botha then examined the Captain and found that he had suffered concussion and was suffering from low blood pressure. The continuous nose bleed was also worsening his low blood pressure. During this time the vessel was told to remain at least one nautical mile offshore. After this initial diagnosis the vessel returned to it's original fishing area (African Rise) to haul some lines that had been left there. Johan then gave the Captain medication to stabilize his blood pressure and stopped the nose bleed by means of adrenalin nose plugs.

On the morning of the 31st the Captain and the observer were transferred back to the vessel. Once again this was done by lowering them in the personnel carrier onto the rubber dinghy. He is in a stable condition and will continue fishing in this area until approximately the 09/01/1998 when they will return to Cape Town. On his return he will require further medical treatment.

Conclusions: I feel that this situation was handled very well from our side and that all went off very smoothly. I also feel that situation was of a critical nature and thus neccesitated us offering medical assistance. However, this incident once again highlights the inefficient medical supplies and medical knowledge aboard these fishing vessels. Once again the treatment of the patient onboard the vessel fell upon the observer (who has no formal medical training). At the time of the incident nobody knew what medical supplies where aboard the vessel. They did not even know if they had the apparatus for measuring blood pressure. I would also like to point out that the Captain's low blood pressure would have easily been picked up in a simple medical examination prior to leaving port. This is a point that I have insisted apon for a long time (see reports dating back to November 1996).

While I feel that it is our humanitarian duty to help anyone who is ill aboard a fishing vessel, I would also like to point out that it is the fishing companies who are benefitting financially through not taking proper medical care of their employees. Firstly they are benifitting financially by not placing sufficient medical supplies aboard, training a medical officer, and putting all crew members through a simple medical examination. Secondly they are benefitting financially in that fishing vessels do not have to return to South Africa in the case of a medical emergency, but can rely on

humanitarian help from the island and then continue fishing.

In the year that legal Toothfish industry has been operating around Marion Island there have been 5 incidents in which medical help and/or transfer of a patient onto the island have been requested. The above case is the second case in which a patient has been transferred to the island for treatment. As each of these contacts are a potential threat to the ecology of this island, I feel that the fishing companies should shoulder the responsibility of taking proper medical care of their employees.

2) New Alien Plant found on the island.

On the 31st Jaco found a new alien plant in front of the power shacks. It appears that this plant is of the Genus Sonchus. Species of this genus have become problem aliens on Gough island and the islands of the Tristan group. I have Emailed an image to Dr. Niek Gremmen, and await further identification from him. The interesting fact about this alien (as far as management goes) is that this plant was found in the exact spot where a container was standing. One can still see the marks in the soil where the container stood.

I understand (after speaking to other team members) that these containers are stored on an open piece of ground at Wingfield, which is covered with weeds. These containers are then packed and taken straight to the ship. Serious thought needs to be given to eliminate futher introductions via this path. The bare minimum preventative measures would include the following: Firstly, containers need to be stored on a clean cement surface (i.e no weeds growing through) and preferably in an enclosed area (i.e. a hanger). Secondly containers should be hosed down with a power hose and cleaned prior to packing.

3) High Bird Catches Aboard the Legal Longliner, the "Koryu Maru"

I have heard from the observer aboard the "Koryu Maru" that they have caught over 50 birds during this trip. This is compared to the 6 birds caught by the "Aquatic Pioneer". This has been mainly due to the fact that this vessel has it's offal shute on the same side as which it hauls it's lines. While CCAMLR recommends that all offal is stored during hauling and thrown overboard at a seperate time, a concession has been made aboard the local longliners due limited storage space. The offal is thus allowed to go overboard, provided that it goes over on the opposite side of the vessel. I am thus very surprised this vessel has been allowed to fish under these conditions. I will approach Seafisheries on this point and request that modifications be made to this vessel before it is allowed to fish in these waters again.

Yours sincerely

Deon Nel

Marion Island
MARION ISLAND (SA)
Tel: 012 3511805
Fax: 012 3511705

From: "Intekom4305" <marion@sanap.org.za>
To: <stevec@scientia.up.ac.za>
Copies to: <ant_sn@ozone.pwv.gov.za>
Subject: **Conservation report - January 1998**
Date sent: **Tue, 17 Feb 1998 22:26:46 +0200**

CONSERVATION REPORT - MARION ISLAND - JANUARY 1998

Firstly, I would like to apologise that this report is so late, however I
was out of base until the 6th of February and have since been busy catching some urgent field work on this side of the island. This report

only covers the month of January and incidents occurring in February will be reported on at the end of this month.

1) Rumex acetosella at Goney Plain

A patch of about 30m by 10m in which Rumex acetosella was totally dominant was found along the coast between Sea Elephant Bay and King Penguin Bay. I have not noticed this patch before and subsequently heard from Dr. Niek Gremmen that he was not aware of it□s existence. I have also corresponded with him regarding the treatment of this. We will discuss this further during take-over.

2) Mapping of the two alien plants Serastium fontanum and Sagina procumbens

During our round island census of incubating Wandering Albatrosses, we also mapped the extent of Serastium fontanum and Sagina procumbens. These maps will be compiled properly at a later stage for viewing by interested parties. However, suffice to say that these two species are now found in almost all suitable habitats right around the entire island.

3) Modification of the fishing vessel Koryu Maru

As reported last month position of the offal shute on this vessel was leading to large numbers of birds being caught. Following a report which I placed to Sea fisheries during this month, this vessel has now been modified so that it□s offal now goes over on the opposite side of the vessel. This will undoubtedly reduce the numbers of birds being caught by this vessel.

4) Feed back regarding the possible introduction of aliens by containers.

During last month I reported on an alien plant (of the genus Sonchus) which had been introduced by a container. During this month I received feedback from Sandy Nyathi, in which he mentioned that in future all containers will be inspected prior to loading and that PWD was also planning to change the place where the containers are stored. I have also spoken to Prof. Steven Chown about this matter and he told me that he has motivated that the entire area where the containers are kept (at Wingfield) should be sprayed with weed killer. I strongly endorse all the above actions and thank the concerned parties for viewing this matter in a serious light.

Yours sincerely

Deon Nel

Marion Island

PS. Please confirm whether this message was received as our Email is a bit shakey at the moment. Thank you.

12/1/954

Doc 2.8

DEPARTEMENT VAN OMGEWINGSAKE EN TOERISME
DEPARTMENT OF ENVIRONMENT AFFAIRS AND TOURISM

VERWYSING A 10\2\1\2\7\3
REFERENCE

NAVRAE K BOOYSE
INQUIRIES

TELEFOON 310-3542
TELEPHONE

ACTING DIRECTOR GENERAL

PRINCE EDWARD ISLAND MANAGEMENT COMMITTEE: RECOMMENDATION: DISCONTINUATION OF FRESH VEGETABLES AND FRUITS: MARION ISLAND

1. At the Prince Edward Islands Management Committee (PEIMC) meeting held on 16 October 1997, it was recommended that the supply of fresh fruits and vegetables to Marion Island expedition teams be discontinued. As you are aware there has been an increase over the past few years, in the detection of alien insects and plants on Marion Island, such as known vegetable pests and pathogens. These increases have been directly linked to the supply of fresh fruits and vegetables to the expedition teams. Given that the supply of fresh produce only last for a month or two anyway the discontinuation thereof should not adversely effect morale etc.

2. The Directorate supports the PEIMC recommendation. Accordingly, the above recommendation is forwarded to you for your approval should you concur.

ACTING CHIEF DIRECTOR: ADMINISTRATION

DATE:

ACTING CHIEF DIRECTOR: ADMINISTRATION

RECOMMENDATION APPROVED/~~NOT APPROVED~~/~~AMENDED~~

ACTING DIRECTOR-GENERAL

98. 02. 13

Doc 2.9

Atomic Energy Corporation of South Africa Limited
P O Box 582 Pretoria 0001 Telephone: (012) 316-4911

AEC-AEK

Mr Pat Thema
Department Of Foreign Affairs
Private Bag X152
PRETORIA
0001

Reference: NTBT-File
Enquiries: Dr B B Hambleton-Jones
Telephone: (012) 316-6200
Telefax: (012) 316-6207
Date: 14 November 1997

FAX: (012) 351 1651

Dear Sir

MONITORING STATION ON MARION ISLAND

Thank you for your letter dated 11 November concerning the above station.

I have reviewed the information provided by Mr Skinner on the existing EML station against the International Monitoring System (IMS) Site Stations. The existing EML on Marion Island is a **low resolution** detection system whereas the IMS station requires a **high resolution** detection system. This implies that the existing system will have to be replaced with a high resolution system capable of detecting radionuclides at very low concentrations.

Please do not hesitate to contact me should you require further information.

Regards

B B Hambleton-Jones
SENIOR MANAGER: NUCLEAR WASTE MANAGEMENT

(204/97)

ogsrd en 17/11/97

NV1114 26/97

DEPARTMENT OF FOREIGN AFFAIRS
F A X M E S S A G E

TO : MR RICHARD SKINNER

FAX : (012) 351 1345

NO. OF PAGES : 1

FROM : Mr Pat Thema ROUTE : MA80

TEL. NO. : (012) 351 1933

FAX NO. : (012) 351 1651 (Route MA80)

DATE : 14 November 1997

SUBJECT:

You will recall that on 10 November 1997, it was decided that documentation with regard to the existing station on Marion Island should be sent to Dr Hambleton-Jones (AEC) to compare the specifications of the existing equipment on Marion Island with that of the prescribed specifications of the CTBTO and ascertain whether they conform with the requirements.

The Department received the response from Dr Hambleton-Jones which is attached for your further consideration. It appears then that a request for an on-site inspection and the erecting of new equipment will have to be made to the Marion Island Management Committee.

The Department would appreciate your comments.

Regards

Doc 3.1

ml/37-036

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANARP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

VOYAGE 87: MARION ISLAND

b) Participants:
(Title and name)

Dr. C.J. Augustyn (Group Leader)
Mr. B.M. Dyer

c) Affiliation and name of Research Programme:

Sea Fisheries Research Institute

Monitoring seabird populations at the Prince Edward Islands

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

* De-briefing of Miss. M. Greyling following the 1997 CEMP-monitoring at Marion Island. Full documentation of results obtained and methods used during the year. Completion of CCAMLR submission forms.

* Finalization of the 1998/1999 work schedule for the new field assistant

* Training and orientation of new staff member at monitoring sites of Gentoo, Macaroni, Rockhopper and King penguins, as well as those of other seabirds being monitored.

* Visiting all field huts on a round island orientation with the new field assistant over a ten day period.

* Maintenance of the Bullard and Kildalkey Macaroni Penguin colony boundary markers.

* Stock taking and transfer of new and replaced equipment to the new staff member.

* Investigation of disease and pollution as a factor in mortality of seabirds at Marion Island.

* Investigation of Great-winged and Grey Petrel study sites. Downing with a spotlamp and banding all seabirds returning at night to these sites to determine burrow occupancy on 10 nights.

* Investigation of colour-ringed birds at Marion Island.

* Investigation of Yellow-nosed and Grey-headed Albatross breeding success at Prince Edward and Marion Island.

* Aerial photography of Wandering Albatross at Albatross Valley at Prince Edward Island (incomplete coverage in 1994).

ml/37-036

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Voyage Coordinator should be aware of)

* 90 stomach contents of Macaroni and Rockhopper Penguins (45 each),

* 20 (or more) opportunistic samples from birds regurgitating meals during night operations

* 10 pellets from Imperial cormorants at roosting sites

* Freshly dead carcasses of seabirds for veterinary analysis.

* Abandoned seabird eggs for morphometric measurements and heavy metal pollutants.

2. Air support

* Transport to and aerial photography of Wandering, Grey-headed and Yellow-nosed Albatross colonies at Marion and PE Island on one good weather day before or after round island trip.

* Transport for day visits to Kildalkey/ Grey-headed/ Rooks/ Swartkop sites should overnighting at the huts not be possible due to refurbishment operations of the huts during takeover.

3. Camping equipment

* Backpacks, sleeping bags, emergency flares, medical kit, two-way radio and survival rations.

4. Hut bookings

* All the huts will be visited over a 10 day period during orientation of the new field assistant, Kildalkey will be used for two nights; Grey-headed hut - one or two nights; Rook's - one night; Swartkop - one night; Mixed pickle - one night; Repetto's - one night.

NAME OF COMPILER SIGNATURE DATE

Doc 3.2

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANARP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

Voyage 87: Marion relief voyage

b) Participants:
(Title and name)

Mr A Rowland (Electronic instruments & WB co-ordinator)

Mr E Cindie (Met observations & exposure)

Mr J Oosthuizen (Supplies administration)

c) Affiliation and name of Research Programme:

SA Weather Bureau

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

SCIENTIFIC OBJECTIVES

1. Ongoing met observations from the ship for the duration of the voyage.
2. Buoy deployment - See attached note.
3. Upgrade of upper air receiver to GPS (Urgent) See attached note
4. Install LUT and Argos beacon on Marion - See attached note.
5. Inspection & maintenance of all meteorological equipment on Marion.
6. Stocktaking of all meteorological equipment.
7. Remove foundation of old upper air building.
8. Remove stand for old upper air antennae.
9 Remove waste from hydrogen generator.

VOYAGE PARTICIPATION DETAILS

ITEM 2: BUOY DEPLOYMENT

The Weather Bureau has obtained weather buoys from the UK with wind sensors, and we would like to deploy one of these approximately 180 km SW of Cape Town. This position was chosen to put the buoy in ocean currents moving up the west coast of Africa. If the buoy should be deployed on a direct route to Marion it would drift out of our area of interest within a relatively short period. Previous deployments from commercial ships were unsuccessful because the wind sensors were damaged by inexperienced crew during deployments. Our next opportunity will probably be during the voyage to SANAE which is too late.

It is therefore requested that a deviation be made to deploy the buoy during the Marion relief.

ITEM 3: UPGRADE OF UPPER AIR RECEIVER TO GPS.

This task must please be considered urgent. Since the switching off of the Omega navigational system no upper winds could be calculated from Marion. Mr A Rowland must be given the opportunity to upgrade the upper air equipment as soon as possible after the arrival of the ship at Marion.

ITEM 4: INSTALL LUT AND BEACON.

The purpose of the LUT is to collect data from buoys in the southern Indian ocean and transmit it to Pretoria. The beacon is used as an aid to determine the exact positions of the buoys by means of triangulation. The greater the distance between the LUT and the beacon, the more accurate the results will be. The beacon should therefore be installed at one of the most distant huts on Marion.

Doc 3.3

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC PROGRAMME

VOYAGE PARTICIPATION DETAILS

1. FULL NAMES OF PARTICIPANTS

a) Voyage number and destination:

1998 Relief Voyage Marion Island

b) Participants:

Dr. Ian Meiklejohn)
Mr. Paul Sumner
Mr. Steve Holness
Ms . Tracey Solomons

c) Affilliation and name of Research Programme:

University of Pretoria (I.M and P.S.)
University of the Western Cape (S.H. and T.S.)

CRYOGENIC LANDFORMS AND PROCESSES ON MARION ISLAND

9 Feb. '98 10:17 UWC Earth Sciences 021 9592438 P. 3

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC PROGRAMME

VOYAGE PARTICIPATION DETAILS

2. RESUMé OF SCIENTIFIC OBJECTIVES

Scientific Objectives
(Shore-based research)

1. To establish monitoring sites on energy- and mass-balance fluctuations of the Marion icefield.
2. To monitor the environmental controls, active processes and landforms resulting from frost activity on Marion Island.
3. To monitor the environmental controls and processes of mechanical rock weathering on Marion island

Planned activities

1. Installation of automatic weather station and ice mass-balance monitoring stakes on Marion icefield*.

2a) Reading of data loggers, marker measurement on experimental and monitoring plots at Katedraalkrans*, Long Ridge (2 sites) and Juniors Kop.

b) Re-establish the experimental site at Long Ridge South on micro-climatic controls on cryogenic soil processes

3. Establish rock weathering monitoring sites at Junior's Kop, Long Ridge and Katedraalkrans*

* Subject to new hut at Katedraalkrans being in place.

9 Feb. '98 10:16 UWC Earth Sciences 021 9592438 P. 1

SOUTH AFRICAN NATIONAL ANTARCTIC PROGRAMME

SACAR 3

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS

Sampling
- 50x 100g soil samples for a) particle size analysis and b) undisturbed soil samples for micro-structural, bulk density and pF determinations.
- Import of 6kg sandstone and dolerite rock samples for experimental weathering from S.Africa to Marion. All samples will be autoclaved before shipping.
- Export of 6kg grey and black lava rock samples for experimental weathering from Marion to South Africa.

Potentially hazardous materials
Paint for marking stones, resin (5kg) and acetone (500ml) for undisturbed-soil sampling.

Equipment
Camping equipment for four people will be required for visits to Long Ridge (2x Sun Seeker tents).

Air support
Three helicopter lifts will be needed to transport materials to Long Ridge South, Katedraalkrans and the vicinity of icefield.

Laboratory space
General purpose lab with oven and general working surface for the team.

NAME OF COMPILER:		
Dr. J.Boelhouwers	SIGNATURE	DATE: 9 FEBRUARY 1998

9 Feb. '98 10:16 UWC Earth Sciences 021 9592438 P. 2

Doc 3.4

d/8-096

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC PROGRAMME (SANAP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANAP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

Voyage 87 : Marion Island (1998)

b) Participants:
(Title and name)

Dr. D.J. Marshall (Group Leader)
Department of Biological Sciences, University of Durban Westville, Durban

Dr. N.J.M. Gremmen
Netherlands Antarctic Programme

Ms. C. Hänel
Department of Zoology & Entomology, University of Pretoria, Pretoria 0002

c) Affiliation and name of Research Programme:

Altitudinal gradients in assemblage structure, population energy usage, and survival strategies of invertebrates on Marion Island: The effects of climate.

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC PROGRAMME (SANAP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

Shore-based research at Marion Island for "Altitudinal gradients in assemblage structure, population energy usage, and survival strategies of invertebrates on Marion Island: The effects of climate".

1. Continue invertebrate sampling programmes on the east and west coasts of Marion Island. Sites in the remaining 4 epilithic biotope/fellfield habitats must be identified and each site must be delineated with removable markers. Undertake high altitude fellfield sampling for verification of techniques.

2. Sample epilithic biotope invertebrates so as to make reference collections for despatch to taxonomic experts on return to South Africa from Marion Island. In the case of the insects and molluscs, identities of the species have been resolved, but the Collembola, mites and annelids of Marion Island are poorly known.

3. Complete survey of invertebrates in alien plant communities initiated in 1997 with Dr. N.J.M. Gremmen and Prof. V.R. Smith.

4. Service automated invertebrate extractors in the wet laboratory. Re-test all equipment (balances, microscopes etc.) in the laboratory to check that it is functional.

5. Instruct personnel in field-identification of the known epilithic biotope arthropods.

6. Initiate long term ecophysiological work on selected species of mite, collembola and insect (*Plutella xylostella* especially).

7. Air transport requirements: (see point 5. Other details)

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC PROGRAMME (SANAP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Officer-in-Charge should be aware of)

1. Laboratory space for four takeover personnel and two expedition personnel will be required in the Microbiology/Botany laboratory.
2. Storage space for equipment will be required in a store room in the Wet Laboratory.
3. Cold storage space (c. 1 m^3) will be required on the research vessel for transport of mite, weevil and *Pringleophaga* specimens from Marion Island to South Africa.
4. At least 20 specimens of each of the unknown invertebrate species (probably in the order of 20 to 30 species) will need to be collected from Marion Island. Permits will be required for removal of this material to South Africa. Permits will also be required for collection of insect and mite species for the takeover personnel and for the team personnel.
5. Main areas of focus for research work on Marion Island will be Sealers Beach, Stony Ridge, Nellie Humps, Long Ridge, Katedraalkrans and Swartkop Point to Mixed Pickle Cove. Helicopter support will be required for transport to and from Mixed Pickle Cove, (1 night), Rooks Bay (1 night), Cape Davis (1 night) and Kildalkey Bay (1 night), for two people and two backpacks filled with samples. Dates of trips to these huts can be accommodated within the framework of other work programmes. Two helicopter trips to and from Katedraalkrans for at least six people are required.. All other traverses will be made on foot. Permits are required for scientific work in Zone 3 of Marion Island for both relief personnel and for personnel working for the full year.
6. Huts on Marion Island will have to be provisioned with takeover food, and supplies for two expedition members for the year.
7. Permission for placement of a hut at Katedraalkrans is requested. The site will be occupied for at least 10 days per month for the full year. The old hut site will be utilized. All equipment will be removed from the site on completion of the year's work. Permission for utilization of this site by six people for 10 nights of the takeover is also requested. This is essential for high-altitude invertebrate work. A hut at this site will have to be stocked with food for at least two people for a minimum of 120 nights, with stoves and lights, and with basic cooking utensils. Given that water is a problem at this site, a large water container, airlifted into place with water, is required.

NAME OF COMPILER	SIGNATURE	DATE
S-L. Chown		29/1/1998

DR B H KLOPPERS
MBChB(Pret)DBO(Pret)MPharmMed(Pret)

Pr.Nr. 1463966
BTW No./VAT Nr. 4240141947

Suite B
Kantoorvlak/Office Level 2
Sunnypark Sentrum/Centre
Sunnyside
Pretoria
0002

Tel.: Kamers/Rooms (012) 341 1832
Tel.: Nood/Emergency (012) 333 8000
Fax.: (012) 341 5151
Posbus/P.O.Box 25272
Monumentpark
0105

DATE: 22/01/1998

TO WHOM IT MAY CONCERN.

Re: Miss C Haenel

Date of Birth : 29/02/1956 Age: 41 years

The above presented for routine medical examination on 22/01/1998.

Complaints:
None.

Previous History:
1. Wisdom teeth removed
2. Lasik eye surgery

Gynaecological History:
P0G0A0 No problems.

Social History:
Non-smoker.

Family History:
None of note.

Medication:
No regular medication needed; on no medication at present.

Known Allergies:
None known.

On Examination:
BP 100/70 mmHg Pulse rate 60 bpm,normal. General appearance healthy. On systemic examination no abnormalities found.

Comments:
I find miss Haenel to be in good health.

Yours faithfully,

Dr. B.H. Kloppers

Doc 3.5

ml/37-036

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANARP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

87 / mv SA Agulhas
Marion Island

b) Participants:
(Title and name)

Mr Johan Christiaan Loock

c) Affiliation and name of Research Programme:

Department of Geology
University of the Orange Free State

Geology, investigation of erosion at dam in Van den Boogaard River

ml/37-036

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

EROSION AND ENVIRONMENTAL DEGRADATION IN THE VAN DEN BOOGAARD RIVER

Refer to paragraph 2.17 of the draft minutes, meeting of the PEIMC, 16 October 1997. At the meeting it was decided that JC Loock and VR Smith should investigate the site during the 1998 take-over. We will:

(a) Investigate the erosion of the peat and soil cover at the dam site.
(b) Establish the cause of the erosion.
(c) Recommend a method to stop the erosion and to rehabilitate the area.
(d) Recommend a management plan for the future.

VALLEYS AND SCARPS

During the last take-over I spent some time investigating scarps which are supposed to be fault scarps, eg the Trypot Scarp and found it to be a scarp formed by marine erosion. I plan to continue with this work after the investigation at the Van den Boogaard River has been completed. If I can show that the radial valleys on Marion are erosional valleys and not fault-bounded graben, my work will aid other research currently in progress eg that of Prof Jan Boelhouwers.

ml/37-036

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Voyage Coordinator should be aware of)

The Van den Boogaard River and the other valleys and escarpments which I plan to study, are all within walking distance of the base.

No support is required.

NAME OF COMPILER J.C. LOOCK SIGNATURE J Loock DATE 10·2·1998

Doc 3.6

ml/37-036

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANARP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

Voyage 37 : MARION ISLAND

b) Participants:
(Title and name)

As Per letter Ref No. NPWD Antarctica + Islands
dd. 98-02-13

c) Affiliation and name of Research Programme:

NPWD. Maintenance Programme. As Per Memo
dd. 98-02-14

ml/37-036

SMAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES (For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)
All programmes shall be shore-based. Maintenance Personell will operate in and around the entire base area as well as the dam, for the purpose of water line checks + Repairs. Personell also need to repair and replace the field huts around the Island. A total of 10 Hours flying time is required to execute these repairs.

ml/37-036

SANCAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Voyage Coordinator should be aware of)

A Retaining Wall will be erected at the landing stage. Materials used ± 7 m^3 sterilised Sand, (bagged). ± 6 m^3 Stone (19mm). ± 50 Pockets of Cement.

Other Materials used for DAY to DAY Maintenance

Paints
Chemicals to clean fuel tanks.
Construction, treated timber
Eletrical + Mechanical Equipment + Tools
Accommodation Required for 11 Members in a Quit Zone of the main base.

M. A. MURPHY — 98/2/18

NAME OF COMPILER — SIGNATURE — DATE

REFERENCE : NPWD. ANTARCTICA & ISLANDS

ENQUIRIES : MR.M.MURPHY

TEL NO : 021 402 2264

FAX NO : 021 419 6144

REPUBLIC OF SOUTH AFRICA

DIRECTORATE:
ANTARCTICA AND ISLANDS
PRIVATE BAG X 447
PRETORIA
0001

Dear Sir

SUBJECT: MARION ISLAND RELIEF VOYAGE, 1 APRIL - 14 MAY 1998.

With reference to your letter A15/1/2/1/2, dd. 27 January 1998, I wish to advise you that a NPWD team consisting of eleven (11) members will attend the this expedition , for the purpose of construction and day to day maintenance on various installations and the accommodation complex.

The following members will participate in the event:

1.	M. Murphy	(Team Leader)
2.	M. De Vries	Elect.
3.	H. Mc Bride	Elect.
4.	R. Parker	Build.
5.	L. De Beer	Build.
6.	B. Du Plooy	Build.
7.	M. Holm	Mech.

8.	R. Cruywagen	Mech.
9.	W. VD Westhuizen	Mech.
10.	J. Delport	Mech.
11.	M. Swart	Refridge.

Please find the attached workschedule for the forthcoming Marion Island expedition.

Above for your information.

Kind regards

Mike Murphy

DATE : 18 February 1998

Memorandum

REFERENCE : NPWD. ANTARCTICA & ISLANDS

ENQUIRIES : M. MURPHY

TEL NO : 021 402 2264

DEPARTMENT OF PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

TO : KOBUS BOOYSE

SUBJECT: MARION ISLAND: 1998 RELIEF VOYAGE: WORK SCHEDULE.

The following services are to be implemented during the 1998 Marion Island Relief Voyage:

1. Construct a retaining wall at the landing stage.
2. Chip and paint the rust effected bulk fuel storage tanks.
3. Clean the interior of the contaminated fuel storage tanks.
4. Partially replace and repair the field huts around the Island.
5. Service and repair cold & freezer rooms.
6. Repairs to the hanger door.
7. Paint water storage tanks.
8. Replace rusted bracing clamps under various buildings.
9. Day to day maintenance on all accommodation complexes.
10. Replace and repair unserviceable catwalks.
11. Partially install blinds in the base and lab. areas.
12. Service and repair the crane.
13. Repairs to all base load generators.
14. Dismantle and remove old catwalk/platform at the upper air building.
15. Service and repairs to fresh water- and fuel pipelines.

16. Service fire detection / prevention equipment.

All other services, to be conducted over and above the mentioned work schedule will be to the discretion of the Departmental Team Leader.

Above for your information.

M.MURPHY
DATE: 18 February 1998

DATE : 18 February 1998

Printed: 18/02/98/08:52/

Doc 3.7

d/8-096

SACAR 3

SOUTH AFRICAN NATIONAL PROGRAMME (SANAP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANAP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

1998 relief voyage to Marion Island

b) Participant:
(Title and name)
Biological Oceanography Group
Dr. P.W. Froneman (Group Leader)
Mrs M. Balarin
Mr. A. Grinham
Miss L. Gurney
Miss A. Treasure
Miss G. De Beer
A.N. Other (SFRI electronic officer)
A.N. Other
A.N. Other

Physical Oceanography
Miss I.J. Ansorge (Group Leader)
Mr. S. Kohrs
Mr. R. Roman
Mr. J.G.W. Scholtz
Mr. J. Hornby

c) Affiliation and name of Research Programme:

The Prince Edward's life-support system and variability of living resources in the Southern Ocean (Southern Ocean Group, Rhodes University, Grahamstown)

SACAR 3

SOUTH AFRICAN NATIONAL PROGRAMME (SANAP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES
For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and /or from)

The general objective of the cruise is: to provide scientifically based information about the spatio-temporal variabilities in the life-support system of the islands. This will include in order of priority:

1. Mesoscale oceanographic survey in the upstream and in the inter-islands areas (≈ 6 days; Figs. 1 and 2)
2. Occupy a northern bound transect up until 30°S along south-west Indian and Madagascar Ridges (10 days)
3. Deploy current meters in the upstream, downstream and inter-island region (*ad hoc* during the nighttime; Fig. 3)
4. Conduct *ad hoc* net tows (Bongo and RMT-8) within the inter-island region during the nighttime.

During the relief cruise, we plan to undertake underway measurements of sea-surface temperature and salinity on a continuous basis. Surface samples for pigment analysis and phytoplankton will be taken at regular intervals (≈ 30 nautical mile).

During the mesoscale survey, we plan to conduct a transect along 37°E from 47° 20'S upwards until the SAF is crossed. Along this transect CTD stations and net tows (Bongo or RMT-8) will be undertaken every 20nm. Once the position of the SAF has been determined, a transect towards the inter-island region will be carried out (Fig. 1).
Within the inter-island region, we plan to conduct net tows during nighttime (if necessary during two consecutive night) in order to avoid day/night variability in zooplankton stocks (Fig. 2). In addition to the CTD and net tow surveys, we hope to conduct size-primary production studies.

Along the return transect we hope to occupy a XBT line till 30°S in order to identify the position of the major frontal systems along the the northern leg. Along the southern leg we would like to carry out CTD's (1500m) and RMT net tows. It is envisaged that the northern leg will take 3 days while the return leg will take 7 days.

The deployment of the current meters and the *ad hoc* net tows in the waters surrounding the islands will largely take place during the nighttime (Fig. 3). Time allowing, it is possible that the current meters be also be deployed during the daytime

SACAR 3

SOUTH AFRICAN NATIONAL PROGRAMME (SANAP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Officer-in-Charge should be aware of

We plan to collect plankton, nekton and benthic specimens using the nets only. The limited amount of acetone, methanol and formaldehyde needed for the biological samples and experiments will be stored in the laboratories available on board the *S.A. Agulhas*. All radioactive waste generated during the cruise will be disposed of on return to the harbour by Waste-Tek.

Laboratory requirements: access to all laboratories and trawling facilities. Exclusive use of the acoustic, aft laboratories and hydrological laboratories

Type of equipment required: Bongo and RMT-8 nets, CTD mounted on the rosette system, light meter.

DR. P.W. FRONEMAN		11/02/1998
NAME OF COMPILER	SIGNATURE	DATE

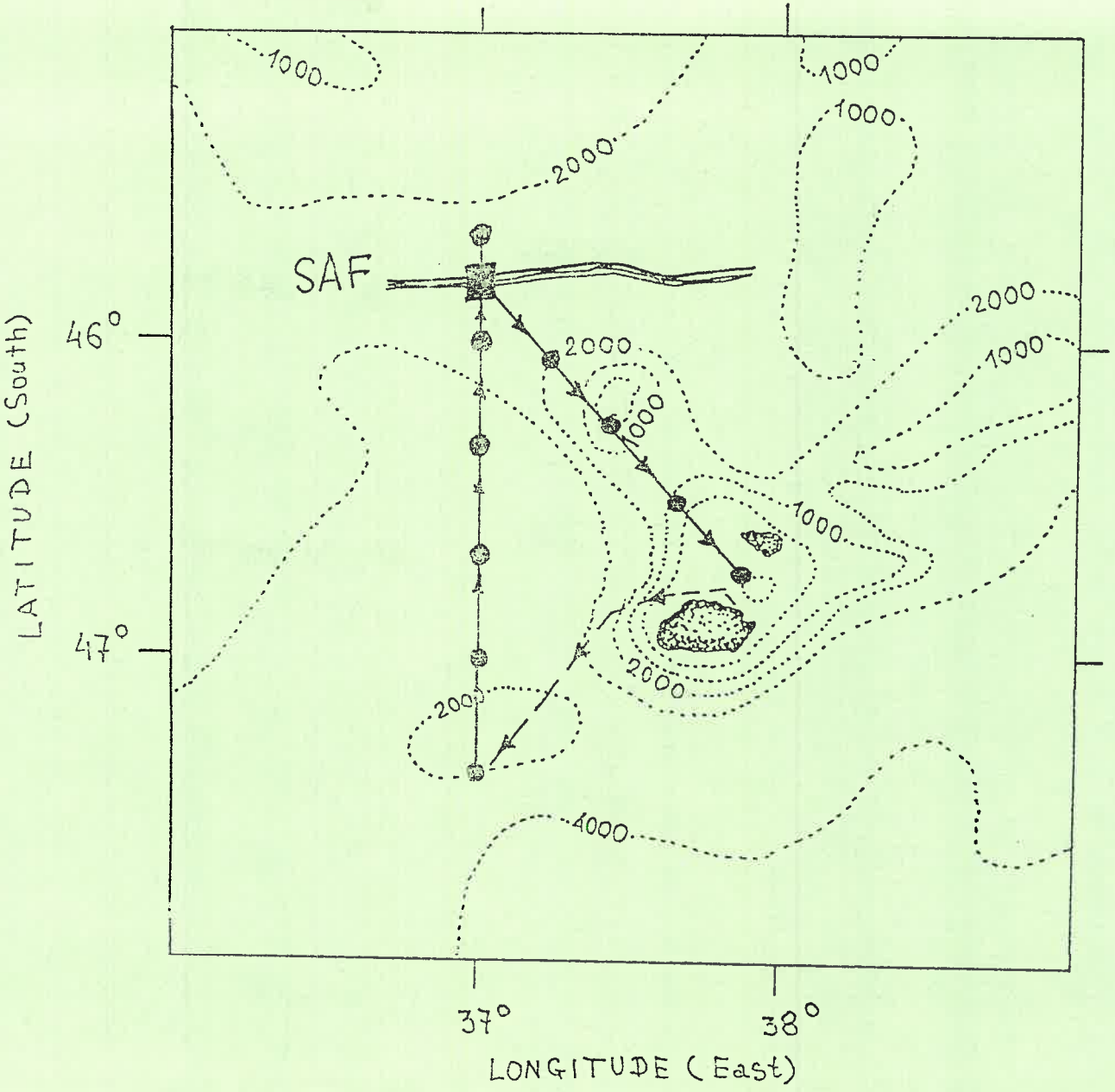
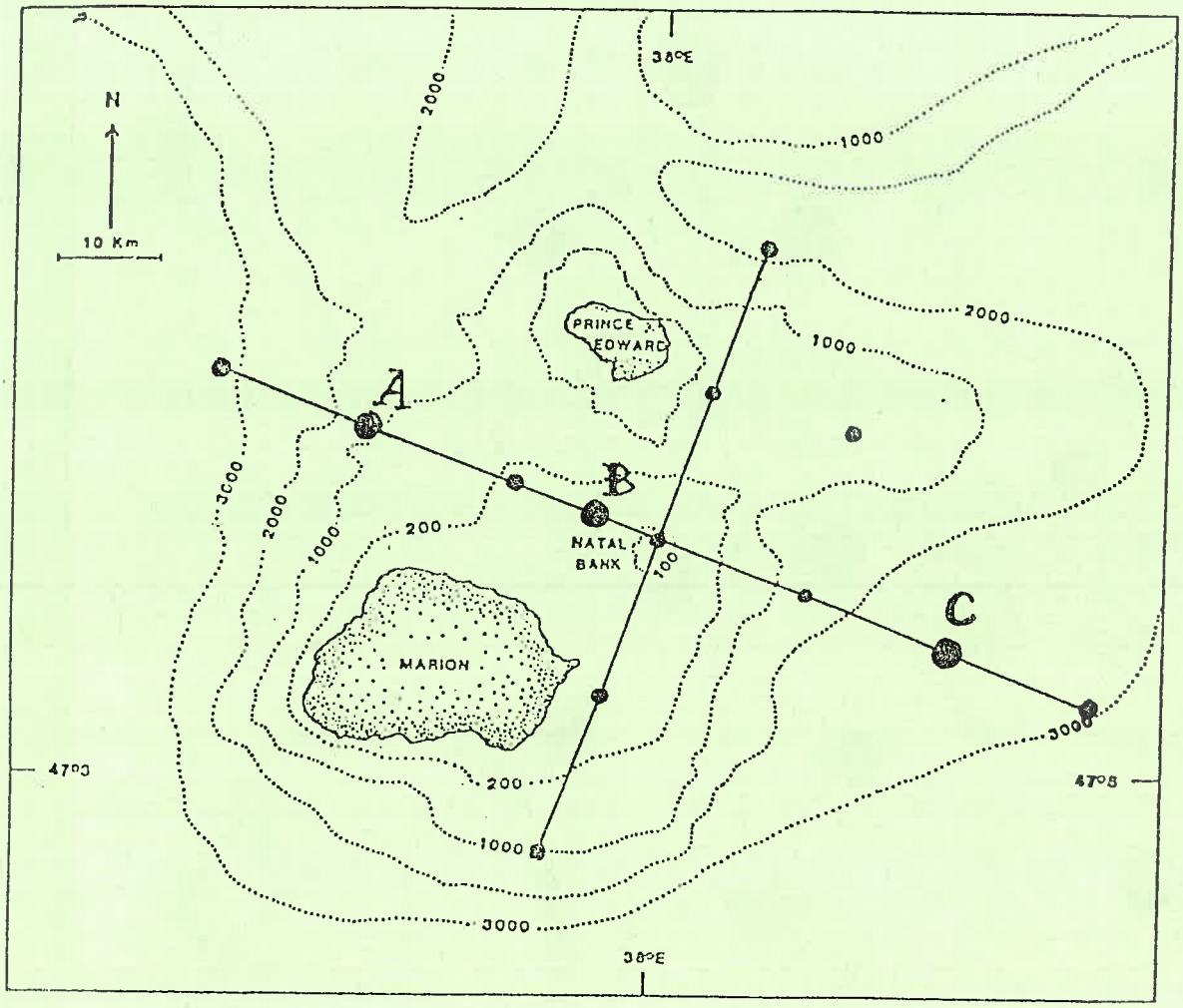


Fig. 1


N
10 Km
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PRINCE EDWARD
A
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3000
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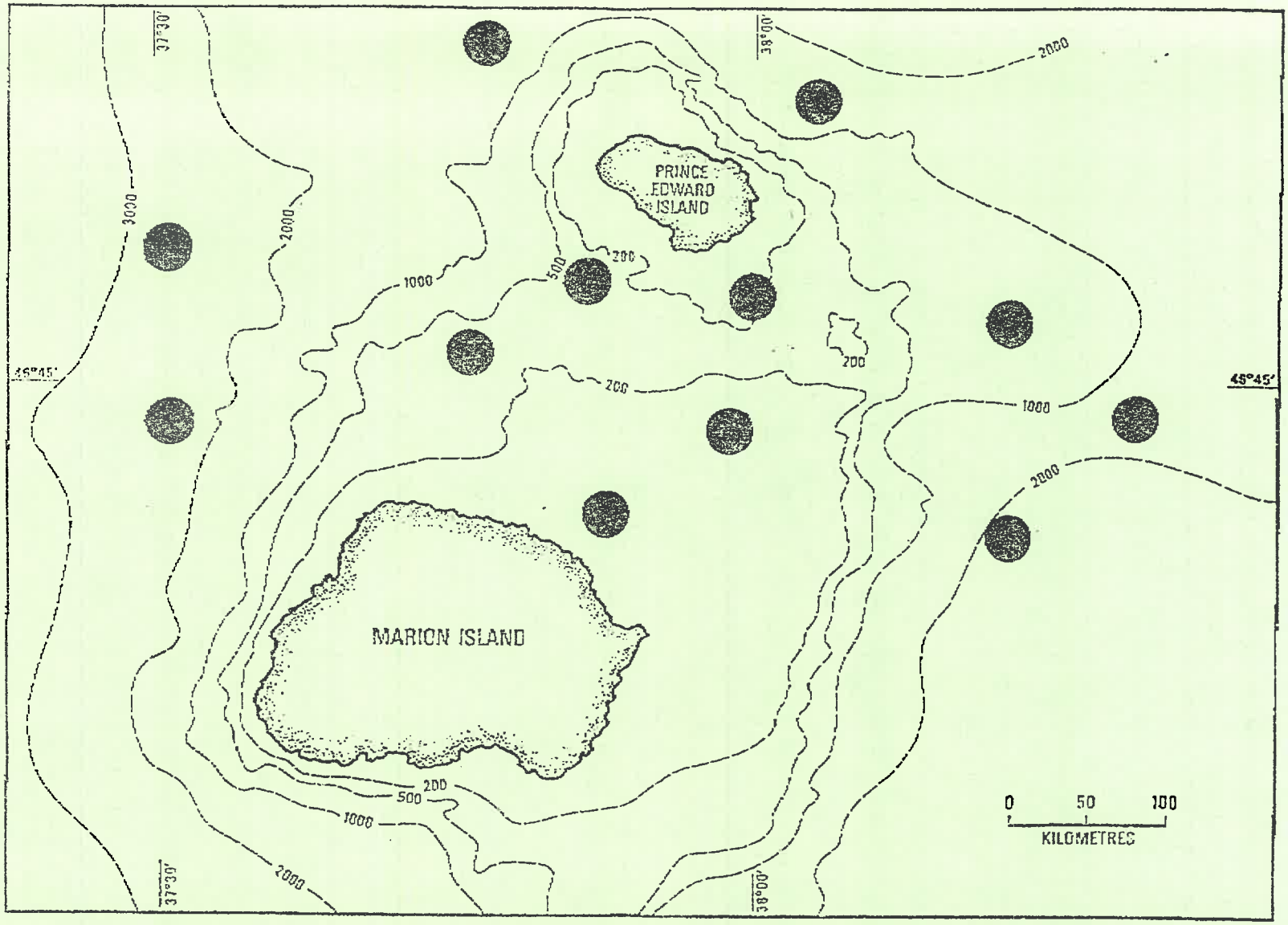
Fig. 2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38°00'
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3000
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PRINCE EDWARD ISLAND
MARION ISLAND
0 50 100
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Fig. 3

Doc 3.8

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

1. FULL NAME(S) OF PARTICIPANTS.

a) Voyage number and destination(s):

VOYAGE 87 MARION RELIEF VOYAGE
MARION ISLAND

b) Participants:

Prof. RJ van Aarde (group leader)
Mr. D.G. Easmus
Mr. L Niemand *
Mr. J Delport *

c) Affiliation and name of Research Programme

MAMMAL RESEARCH INSTITUTE
DEPARTMENT OF ZOOLOGY & ENTOMOLOGY
UNIVERSITY OF PRETORIA

Autecology of house mouse *Mus musculus* (senso lato) on Marion Island.

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* Mr. L. Niemand and Mr. J. Delport's participation would be required for the duration of take over, only if no suitable candidate can be found for the full 1998/1999 field session. This would enable us to get a considerable amount of work done during the short time available for the take-over period.

2. RESUMè OF SCIENTIFIC OBJECTIVES

a) Training and orientation of one field worker in live and snap trapping of mice for 1988/1999 field session.

b) Installation and testing of solar powered , low currency electric fencing at two existing sites north of The Fault.

c) Monitoring of annual mouse density trends. Nine sites in zone two.

d) 5 Nights of live trapping at existing experimental sites.

e) Collecting of blood from mice at base for Medical Research Council

f) Collecting of mouse carcasses from Mixed Pickle and Rdks Bay for morphological studies.

g) Setting up of pilot study on the correlation between food availability and winter survival of mice

3.TARGET AREAS AND SPECIAL SUPPORT

a) Zone two: - exsisting experimental studies
- annual monitoring work

b) Base area: - blood collection
- pilot project on feeding

c) Mixed Pickle: - biotically infuenced area south of hut
(3 people 24/27 April)

d) Rooks Bay: - grass plains south of hut.
(3 people 27/29 April)

Airlifts are required on:
- 24 April to Mixed Pickle hut (3 people and equipment).
- 27 April from Mixed Pickle to Rooks Bay (3 people and equipment.).
- 29 April from Rooks hut to Base (3 people and equipment).

4. OTHER

The use of part of the Upper General Purpose Lab (Mammal lab) for the duration of take over.

ml/37-036

Doc 3.9

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

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1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

V87 Marion Island

b) Participants:
(Title and name)

Ms G. Jones (or A.N. Other)
— field assistant at Marion 1998-99

c) Affiliation and name of Research Programme:

Percy FitzPatrick Institute, U.C.T.
Long-line impacts on albatrosses & other seabirds

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF SCIENTIFIC OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

Ms Jones will replace Deon Nel & Jeanne Thurfod as field assistant on the long-line / seabird project. She will be trained & instructed as to her work schedule at the Island by Deon & Jeanne.

The main work objective away from the base will be to look at feeding rates (by sex) and fledging in Greyheaded Albatrosses. This requires a long stay at Greyheaded Hut.

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Voyage Coordinator should be aware of)

No helicopter support is required.

Hut use :

During the takeover, the party of three will need the use of field huts as follows:

Repetto's Hut — 2 to 3 nights

Greyheaded Hut — 14 nights

Round Island trips — x 2 (specific huts to be used depending on other field team demands)

Dr P. G. RYAN — 20/2/98

NAME OF COMPILER — SIGNATURE — DATE

Doc 3.10

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANARP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

VOYAGE 87 : MARION RELIEF VOYAGE 1 APRIL 1998 - 14 MAY 1998

b) Participants: (Title and name) SAAF PERSONNEL

66402363PS	Maj	A.W.	Johnson	Contingency Commander
74387812PE	Maj	B.R.	Bell	Pilot
71228472PW	Maj	A.A.	Hattingh	Pilot
68423052PE	WO2	W.	Beaurain	WO in Charge & Flight Eng
79526414PE	F Sgt	S.	van Wyk	Fitter A/C
84571397PE	Sgt	J.G.	Sinden	Flight Eng
86559911PE	Sgt	S.W.	Immelman	Instr
87351854PE	Sgt	H.C.	Erasmus	Avion
1035088	Mr	K.	Charlsworth	Avion
74394750PE	Sgt	C.J.	Botha	Fireman
87970604PE	Sgt	P.G.	May	Fireman

c) Affiliation and name of Research Programme:

N/A

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMé OF SCIENTIFIC OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

All flying activities to be determined in co-ordination with the DEA co-ordinator.

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Voyage Coordinator should be aware of)

All flying activities to be determined in co-ordination with the DEA co-ordinator.

MAJ A.W. JOHNSON		19 FEBRUARY 1998
NAME OF COMPILER	SIGNATURE	DATE

ml/37-036

Doc 3.11

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

Scientists wishing to participate in a SANARP voyage for the period of the voyage only, should describe their plans on this form and then submit it to the SACAR office at least eight (8) weeks in advance of the advertised departure date for that voyage. A copy of the completed form will be attached to the Sailing Instructions for the relevant voyage. Please complete this form carefully and legibly. Add additional sheets if necessary.

1. FULL NAME(S) OF PARTICIPANTS
(Excluding expedition team personnel, and indicating who the group leader will be when there are two or more persons in the group)

a) Voyage number and destination(s):

b) Participants:
(Title and name)

Mr H R Valentine (DCO)

Ms C A Jacobs (Asst DCO)

Radio Technician

Engineer

* Chaplain

+ Chef

c) Affiliation and name of Research Programme:

Department of Environmental Affairs and Tourism (Antarctica and Islands)

* South African National Defence Force

+ South African Air Force

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

2. RESUMÉ OF ~~SCIENTIFIC~~ OBJECTIVES
(For ship- or shore-based research. In the case of the former, also give survey routes and/or station positions and attach a diagramatic representation of these. In the case of the latter, also describe target areas to which the group needs to be airlifted to and/or from)

- Coordinate all activities during the takeover period
- Replenish supplies (food, kitchenware, administration needs, fuel, etc.)
- Restock huts
- Remove waste and old stock from huts and base
- Officiate the handing over from Marion 54 to Marion 55
- Remove rubble and building waste

SACAR 3

SOUTH AFRICAN NATIONAL ANTARCTIC RESEARCH PROGRAMME (SANARP)

VOYAGE PARTICIPATION DETAILS

3. OTHER DETAILS
(Where relevant, give details of biological specimens to be collected, including permit number, special support required such as air support, dinghy support, camping equipment, etc., laboratory space required aboard or ashore, and details of any other important factor which the Voyage Coordinator should be aware of)

NAME OF COMPILER	SIGNATURE	DATE
[signature]	H R VALENTINE	18/2/98

Doc 3.15
SACAR 3

The following scientific objectives apply within the project entitled **Monitoring of Pinniped Populations at the Prince Edward Islands.**

(i) Training and orientation of two field assistants for the 1998/99 field season of marking, resighting and censusing of elephant seals & determination of attendance cycles, early growth and diet of adult and pup fur seals.
(ii) Retrieval & deployment of Geolocating Time-Depth Recorders from/to elephant seal bulls.
(iii) Scat & Skull collection of fur seals.
(iv) Deployment of GLTDRs (x15) on Subantarctic fur seal females at the Cape Davis site.
(v) Subantarctic fur seal pup milk intake (40 pups), field metabolic rate, mass specific rate of mass loss and activity budgets dry-wet recorders.
(vi) Restraining & marking of 20 mother/pup pairs of Subantarctic fur seals at the Sealers Cave study site.
(vii) Stomach lavaging of selected individuals of elephant seals.
(viii) Pup/underyearling weighing and measurement of fur seals & elephant seals.
(ix) Sectioning of fur seal canines for age determination & processing of scat samples.

Target Areas & Special Support:

(i) The main elephant seal breeding & moulting sites from Cape Davis to Goodhope Bay West along the eastern aspect of the island - two traverses on foot (during Marion weeks 2 & 4).
(ii) As in (i) above including visit to Swartkop Beach.
(iii) A dedicated search for relatively fresh, intact skulls of Subantarctic fur seals at Fur Seal Bay, Fur Seal Peninsula, Mixed Pickle Cove & Trichaardt Bay (3 persons during 4 days out of Mixed Pickle hut in Marion week 3).
(iv) Scat collection at Watertunnel Stream (A. gazella); Clearing/collection of A. tropicalis scats at Cape Davis study site - skull collections - opportunistically (see (i) & (iii) above).
(v) Sealer's Cave targeted for studying attendance cycles of the two species of fur seal as they breed there sympatrically - restraining/marking of females & pups - deployment/retrieval of instrumentation (3-4 days of dedicated work out of Kildalkey hut by 4 persons during Marion week 1).
(vi) A.tropicalis pup weights (n = 100) recorded at high density (Fur Seal Peninsula - 3 persons working out of Mixed Pickle Hut: see (iii) above) as well as medium (Cape Davis), and low density sites (at small dispersed sites between Storm Petrel Bay and Sea Elephant Bay) by 2 persons working out of Cape Davis Hut (1 day) & Repetto's Hut (following day) at ~150 days old centered on 15 May (Marion Week 3).
(vii) J-Y Georges will be working out of Cape Davis hut on fur seals (see points (iv) & (v) of previous section) for practically the entire takeover, assisted by P. Pistorius and current & newly appointed field assistants. (POSSIBLY ONE OF NEWLY APPOINTED FIELD ASSISTS
(viii) All other work will be done opportunistically during abovementioned periods, mainly from the Main Base.

We need the run of the Upper General Purpose Laboratory (Mammal Lab) during takeover.

Special support is limited to:

(i) Airdrop of fresh produce/takeover food for use in the huts where we will be spending considerable periods of time, in particular Kildalkey, Mixed Pickle Cove and Cape Davis huts
(ii) Airdrop of equipment at Sealer's Cave and Cape Davis. Retrieval of equipment from Cape Davis at the end of takeover.
(iii) Stocking of field huts with provisions for 1998/99.

(continued from previous page)

(iv) Removal of refuse and old food from huts & general cleaning up.
(v) Retrieval from Mixed Pickle and other designated huts/areas, where collected skulls were stashed, at the end of takeover.

a) Voyage number and destination(s):

VOYAGE NUMBER 55 MARION ISLAND (1998)

b) Participants:

(Title and name)
Mr P.A. PISTORIUS (Group Leader)
Mr J-Y. GEORGES (CEBAS, CNRS)

Pierre Pistorius (ex-Marion 53) will be assisting with the time consuming and laborious island wide skull collecting and pup weighing exercise, and accompany Jean-Yves Georges to weigh fur seal pups at Cape Davis, as well as assist with the deployment & recovery of TDRs on adult fur seal females after physically restraining them. The participation of CEBAS, CNRS was envisaged in the relevant SACAR 1 submitted to SACAR which is supported for 1998/99.

c) Affiliation and name of Research Programme:

DEPARTMENT OF ZOOLOGY & ENTOMOLOGY, UNIVERSITY OF PRETORIA

Monitoring of Pinniped Populations at the Prince Edward Islands

Doc 4.1

IDIPHATIMENTI YEZEMISEBENZI YOMPHAKATHI
DEPARTEMENTE YA TŠA MEŠOMO YA SETŠHABA
DEPARTEMENT VAN OPENBARE WERKE
DEPARTMENT OF PUBLIC WORKS

HEAD OFFICE
HOOFKANTOOR
P/Bag X65
P/Sak
PRETORIA, 0001
(012) 205-9111

HEAD OFFICE • PRETORIA • HOOFKANTOOR

DIRECTOR-GENERAL
Department of Environmental
Affairs and Tourism
Directorate: Antarctica and Island
Private Bag X447
PRETORIA
0001
Attention: Mr K Booyse

Fax (012) 325- 8093
Faks
Enquiries C J Jacobs
Navrae
(012) ~~205~~ 337-2275
Reference
Verwysing

3 November 1997

STRUCTURAL ENGINEERS REPORT - MARION ISLAND TAKE OVER - MAY 1997

Attached is the Structural Engineers Report for the May 1997 Take -over.

for/**DIRECTOR GENERAL**
DEPARTMENT OF PUBLIC WORKS

Marion Island

MAY 1997.

Engineers report on the infrastructure on Marion Island

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Part one

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1.Introduction

My activities during the period 24/4/1997 to 31/05/1997 were as follows:

The SA Agulas departed from Cape town on 27/04/1997 bound for Marion Island. We arrived on 4/05/97.

I did the final planning for the strengthening of the upper balloon hut. I was involved in erecting the new bracing and supervision of the erection. The structure was jacked to straighten it after it was braced. The existing water supply dam and the outfall sewer were inspected. The structural conditions of the buildings were inspected.

This report consists of the description of urgent problems and proposals for them. All the proposals must still be approved departmentally. The rest of the technical information obtained were filed at PWD for planning by PWD technical personnel.

We departed the island on 24/05/1997 and arrived back in Cape Town on 28/05/1997.

2.1 Current sewer outfall

Currently the bathrooms and kitchens have one combined outfall pipe. This pipe has a steep run at 1 in 20 with a length of 60 metres. There is no treatment applied to the sewer. The sewer then falls over some rocks into an inclosed bay. See photos for details.

At the end of the handover period there were no visual signs of sewerage in the water. The water remained clear and the bottom of the bay was visible. The where no congregation of animals or plants at the outfall point, as is the case of sewerage outfalls on land. This period represents the end of the peak flow and therefore the worst expected pollution should occur at this time of the year.

Although it was observed that while the wind was blowing landwards, part of the sewerage was blown onto the rocks and left some toilet paper on the rocks. This paper is normally washed of shortly afterwards by the liquid outflow or by the rain. If the pipe is extended with some 2 metres, the change that sewerage will be blown onto rocks will be reduced. On the other hand if a pier has to be built, it will be exposed to wind and wave erosion and could worsen the conditions at the outfall.

As I did not have equipment to test the water quality at the time, I could only inspect the water visually. The water in the bay may in future be tested for its quality. Without these tests it appears that there is no pollution caused by the sewer outfall.

At this stage it's not feasible to install a septic tank macerator or an extended pipe as all of them require maintenance that might have a greater environment influence than the pipe itself.

2.2 Helicopter hanger and land pad

On the outside the pad steel grating for walking has been installed. This grating was fixed to the pad with normal nails. The old helicopter pad is made of a wooden surface with a polystyrene like soft base. This pad is still in good condition.

Due to the failure of the grids around the new helicopter pad I wrote a site instruction on the future use. The grating around the landing pad was only fixed with a few nails. This may be strong enough for the weight of a person but not for heavy loads or a helicopter. In my opinion the grids give an illusion of a bigger pad and could therefore be dangerous. A copy of this site instruction is attached to this report.

The hanger has virtually never been used. The helicopters operated from the ship where all equipment is housed. A new use for the hanger could turn the base into a more effective unit. Input from air force should be obtained if they still require the hanger.

2.3 Upper air balloon hut

Mr. Purnell investigated the problem last year and reported thereon in his report of 9/9/1996(file 957) Drawing no. S.9089 was drawn up to rectify the problem.

On the island the mentioned bracings were installed according to dimensions measured on the site. Due to the thickening of the piles it was not possible to install the provided brackets as shown. The brackets were installed in the most suited position. For the most brackets longer bolts were installed. A shortage of long M10 and M12 bolts occurred. This was resolved by using some mild steel bolts and not installing the longer bolt that serve to tie the pile to the existing beam.

2.4 Sandton living quarters

This part of the marion house has a similar construction as the upper air balloon hut. The bracing of this structure are better than the upper air balloon hut but the wind movement is still visible. Extra bracing to the structure could be added in the same manner as for the upper air balloon hut.

2.5 Braai area

During my stay on the island I was asked to inspect the braai area that is attached to the food stores for its structural condition. I inspected the construction and found that in a good structural condition.

The braai area is next to the food store and a fire could jump across and have serious consequences. I was not informed on the origin or legal aspects of the structure. The attached certificate is therefor only for the structural condition of the building.

2.6 The landing stage

Although the loose rubble was removed from the landing stage, it remains a big eye sore. The landing stage is further exposed to the weathering effect of the waves which could cause the breaking up of the concrete. The sides of the concrete landing area have never been completed.

This sides of the stage should as soon as possible be clad or filled in. Ignoring this could cause pollution to the environment.

During our discussions on this matter on the island Prof Chown who is also the chairman of the Marion Island management mentioned that concrete and sand may be used if it is sterilised before shipping it.

3 Recommendations

The proposed works to be done by the 1998 take over period are:

3.1 Upper air balloon hut

The installed carbon steel nuts and bolts should be replaced with stainless steel nuts and bolts. A shortage of long M10 and M12 bolts occurred. Some 20 M10 and M12 bolts with length of 50 mm and 75 mm should be ordered for the installation.

3.2 Concrete platform outside upper air balloon hut

The platform outside the main sliding door area is in a bad state and has no further use. Both the timber on the outside and the filling material (concrete) is in need of

repair. This issue was taken up on the Island with the various concerned parties and decided to have it removed. This platform is not a PWD structure. It is suggested that the rubble be used as filling material for the landing area at the crane site. The timber structure can be demolished after extra wooden poles were driven into the ground as support for the catwalks to the upper air balloon hut.

3.3 Landing stage

The area between the crane and food store should be cleaned of all loose rubble
The sea facing sides are to be covered with newly poured concrete.

Filling material for the stage should be obtained from the platform in front of the upper air balloon hut as described in 3.2.

The concrete should comply with the departmental OW371 document. The fine aggregate (sand) must be sterilised before shipping it. The technical detail will be finalized after approval.

3.4 Helicopter hanger and landing pad

Due to the problem with the grating as described in 2.2 two-possible solutions are provided namely:

1) To remove the grating to prevent overloading of the grating. The material (grating) may be used to replace bad sections in the existing walkway(catwalks).
2) The circumference of the landing pad should be marked with a highly visible marking to insure that the helicopter pilots know where the edge of the landing pad is, even in low visibility. A stopping element on the circumference of the landing pad will also help. And restrictions on the overloading of the grating are put in place.

A new use for the hanger could turn the base into a more effective unit. For instant if

an elevated floor is installed at the end of the hanger the space could be used as the E-base. Input from all concerning parties must be obtained on this matter.

3.5 Removal of grating to Variometer hut

Due to the fact that the variometer hut is not often visited (Less than once a week) it is recommended to remove the grating walkways thereto. These walkways could then be installed where others are eroded.

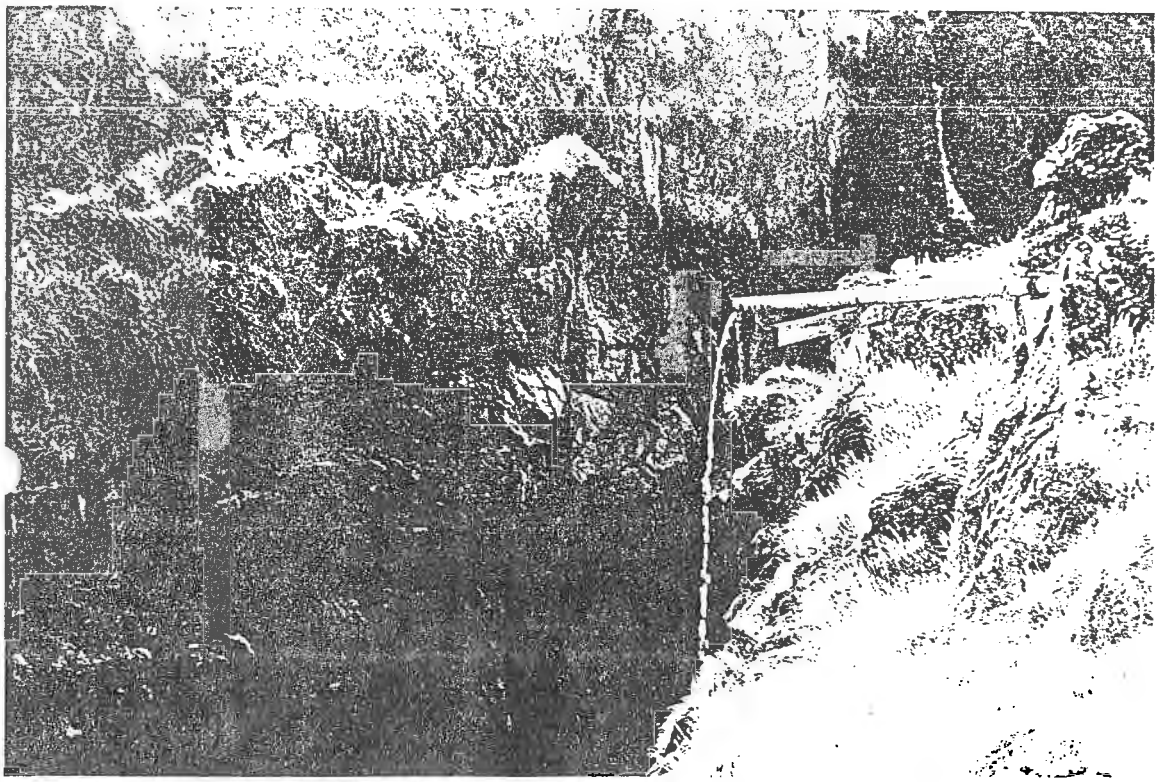
3.6 Ionosphere hut

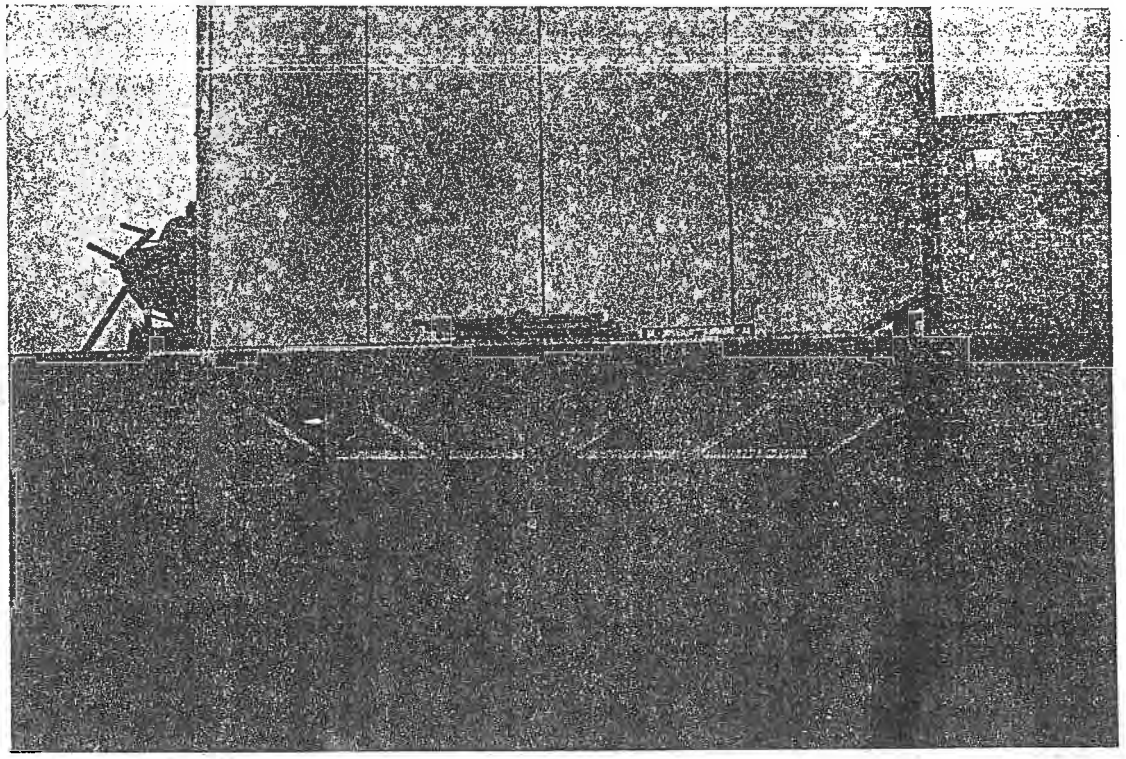
The structure of the ionosphere hut is deteriorating with time to such a extent that it requires more and more maintenance. Due to the fact that the Ionosphere hut (E base) is not often visited the grating to the hut is inefficient. This will make the building too expensive to operate. It is therefore being recommended to demolish the building. See 3.7 for the movement procedure.

3.7 Moving the E-Base

Currently the Ionosphere hut is used as An emergency base. It is recommended the equipment in the hut, which is the emergency base and instruments be reinstalled in other buildings. As the helicopter hanger is not used, some equipment may be moved over there. Input from air force should be obtained on their future requirement of the helicopter hanger. The requirement for running the equipment, currently in the ionosphere hut should be obtained.

The grating that connects the Ionospheric hut with the mammal lab. may then be removed as in the case of the variometer hut.





PUBLIC WORKS DEPARTMENT
DEPARTEMENT VAN OPENBARE WERKE

H.H. Bosch
Tel. 012-337-2277
15/5/97

The Marion Island management committee

Attention H. Valentine
J. Joubert

REMOVAL OF CATWALKS FROM HELIPAD

The existing catwalks around the raised helicopter pad next to the hanger has collapsed in one point due to a helicopter landing thereon. To keep the catwalks would give pilots an illusion of a bigger helicopter pad as the catwalks is not designed for helicopters. These catwalks should be removed before further use of the helicopter pad is permitted.

The helicopter pad have a diameter of 10m which is suited for small helicopters and care should therefor be taken if bigger helicopters need to land thereon.

Your cooperation in this respect will be appreciated.

With regards

H.H. Bosch
Structural engineer for
Directorate of engineering services
Datum 21-5-97

PUBLIC WORKS DEPARTMENT
DEPARTEMENT VAN OPENBARE WERKE

H.Bosch
Tel. 012-337-2277
15/5/97

The Marion island management committee

Structural certificate for the lower Braai area

I hereby certify that the wooden structure supporting the braai area attached to the northern side of the general store to be structurally safe. This area may therefore be used by the year team of 1997/1998. It should be noted that the structure is constructed from wood and it is exposed to the high tide and is in need of regular maintenance . If the wood is well preserved by regular treatment thereof the structure should be safe for a long time.

A fire extinguisher must be supplied to the area as fires are lit in the area.

Your cooperation in this respect will be appreciated.

With regards

H Bosch
Structural engineer for
Directorate of engineering services
Datum 15-5-97

JBosch

Logged 9/2/98 ar

Doc 4.2

FAX

South African National Antarctic Expedition

TO: Dirk van Schalkwyk
COPY: Henry Valentine
FAX NO.: (021) 510 3887
SUBJECT: Marion Island

FROM: Jan Hattingh
FAX: (012) 351-1701 **TEL:** (012) 351-1801
E-MAIL: sanae@sanap.org.za
WWW: www.sanap.org.za
DATE: 08/02/1998
NO. OF PAGES (including this one):

RE - Motivation for repeater station on Marion Island

Hello Dirk

Ever since the introduction of the cat program Hf communications was used between huts and the main base. Although the communication structure was available, inadequate maintenance, corrosion and obsolete spares became a problem and effective repairs weren't possible. With regards to a fax received from Jan Joubert, the seriousness of the problem was emphasized and the Safety of field personnel questioned.

In the light of the present problem on Marion Island the following recommendation is made.

1.1 Purchase and installation of VHF repeater station.
VHF communication is effectively used for point to point communications and is rarely affected by magnetic storms and other natural interference's. With the necessary test to find the best-suited site, wide coverage of the island can be achieved. A similar repeater system is presently used successfully at SANAE. These systems are designed to be maintenance free and are solar powered. The steel frame is designed such to prevent any snow build up and covers an area of 3 meters square. The frame supports four 150-watt solar panels and an insulated repeater box. All components are solid state thus requiring low maintenance. Batteries used are sealed therefore require no maintenance. The antenna is mounted to a seven-meter mast supporting an Omni directional co-linear antenna and a directional yagi.

In addition handheld radios can be used which will insure safety and mobility to field personnel. Alternatively mobile radios can be installed in all huts powered by solar panels.

Advantages of this configuration:
1) Eliminates the use of generators and petrol.
2) Unsightly antennas can be dismantled.
3) Immediate communications with main base.
4) Mobility.
5) Low maintenance, reliable and efficient.
6) Long term cost saving

Although the system must be tested under the climatic conditions of Marion, very few problems can be expected.

1.2 Costs

Although purchasing such a system is costly, approximately Thirty thousand rand, it still can be considered a fair price to pay for the safety of field personnel.

The system will consist of the following components:
1) Two bi-directional repeaters allowing Island and surrounding base area communication coverage.
2) Five handheld radios.
3) Each hut is equipped with a mobile radio and DC support.
4) Omni directional Co-linear for repeater station.
5) Dipole antenna's for mobile radios in huts
6) Yagi antenna for link repeater link radios.

1.3 Impact assessment

According to the Prince Edward Islands Management Plan, Environmental Impact Assessment (EIA) will be conducted for any new development. An EIA procedure will be established by the Prince Edward Islands Management Committee and after review will be recommended to the Director-General. Most suitable repeater sites are President Swart Mountain or alternatively Jan Smut Mountain, which demarcated under Zone 3 in the Islands Management's plan.

1.4 Conclusion

I trust the recommendation meets the approval by the respective Departments and the funds is made available for the upgrading of the communications system on Marion Island.

Best regards

Jan Hattingh

logged on 3/11/97

MP

M54- 057

ATTENTION: MR A DREYER DEA&T

FROM: JOHN MCLINDEN MARION 54

RADIO REPORT FOR OCTOBER 1997

HALLOO TO ALL.

I DONE MY USUAL CHECKS AND CLEANING OF AIR FILTERS.

THE PROBLEM OF GETTING A DATA LINE SEEMS TO BE GETTING WORSE , WE HAD TO USE STD-C TO SEND MET-DATA(19 TIMES).WE GET A SATELLITE CHANNEL, BUT NO OUT GOING DATA LINE. WE HAVE STARTED TO KEEP A LOG OF WHEN WE USE STD - C. I HAVE REPORTED IT TO HARTEBEESHOEK. BUT IT SEEMS GOUGH AND SANAE HAVE THE SAME PROBLEM.

THE HUT COMMS IS STILL IN BAD CONDITION, THE GENERATORS HAVE STARTED TO GIVE PROBLEMS AND DO NOT CHARGE THE BATTERIES. THE ANTENNAS NEED CONSTANT REPAIRS. MOST BATTERIES ARE OLD AND DO NOT HOLD A CHARGE.

THE TAPE DECK HAS BROKEN ,ONE BELT BROKE.THERE IS NO SPARES FOR IT. BUT I AM GOING TO TRY AND MAKE A BELT OUT OF O-RINGS.

DORIS GAVE NO PROBLEMS THIS MONTH.

REGARDS
JOHN MCLINDEN
RADIO TECH

Logged on Sticky

MP
M54-061

From:Jan Joubert
Marion 54

To: Adriaan Dreyer
DEA&T

1997 Monthly Report October

So far this was the busiest month on the island. Due to very little maintenance the huts seem to have reached the stage were they are falling apart Keeping them more or less in one piece takes a lot of my time. Communication with the huts stay a constant problem. Here are a few poi of importance.

1) Replacing of huts
As I managed to repair Repetto's hut's roof quite successfully and this is now one of the better huts on the island it might be wise to replace Grey-headed hut instead. This hut is often used and is in appalling condition

2) Communications with huts
Due to very damp conditions in the huts the Radio's and power generators are in poor condition. I already had to replace the generator in one hut and will soon have to replace another two. The limited spares at my disposal makes maintenance on these machines very difficult. I suggest we take this problem into consideration when planning the replacement of huts. We should also look at easy to use waterproof petrol containers. At the mome most the petrol is contaminated with water which in the long run causes a lot of damage to the power generators.

3) Satellite communications
We still seem to have a problem with satellite communication. (Refer to radio comms report)

Team wise thing are going well. Everybody does their work and I am not aware of any problems.

Kind regards

Jan Joubert

MR. D. VAN SCHALKWYK
DIRECTORATE : ANTARCTICA & ISLANDS
PRIVATE BAG X447
PRETORIA
0001

PROF. S.L. CHOWN
CHAIRMAN, PEIMC
MARION ISLAND

4 MAY 1997

Dear Dirk

PROPOSED VHF REPEATER AT PRESIDENT SWART PEAK

Attached please find a short report on a meeting held this evening at Marion base concerning the VHF repeater. All concerned parties were present.

Essentially it was concluded that a test of the facility should be run for a single day and that a proper EIA be undertaken during the current relief. The results of these would then be forwarded to the PEIMC for consideration.

This is the recommendation of the small committee constituted here. I would greatly appreciate it if you would let me know the Department's position on this recommendation as soon as possible. I would also appreciate it if you would ask Carol to copy the attachment to all the members of the PEIMC who are currently not on Marion Island.

Yours sincerely

PROF. S.L. CHOWN
CHAIRMAN, PEIMC

REPEATER MAST FOR MARION ISLAND : EIA PROPOSAL

BACKGROUND

As a consequence of poor communications at the huts on Marion, a repeater station for VHF communication was purchased and was shipped to Marion for installation during the 1997 relief voyage. Although it is a requirement of the Prince Edward Islands Management Plan that all new installations at Marion Island are subject to an Environmental Impact Assessment prior to deployment (Part 3, Section 5), the purchase of the repeater was done rapidly and no EIA could be undertaken prior to shipment to Marion Island.

Hence it is necessary to undertake an EIA. Given that Ruben Heydenrich (DEAT) and four members of the Prince Edward Islands Management Committee (Chown, Smith, Loock and *de facto* member Deon Nel), as well as the person responsible for installation (Mr Franz Hoffman) are currently on Marion, it is perhaps best to undertake this now.

To this end a meeting to investigate the best way to go about such an EIA was held at Marion base on 4 May 1997. It was attended by Mr. Henry Valentine (DEAT coordinator), Mr Franz Hoffman (Communications technician), Mr. Deon Nel (Conservation Officer), Mr Chris de Beer (Communicator, Marion 53), Mr. Ruben Heydenrich, Prof. V.R. Smith and Prof. S.L. Chown. The outcome of the meeting is reported below.

REPEATER STATION

The repeater amplifies VHF signals. The theory of operation is that if installed in a high position on the island, where line of site to all areas is best, the repeater would ensure that communication between Marion base and any field personnel would be straightforward using a hand-held VHF radio. This would mean that many of the radio masts and stay wires could be removed at the base, and possibly also at the huts. Specifications are as follows:

1. 8 m mast, resting on a tripod, secured with 5 mm angle iron pins.
2. Repeater electronics and two 105 amp-hour gel batteries contained in insulated unit.
3. Unit and four solar panels bolted to a 4 m x 2 m frame, standing 300 mm off ground.
4. Total height about 800-1500 mm. Total mass : 300-400 kg.
5. Frame secured with 5 mm angle iron pins.
6. Apparently virtually maintenance free, except if electronic faults develop.
7. Proposed site: State President Swart Peak or Jan Smuts Peak.

PROPOSED ADVANTAGES

1. Good communications to hand-held radios everywhere on island.
2. Many masts and stays could come down at Marion base.
3. HF aerial wire could come down at huts.
4. No fuel storage at huts for generators to re-charge HF batteries.
5. Minimization of bird strike as a consequence of 2-3 above.
6. Improvement of environment around huts due to absence of fuel and generators.
7. Significant increase in safety.

PROPOSED DISADVANTAGES

1. Line of sight communication not possible because of topography in many areas.
2. West and south coast huts have no line of sight to peaks.
3. No information on geomorphological impact at peak sites.
4. No information on maximum windspeeds at 1200 m above sea level.
5. No information on ability of structure to withstand conditions at peaks.
6. No information on exactly which masts and aerials would come down.
7. Possible that VHF aerials would still be required at huts.
8. Unsightly mast on peaks.
9. Wilderness quality of Zone 3 impacted.
10. Servicing almost impossible given poor conditions at peaks.
11. No information on quality of light for solar re-charging at peaks.

SUGGESTED PLAN OF ACTION

1. Set up repeater with smaller aerial at peak on a good day during this relief. During science and hut re-stocking flight on same day, deploy personnel with hand-held VHF radios at west and south coast sites. Test line of sight capabilities. Do same with helicopter that has landed at these sites. Then remove repeater back to Marion base on same day.

2. Ruben Heydenrich, Deon Nel and Steven Chown to investigate site at peaks, in consultation with Jan Boelhouers geomorphology group.

3. Submit both the on-site inspection/preliminary EIA and the repeater test results to the Prince Edward Islands Management Committee for consideration and their recommendation to the Director-General : Environmental Affairs & Tourism.

4. Pending decision, final action during 1998 relief.

CONCLUSION

It was agreed that because this would be the first EIA to be undertaken under the new management plan (it would be done more rapidly than the tourism one) that it be done carefully and properly and that all interested parties be consulted. Mr. Deon Nel expressed his concern that the major safety factor currently at stake was not poor communication, but the poor state of the huts.

Direct from Antarctica

FAX

South African National Antarctic Expedition

36th SA National Antarctic Expedition 1997-1998

TO: Dirk van Schalkwyk
COPY: Henry Valentine
FAX NO.: (021) 510 3887
SUBJECT: Marion Island repeater station

FROM: Jan Hattingh
FAX: (012) 351-1701 **TEL:** (012) 351-1801
E-MAIL: sanae@sanap.org.za
DATE: 1998-02-18
NO. OF PAGES (including this one): 7

Hello Dirk

With reference to the communication problem on Marion Island, the following recommendation is made.

SANAE uses an integrated repeater network which is effectively only used during the summer takeover seasons. With approximately a month between our return from SANAE and the departure of the Agulhas for Marion, time will be critical. Therefore detailed planning, designing and purchasing of the communications system won't be possible. In this light I would suggest that SANAE equipment be used on Marion for the initial test phase and also to identify an appropriate site for the repeater station. If these tests are successful and the dead zones identified the repeater station can then be permanently installed. If the project is approved, funds must still be made available to **replenish** all SANAE equipment.

Although SANAE can satisfy ninety percent of the Marion requirement certain items will have to be purchased (see paragraph 1.1).

1.1 Communication equipment to be purchased

1) Co-linear bi-directional antenna
2) Deltec batteries
3) High gain Yagi antennae
4) Secure - stay wire (stainless steel), turn buckles, crossbys clamps and D shackles
5) Silicon wire
6) Battery clamps
7) Coaxial feeder lines
8) T piece base plate for triangular mast
9) Base frame to mount insulated box and solar panel frames.

1.2 Communication hardware from SANAE

1) Repeater station - Motorola GM300 mobile radio x 3
   - Duplexer
   - Interface
   - Solar panel regulator circuit (solid state)
   - Low Maintenance batteries
   - Insulated repeater box
   - Power leads
2) Yagi antenna (link to main base)
3) Solar panels (supply to repeater station)
4) Motorola hand radios x 5
5) Mobile GM300 base station (to equip huts)

1.3 Technical Data

See attached documentation

1.3 Technical support

Pieter Swanevelder (SANAE 36 - team member) has been involved with similar installations and is familiar with VHF equipment. Pieter is prepared to help Franz with the installations and tests on Marion. Alternatively Neville Gleeson of the South African Airforce, who has previously done a Marion take over can be approached.

1.4 Conclusion

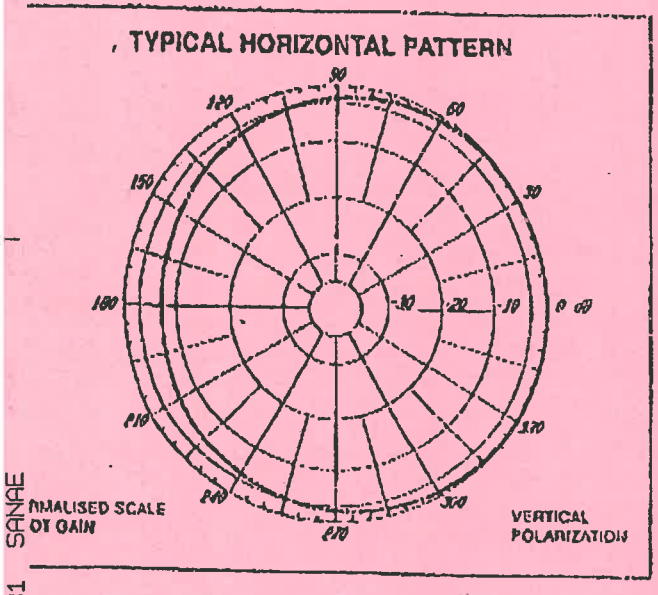
Dirk it is important that we be informed ASAP as to what decision has been reached so that necessary equipment can be packed before departure from SANAE.

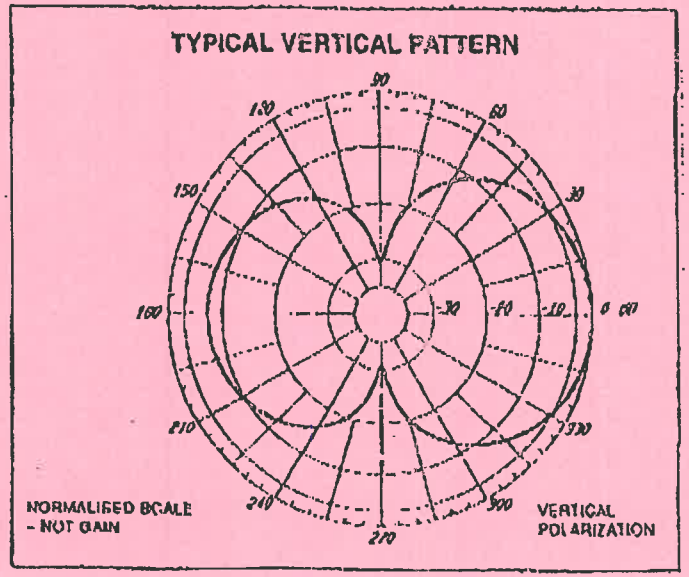
Best regards

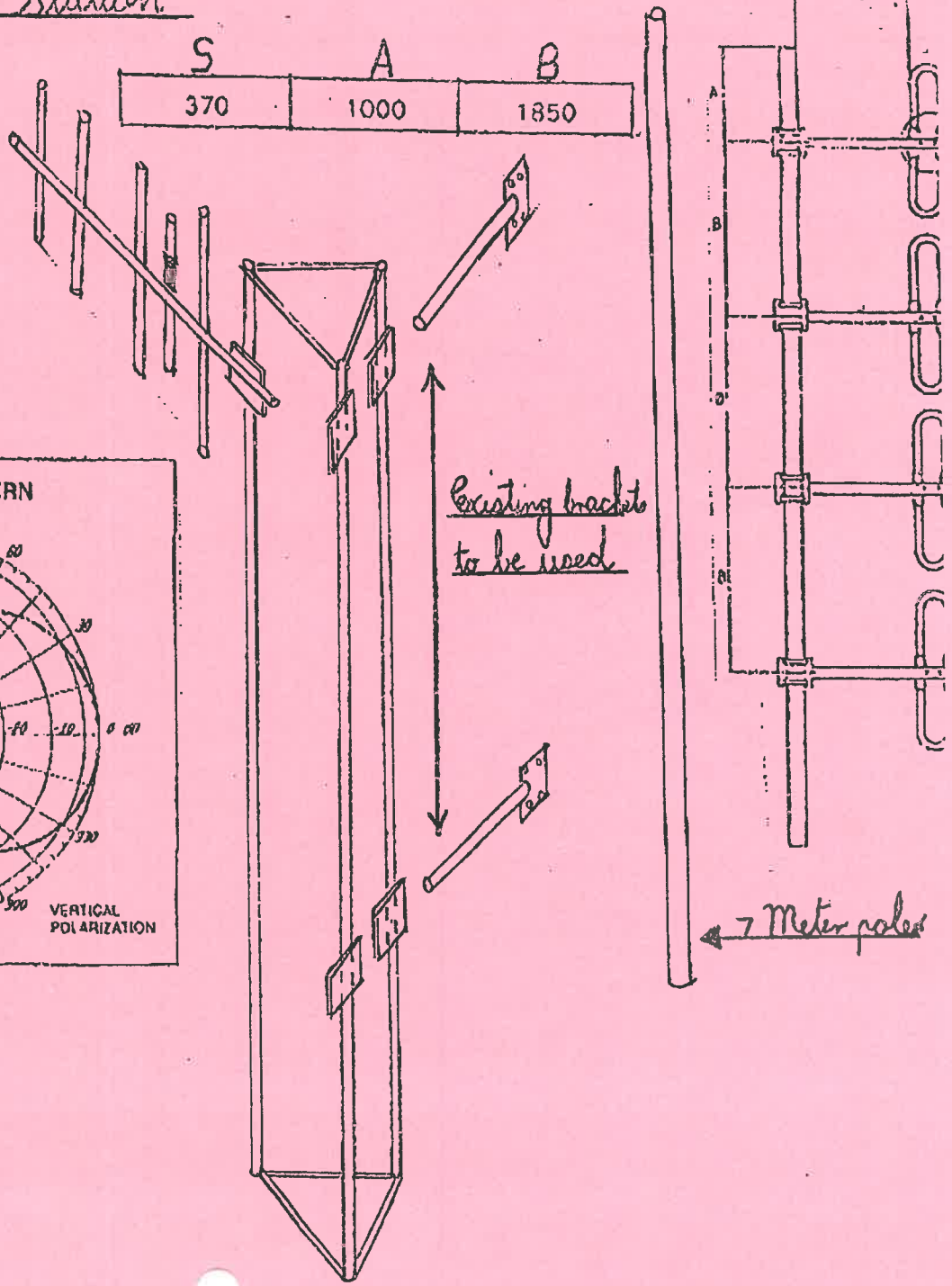
Jan Hattingh

012 3511701FEB 18 '98 22:29

Boga Repeater Station

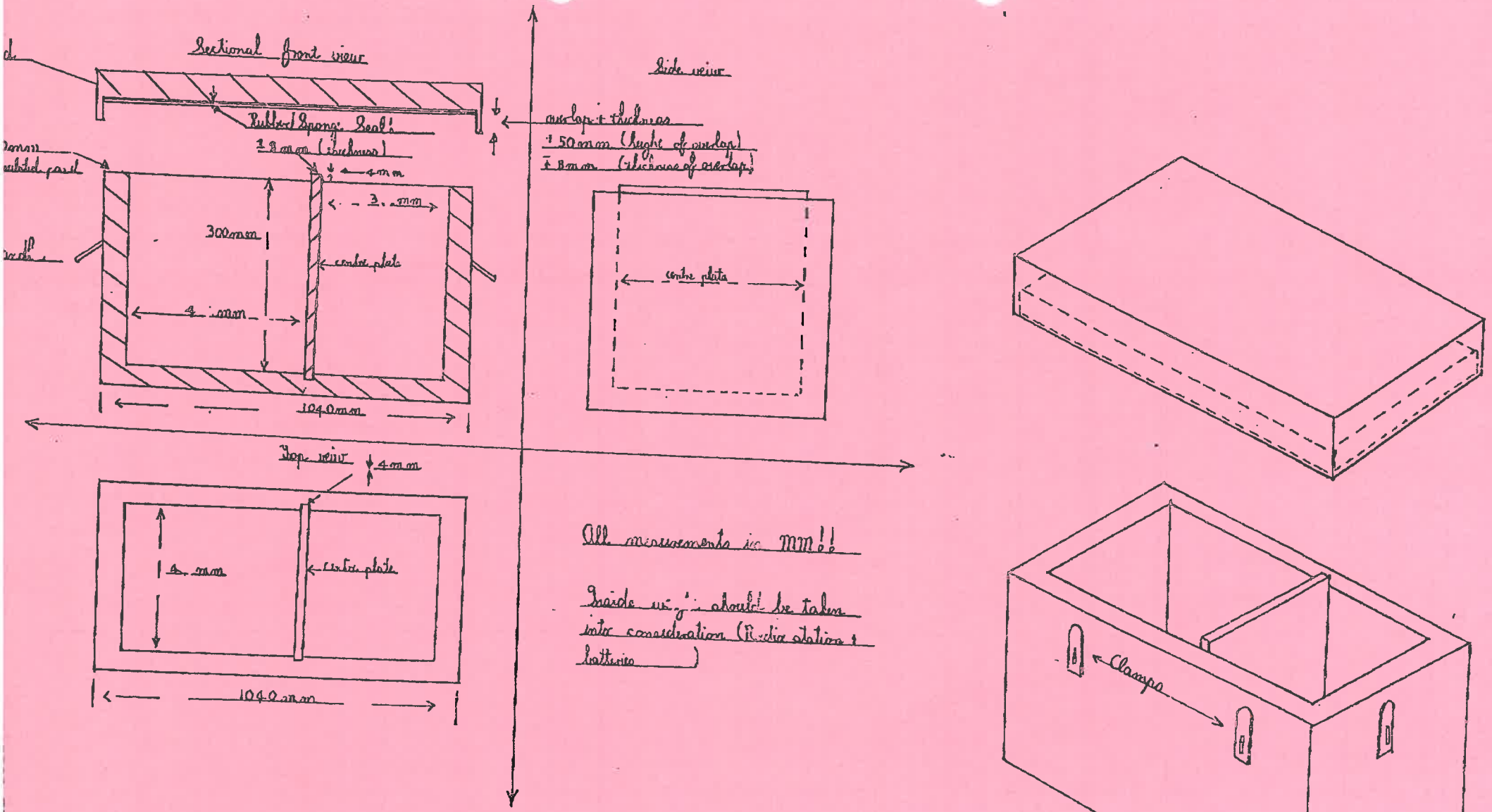






012-3511701 SANAE

Insulated box for Repeater Station (B...)



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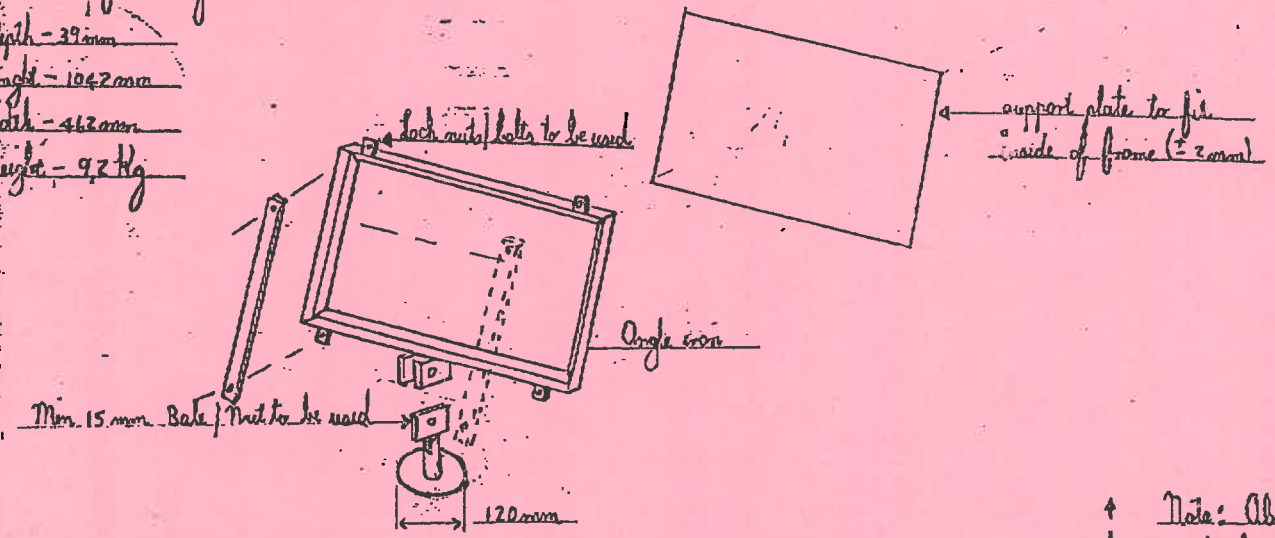
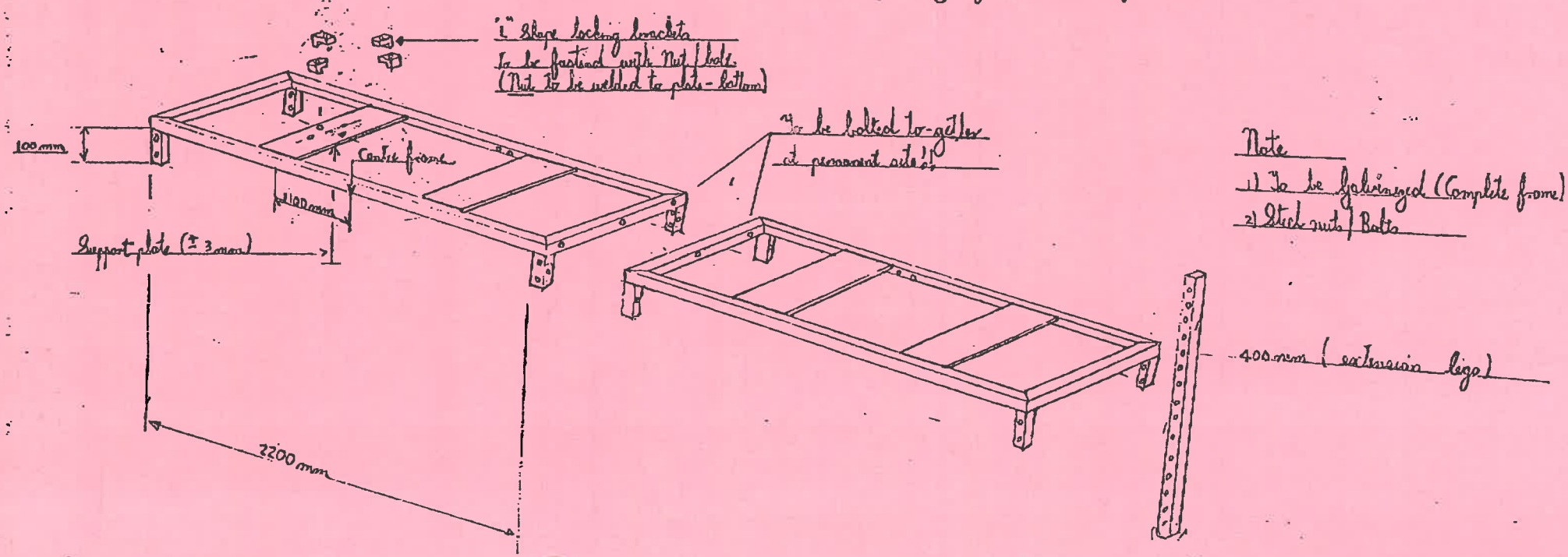
Four panel "Solar" frame (Marion Island)

Note: Frame must be able to support the following dimensions.

1) Depth - 39 mm
2) Lenght - 1042 mm
3) Width - 462 mm
4) Weight - 9,2 Kg

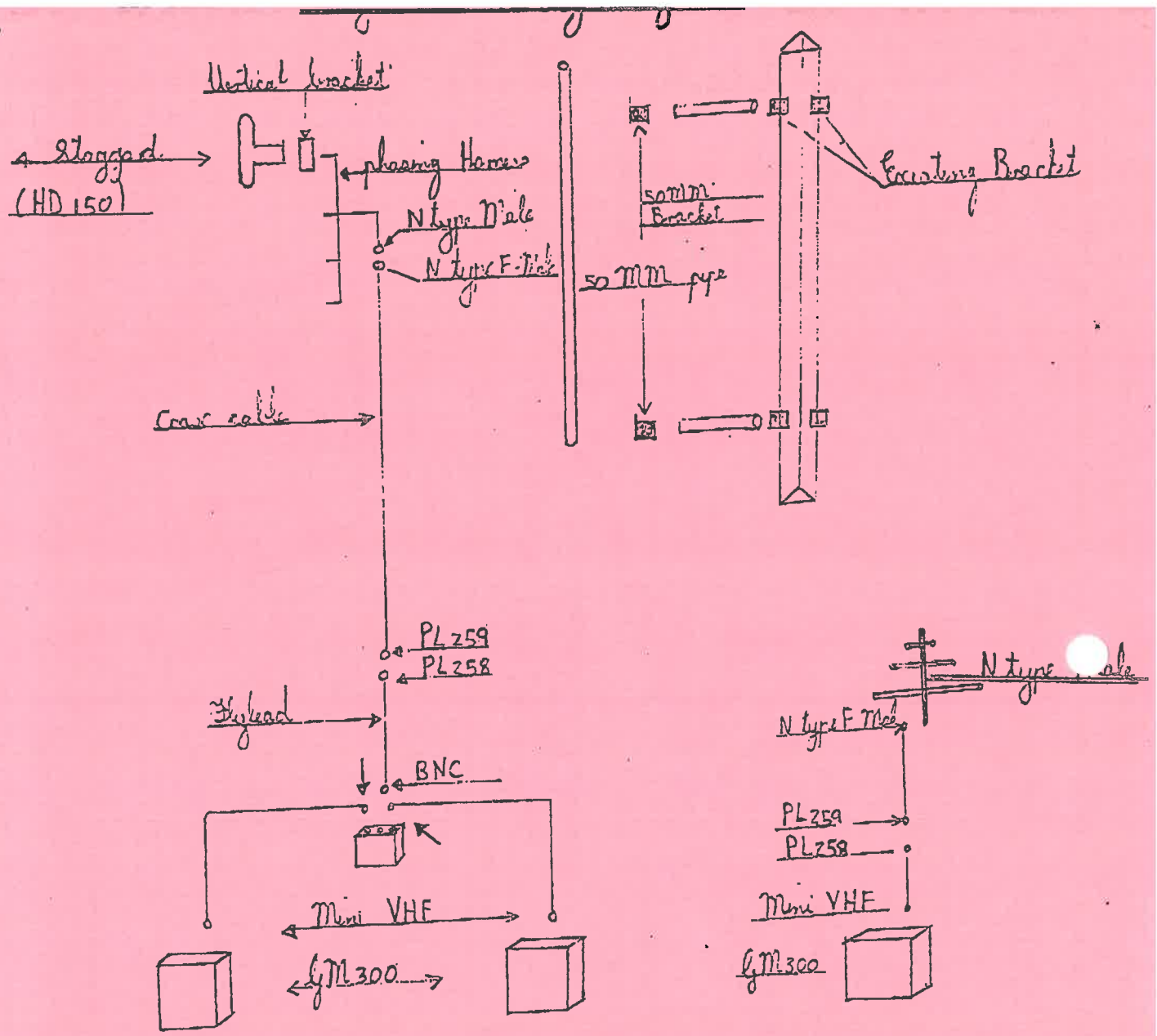


Note: Above diagram illustrates only one single frame (total 4 frames)



Note

1) To be Galvanized (Complete frame)
2) Steel nuts / Bolts


Vertical bracket
4 Stagged
(HD 150)
phasing Harness
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N type F-Tick
50 mm pipe
50mm
Bracket
Earthing Bracket
Coax cable
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BNC
Mini VHF
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N type D'ale
N type F Tick
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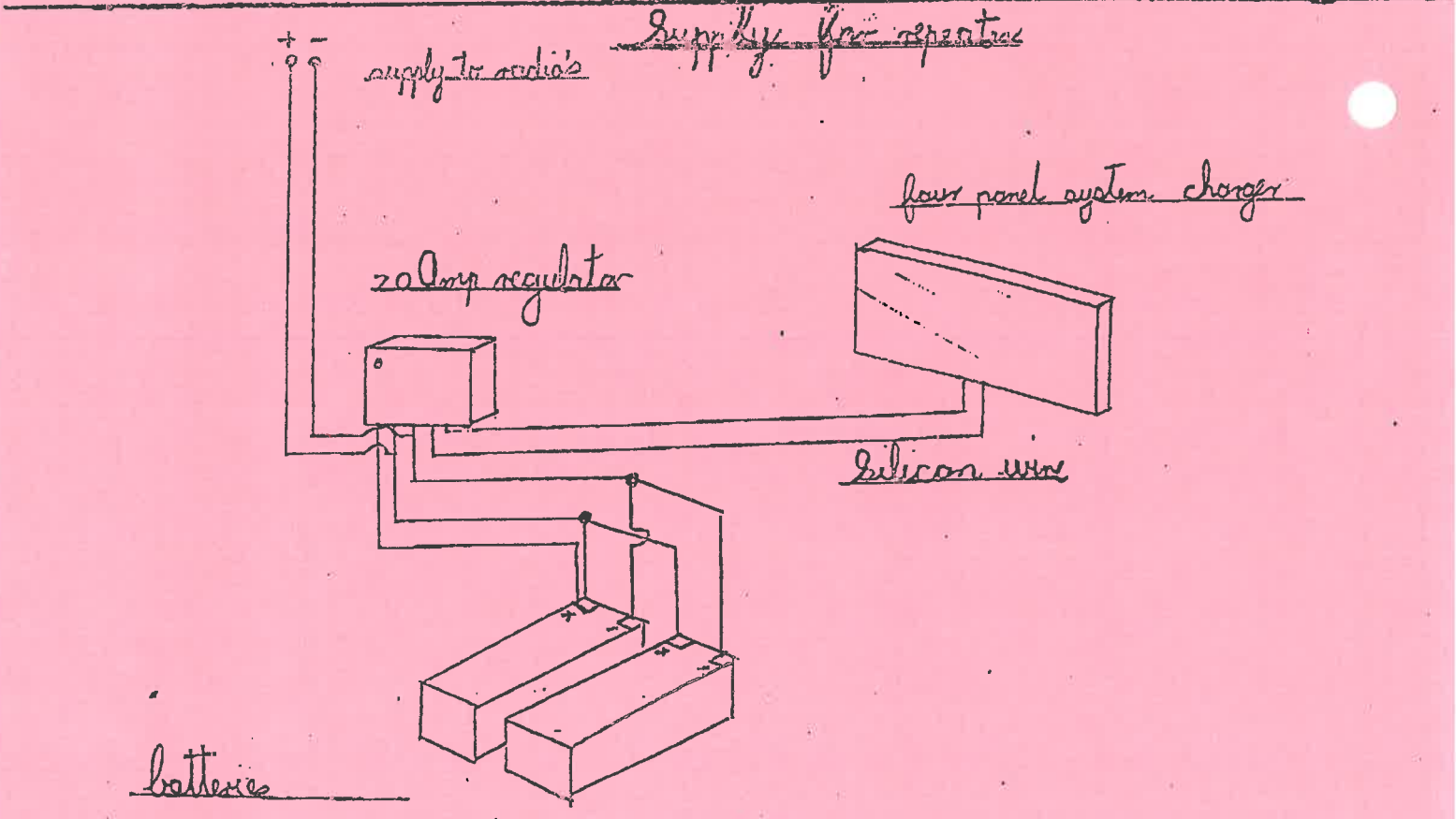
PL 258
Mini VHF
GM 300


Supply for repeaters
+
−
supply to radio's
four panel system charger
20 amp regulator
Silicon wire
batteries

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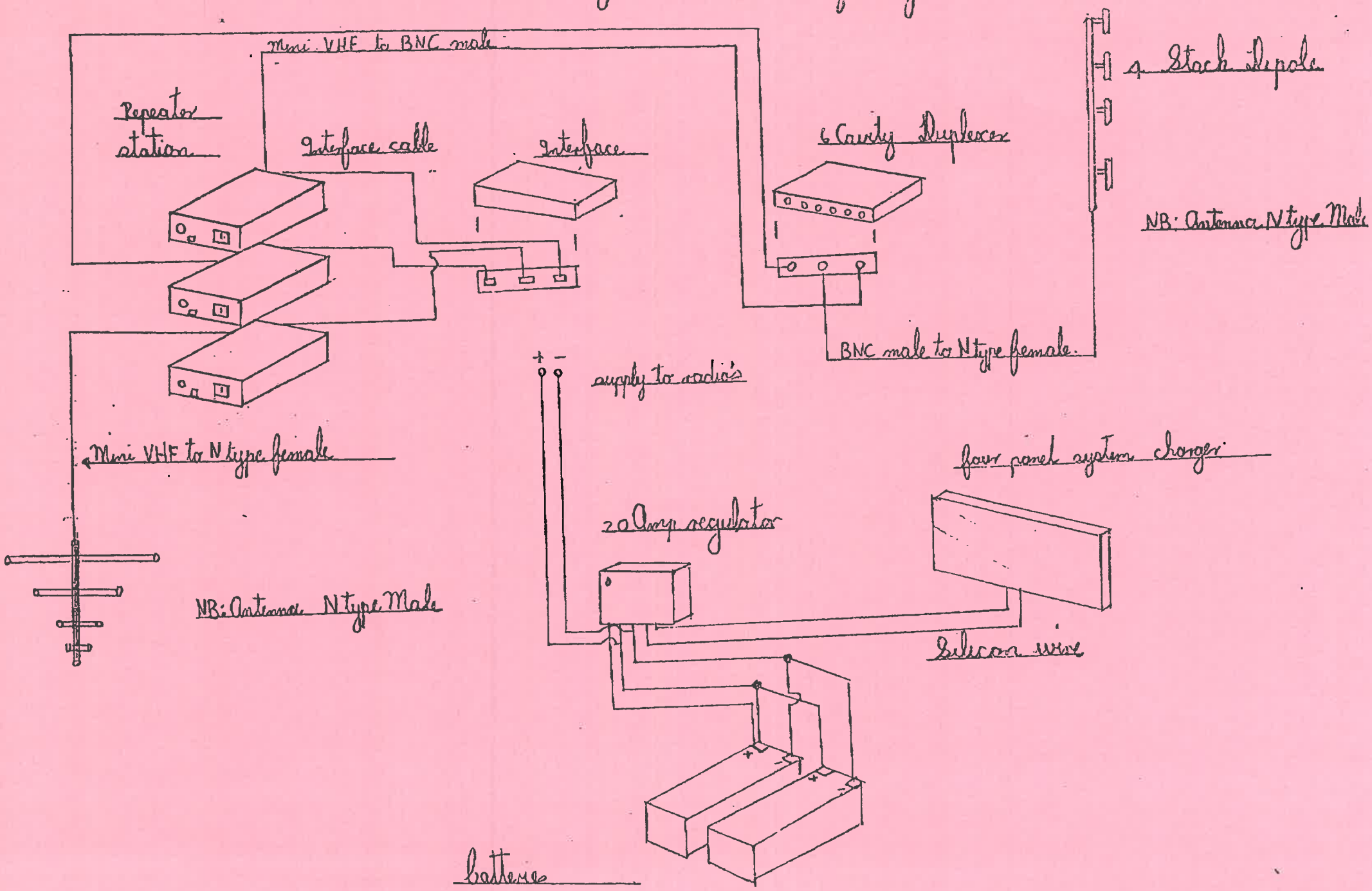

012-3511701 SANAE

Doc 4.4

MR. D.J. VAN SCHALKWYK, DIRECTOR
ANTARCTICA & ISLANDS
DEPARTMENT OF ENVIRONMENTAL AFFAIRS
& TOURISM
PRIVATE BAG X447
PRETORIA
0001

University of Pretoria
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Fax (012) 342-2713
Faculty of Biological and Agricultural Sciences
Department of Zoology & Entomology

27 January 1998

N.B. NEW FAX: 362-5242

Dear Dirk

ALIEN PLANTS AND INVERTEBRATES AT THE PRINCE EDWARD ISLANDS

First of all I trust that you had a quiet Christmas and restful holiday period, and I hope that you have a successful 1998.

The reasons for this letter are quite straightforward. As you know, at present both Marion Island and Prince Edward Island are experiencing quite dramatic changes in the status of alien plants found on them. Although *Agrostis gigantea* seems to have been all but eradicated on Marion Island through the spraying programme initiated two years ago, there is now evidence that a previously localized alien, *Rumex acetosella* is spreading and producing viable seeds, something that has not previously occurred. In addition, as you are aware, *Sagina procumbens*, a very aggressive alien, is now present in two localized patches on Prince Edward Island.

Furthermore, it also appears that a microorganism, in conjunction with the diamondback moth (*Plutella xylostella*), is having a pronounced effect on the Kerguelen cabbage (*Pringlea antiscorbutica*) at Marion Island. In fact, so much so that there appears (based on anecdotal evidence only) to have been a dramatic decline in the population of this cabbage at the island. This cabbage is one of the most important species on the South Indian Ocean Province Islands because it is endemic to these islands and is also of some historical significance (providing a source of vitamin C to sealers/castaway sailors).

These changes in the ecosystem at the islands are of considerable concern, especially given that they are essentially a consequence of recent human activities at the islands. If the islands are to be managed in a sound manner, and in accordance with the provisions of the Prince Edward Islands Management Plan (see Part 3 Sections 14 & 15 - p. 48), then there is a great and urgent need for action with regard to these

problems. As I see it, early intervention could prevent these problems from escalating dramatically and could also make any interventions very much more cost effective than they would be in two or three year's time.

In my opinion, an immediate attempt (i.e. the 1998 relief) should be made to eradicate *Sagina procumbens* from Prince Edward Island, and the extent of the spread of *Rumex acetosella* should be investigated by a person familiar with alien plants at the islands. If the plants are spreading aggressively, a control programme should be proposed and, with the permission of the Prince Edward Islands Management Committee, set in action at once.

In addition, surveys of the extant populations of Kerguelen Cabbage on both Marion and Prince Edward Islands is surely a top conservation priority, as is an investigation of the interactions between the diamondback moth, pathogen and the cabbage. If we lose Kerguelen Cabbage from the islands, without ever having made an attempt to reverse this trend, then the Management Plan and Committee will have failed to serve "the islands" and the Department of Environmental Affairs & Tourism (DEA&T) in any meaningful way, and much of the effort and time that has gone into the Plan and Committee will have been wasted. In addition, such a lack of action will reflect poorly on the DEA&T both in the national and international conservation arenas, and in the Antarctic community.

Having been present at the last SACAR meeting, I realize that the only proposal to investigate the state of the Kerguelen Cabbage population was turned down by the committee. However, I am also party to the fact (thanks to the transparency of the process and the openness of the Chairman) that the proposal was turned down even though it achieved a higher scientific ranking than at least two other proposals. As Chairman of the Prince Edward Islands Management Committee I must register my utmost concern in this regard. The mission statement of the Biological Sciences Task Group was clearly to undertake top quality research that would support the management of the ecosystems at these islands. I am not entirely sure that these goals are now being met.

Of course, I would be the first to acknowledge that the proposer of this project had listed myself as the researcher who would carry out the entomological side of the project. However, this has not biased my judgement. I would quite happily see any other competent entomologist look into this problem (and both the Agricultural Research Council, and a number of Universities have researchers who would fit the bill), because I consider the problem to be the most significant issue.

Therefore, as Chairman of the Prince Edward Islands Management Committee, I would like to request that the DEA&T, and particularly your Directorate, give urgent attention to these concerns. With regard to the alien plant problems I would suggest that Dr. N.J.M Gremmen and Prof. V.R. Smith be approached to determine whether they would be prepared to look into these matters during the coming (1998) relief voyage. They are the only people who currently have the expertise to accurately assess the extent of the problems and initiate procedures to address them. This would, by necessity, entail a visit (preferably a two to four day one) to Prince Edward Island.

Australia urged to revise Antarctic efforts

[SYDNEY] The first comprehensive review of Australia's research in Antarctica in the 50 years since a permanent national programme was established has recommended sweeping changes. The aim is to divert funds to support more science if savings can be made in infrastructure costs.

The report, released last week by the Antarctic Science Advisory Committee after an exhaustive analysis of possible changes and uncertainties 30 years ahead, is "a trailblazer" in the history of Antarctica, says the committee chair, Michael Stoddart, deputy vice-chancellor at the University of New England in Armidale, New South Wales.

Stoddart, a zoologist, points to a shift in government policy for Antarctica. Unlike all other areas of publicly supported research, he says, the direction of Australian science in Antarctica "is entirely in support of government policy positions". In its brief to the review, the government advanced its policy from "maintaining" the nation's interests in Antarctica to "enhancing" them.

In the complex territorial and, increasingly, commercial affairs of Antarctica, the review says that more science is central to "projecting an image of involvement with its Antarctic Territory" and supporting Australia's goal of exerting greater influence among the countries of the Antarctic Treaty System. Australia is bidding to have an office for the treaty established in Hobart, Tasmania, but agreement has yet to be reached on whether there should be such an office, let alone its location — Argentina also wants it.

Australia's work at four permanent bases and two part-time stations on the Antarctic continent and sub-Antarctic islands has become constrained by dependence on the transport of personnel, equipment and supplies solely by ice-breaking ship in summer months. Demands for more fishing and tourism, changes to sovereignty over land and sea, and international collaboration have become major factors determining how research can be developed while government finance continues to be limited.

The review says savings could result from concentrating effort at Davis, one of Australia's three permanent bases on the continent, and converting Mawson and Casey bases to unstaffed, automated operation in winter months once technology makes this possible. Leasing or sharing one or two bases with other countries are also options.

As well as studying scientific, international and commercial interests and logistics, the committee commissioned a panel to study the intrinsic value of Antarctica. The main scientific goal identified by the committee is boosting the base of knowledge about Antarctic weather systems. Rex Moncur, director of Australia's Antarctic Division, agrees that information about the Antarctic region is "the weak link" in current models of global change.

Australia spends $A60 million a year (US$42 million) on the Antarctic Division, which employs about 120 scientists and 185 support staff full-time. The division supports a larger number of researchers from universities and research agencies for short periods of work in Antarctica.

Australia's year-round research and weather monitoring have to be serviced by the leased ice-breaker, *Aurora Australis*, which takes a month for a round trip. Eighty per cent of the division's budget is required for infrastructure, with about $A20 million consumed by the ship charter and by helicopter operation close to the bases.

As the present supply ship can provide only 60 days of science at sea, the report advocates chartering a smaller research vessel for dedicated surveys of the Southern Ocean. The committee also highlights the need for greater flexibility. Australia is now virtually alone among Antarctic countries in its total dependence on sea transport.

ANTARCTIC DIVISION

Time for retirement? Dependence on the *Aurora Australis* icebreaker is constraining research.

Building a full-sized airstrip at one base for intercontinental flights and small landing strips for light aircraft at other bases would allow scientists and equipment to be flown from Australia and around the territory for short periods of field work. Stoddart says: "We need to get researchers to where the science needs to be done, rather than around where the bases are placed."

The committee had no brief to cost options for ski-equipped aircraft able to use ice runways and conventional aircraft needing gravel runways. But Moncur says they range from $A5 million to $A15 million.

Building facilities for air transport would have environmental effects certain to stir activists campaigning to preserve Antarctica as wilderness. Moncur, whose division manages Australia's Antarctic territories and bases as well as the research, considers that there are incentives to share resources with countries keen to be involved in Antarctica, especially some of Australia's Asian neighbours.

Following the aim of researching global change, the committee gives priority to studies of the Southern Ocean and on the high plateau of the continent, where Australian astronomers are site-testing with Americans for a possible infrared telescope (see *Nature* **385**, 194; 1997), environmental protection, meteorology, fisheries and tourism.

Any extension of tourism from the short ship-based visits of today to catering, for example, to "adventurers" would require at least a summer base to be available. The report concludes tourism would "best be undertaken away from research sites" and would need to stand alone and have significant capacity for search and rescue.

Ian Macdonald, parliamentary secretary responsible for Antarctic matters, welcomed the report. Rapid decisions are expected in time for implementation in the May 1998 budget, the last before Australia's election. The report is accessible on the Internet at www.antdiv.gov.au/foresight. **Peter Pockley**

'Disappointing lack of action' over illegal fishing

[SYDNEY] Sensitivities about exploiting Antarctica's resources surfaced at the meeting in Hobart, Tasmania, last week of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). This followed revelations of illegal fishing, mostly unreported, in the Southern Ocean. Rex Moncur, director of the Antarctic Division, estimates the poaching is worth A$500 million (US$350 million).

After Australian fishermen and scientists expressed alarm at the rapid depletion of some species, notably the Patagonian toothfish, the Australian Navy apprehended foreign vessels alleged to be operating illegally in the zone around the Heard and Macdonald Islands.

The two ministers in the Australian government concerned with Antarctica and resources expressed disappointment that "more concrete action could not be agreed" by CCAMLR after Australia pressed for other countries to follow its example of scientific observers on vessels to monitor catches and report vessels seen poaching.

But CCAMLR, which operates by consensus and has no direct powers to police its decisions, agreed only to prohibit fishing for toothfish in three areas for which conservation measures are not in place, and to "tougher" controls on port access. **P.P.**

FOURTH MEETING OF THE PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE (PEIMC)

MINUTES OF THE MEETING HELD ON 16 OCTOBER 1997 AT THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM (DEA&T), ANTARCTICA AND ISLANDS CONFERENCE ROOM (Rm 813), FEDSURE FORUM , 315 PRETORIUS STREET, PRETORIA

PRESENT

Prof S L Chown (*Chairman*)	-	University of Pretoria
Dr S Jackson	-	University of the Witwatersrand
Prof V R Smith	-	University of Stellenbosch
Mr J C Loock	-	National Monument's Council (NMC)
Dr A J Hall-Martin	-	National Parks Board
Mr D Hendrikse	-	Department of Public Works (PWD)
Mr C Jacobs	-	PWD
Mr D J van Schalkwyk	-	DEA&T
Mr R N Skinner	-	DEA&T
Ms C A Jacobs	-	DEA&T
Ms M R Mohlala (*Minutes secretary*)	-	DEA&T

APOLOGIES

Dr D G M Miller	-	DEA&T
Dr A Berruti	-	BirdLife South Africa

1. WELCOME AND OPENING

The Chair welcomed all the committee members to the meeting, with a special welcome to Mr Hendrikse, Mr Jacobs and Ms Mohlala, and tendered apologies from Dr Miller. He advised that Dr Berruti had indicated that his commitments to BirdLife South Africa would prevent him from attending future meetings and he was therefore not available to renew his contract.

The following items and documents were added to the agenda:

2.27 SACAR 3 applications (par. 4.3) *(Prof S L Chown)*
5.8 Radionuclide monitoring station at Marion Island (*Mr R N Skinner*) / *Doc 5.8*
5.9 Environmental section of 1998/99 SACAR 1 project proposals (*Prof S L Chown) / Doc 5.9.*

2. MINUTES OF THE 3rd PEIMC MEETING (19 MARCH 1997)

After one amendment, namely that CITES should consistently be referred to as such and not SITES (p.12, par. 4.7), the committee accepted the minutes as an accurate reflection of the 3rd PEIMC meeting, and they were signed accordingly by Mr van Schalkwyk who had stood in as Chair for this meeting. The Chair thanked him for standing in while he was on sabbatical.

MATTERS ARISING:

2.1 Sub-committee to investigate the impact of tourism to Marion Island

Prof Chown stated that there was no harm in advising the press regarding the Tourism Environmental Impact Assessment (EIA), but no positive or negative statements in this regard were to be made. Dr Jackson said that the draft EIA, compiled by Mr R Heydenrych (who had liaised with the scientists on Marion Island), would be sent to 8 international reviewers, including New Zealand, England and Australia, in due course. She agreed that discretion was necessary when dealing with the press, but that the public must be made aware that this document was available for comment. She suggested that a short press release be drafted in order to do so. The Chair recommended that the EIA be placed on a Web Site for easy access. This was acceptable to the committee and Dr Jackson undertook to draft the press release. Mr van Schalkwyk felt that a spokesperson should be nominated to deal with the press and that copies of the EIA should be made on request. The Chair stated that these matters could be finalised by DEA&T, with all requests for copies of the EIA to be forwarded to Dr Jackson. He thanked everyone for the work that had been done and was happy with the developments. Mr Skinner undertook to liaise and finalise the matter with Dr Jackson.

2.2 *Establishment of Marion Island as a LTER site*

The Chair stated that he had been in contact with Dr Miller in this regard, and that the matter should be referred to SACAR as a potential source of funding.

2.3 *Workshop to discuss the Management Plan/SANAP*

Mr van Schalkwyk advised the committee that due to a shortage of personnel, the COMNAP meeting in August and the Liability Annex meeting in November 1997, this workshop had been postponed. It would be kept in mind, however, and a decision may be made at the coming SACAR meeting.

2.4 *Declaration of Marion Island as a World Heritage Site*

The Chair reported that he now had documentation on what was required and that it was a long process which would require another sub-committee. He continued that there were no resources to do this at present, but that he was investigating the matter and would report back to the committee early next year. Dr Hall-Martin commented that National Parks Board was currently looking at World Heritage Sites proposals and would assist in this matter if required.

2.5 *Waste disposal and incineration policy/Containment wall to prevent seepage on Marion Island*

Mr van Schalkwyk informed the committee that there had been much discussion with the Chief Directorate: Environmental Management regarding setting up Environmental Health and Safety Management Systems for Marion and Gough Islands, and that Mr P Gildenhuys had been tasked to do so. He continued that unfortunately the personnel involved had subsequently been withdrawn and that a work study investigation of the Directorate: Antarctica and Islands had been initiated to incorporate the environmental component accordingly.

With regard to the containment wall, Mr Hendrikse reported that PWD was looking at utilising "Terra Force" instead of concrete, which would look better aesthetically.

The Chair stated that it must be decided whether or not to revise the PEIMP, as its provisions in terms of incineration were not adhered to. Mr van Schalkwyk mentioned that Mr Lexow from PWD had attended the last PEIMC meeting, and had undertaken to ensure that all the problems were addressed. He added that he had received no feedback as yet, but that these matters could be forwarded to the meeting between PWD & DEA&T the following day. The committee was satisfied that the Chair would represent the PEIMC at this meeting.

2.6 *Removal of backup hydrogen generator*

Mr van Schalkwyk advised the committee that the Weather Bureau had recommended the utilisation of cylinders as backup in case of emergencies, which would cost about R 20 000, and that the backup hydrogen generator could thus be removed from the Island. Prof Smith commented that 12 cylinders would cost about R 3 600 per year to hire. The Chair stated that such a recommendation would be made and that this matter would also be addressed at the PWD/DEA&T meeting.

2.7 *Irradiation policy and costs involved*

Mr van Schalkwyk reported that all eggs were irradiated by Hepbro and only deboned chickens were sent to Marion Island. The Chair thanked DEA&T for investigating the available options, mentioning that Hepbro should be kept in mind for future reference.

2.8 *Rat guards*

Mr van Schalkwyk stated that there had been much discussion on this matter and that a new Captain (Capt. Davidson) had been temporarily appointed. He continued that certificates had been issued stating that the SA Agulhas had been rat - free over the past month and that tying the rat guards to the mooring ropes was currently being investigated by Mr Oosthuizen and Capt. Davidson. He advised that anyone who saw no rat guards on the ship was to report the matter immediately. The Chair stated that this issue was of huge concern, as South Africa would be in a position of extreme embarrassment if additional rodents were to get onto the Island. Dr Jackson felt that keeping the rat guards on the ropes was a fairly simple task, and that the rat free certificates were meaningless if there were no rat guards, with Prof Smith supporting that other ships had them on. Mr van Schalkwyk suggested that all the concerns be noted in a letter for discussion with the Acting Director-General in an attempt to tie up loose ends in this regard.

2.9 *Appointment of a full-time Conservation Officer*

The Chair stated that in line with Dr P G Ryan's suggestion of appointing a full-time Conservation Officer, this would solve some of the above - mentioned problems. Mr van Schalkwyk informed the committee that the three posts in the Chief Directorate: Environmental Management for SANAE, Marion and Gough had fallen away and that this would be discussed at a meeting later that afternoon. He continued that contract workers could possibly be appointed, but that full-time personnel were necessary and funding was essential to do so. The Chairman felt that this matter must be referred to SACAR and the AMC, and stated that as it was important to have a Conservation Officer on the Island, he was willing to forfeit one takeover personnel member for this purpose.

2.10 Removal of rubble and building waste

The Chairman thanked Mr J van der Merwe's (Weather Bureau) team, the Directorate: Antarctica and Islands and PWD for removing some of the waste from the Island. He continued that the hut at Laekop had completely fallen apart, that the others would as well soon and that if they were not repaired it would result in health risks and environmental problems. He felt that as much a possible should be done during takeover, that the team was also to assist, and that DEA&T must liaise with PWD in this regard. Mr van Schalkwyk asked Mr Skinner to set up priorities at the PWD/DEA&T meeting the following day, i.e where rubble was located, etc.

2.11 Retrieval of weather buoy on Prince Edward Island (PEI)

Prof Smith reported that he had received a vague map from Ms E Popich, but that the weather buoy could not be located. He added that there was no PEI voyage in 1995 when it was supposedly picked up, according to Doc. 2.11. The Chair stated that the weather buoy must be retrieved if the intended dedicated voyage took place.

2.12 South African Navy (SAN): 75th birthday celebration

Mr van Schalkwyk stated that the SAN had indicated that there would be no voyage to the PEIs as originally planned.

2.13 Dedicated voyage to Prince Edward Island
2.14 3-person beach survey per helicopter

These two items would be discussed under item 3.1.

2.15 Fishing in Exclusive Economic Zone (EEZ)

The Chairman informed the committee that Dr Ryan had submitted a paper stating that between 5000 to 20 000 birds had been killed over the past few years, but that the impact on PEI could not be measured as no bird counts were available. He then suggested that Sea Fisheries be requested to supply the PEIMC with copies of the permits issued. Mr Skinner mentioned that a chain of command had been set up initially, but that it was no longer working. He said that when copies of the permits issued had been requested, he had been advised telephonically that all the necessary stipulations had been included and that the team leader on Marion Island would be informed regarding the vessels with permits. Mr Skinner recommended that a draft letter or report be compiled for discussion with the Acting Director-General. The Chair mentioned the possibility of a SAN voyage and that a CCAMLR representative must be on board. Mr van Schalkwyk stated that the matter would be discussed with Sea Fisheries and that someone with experience, and the programmes best interest at heart, must be included if such a voyage materialised, and that a few nominations should be cleared and on standby. Dr Ryan would be contacted and advised accordingly.

Mr van Schalkwyk suggested that this committee recommend to the Acting Director-General that he and Prof Chown be tasked to deal with this matter. This was acceptable to the committee. It was the general consensus of the PEIMC that Prof Ryan undertake a quick voyage to PEI, should one arise, especially in terms of alien introductions, etc. Alternatively Mr D Nel should undertake this trip. Mr van Schalkwyk requested that Dr Ryan submit a draft code of conduct to be included in permit regulations. The Chair would take up the matter with Dr Ryan.

2.16 Survey Proposal: National Monuments Council (NMC)

Mr Loock stated that an initial SACAR 1 proposal had been submitted to visit Marion Island, and that subsequently a report and a follow up SACAR 1 proposal had now been tabled. In support of their involvement, he mentioned that the NMC had legal obligations to Marion Island and that the Cultural History Museum had been approved by DEA&T to curate all items. Prof Smith commended that the report submitted was excellent and that as only one further voyage was necessary it should be supported. This was seconded by Dr Jackson. Mr Loock stated that additional literature had been obtained, which would be valuable. The Chair requested that the size, number, location, etc. of the proposed stakes (markers) must be included in the SACAR 3 form to be tabled at this committee early next year.

2.17 Breaching of dam

Prof Smith reported that the peat surrounding the dam was being washed away by between 7-15 metres per year, but that the dam wall was not necessarily the cause. He said that the building activities were a possible cause. The Chair mentioned that there was a lot of seepage from underneath the dam wall and suggested that Mr Loock and Prof Smith must investigate the matter during the next takeover and make a recommendation accordingly.

2.18 Request for petrel monitoring

The Chairman stated that in reaction to a letter from Dr M Brooke, his request had been directed to Drs Ryan and Crawford, who would address it as far as possible. The matter was now handled by the Biological Sciences Task Group.

2.19 Visit from New Zealand Environmental Officer

Mr van Schalkwyk reported than this matter was on ice at present and could be deleted from this agenda. He undertook to address it accordingly, if a need arose in the future.

2.20 Replacement/removal of huts

Mr Hendrikse advised that PWD was responsible for accommodation, but that additional accommodation for scientific research was to come from SANAP. He confirmed that the original funding had been obtained from the then Department of Transport.

Mr van Schalkwyk stated that PWD was responsible for all the accommodation requirements irrespective and that according to Treasury approval, only the funding of fuel, globes and furniture had been redirected to DEA&T. He felt that the problems between the two Departments must be ironed out the following day. Mr Hendrikse agreed. The Chair said that all the huts, except the one at Kildalkey, were to be replaced and the state of the huts were environmentally a threat in terms of health and safety. Mr Loock requested whether one hut, preferably with its graffiti, could be made available to the NMC for historical purposes, when returned. He was asked to direct his request to PWD in writing.

2.21 Proposed amendments to the management plan

The Chair stated that the document must remain "as is" at present, and could be reviewed at a later stage.

2.22 Re-siting of M-net satellite dish

The Chair advised that the dish had not been moved, as it was no longer receiving and would be removed accordingly. Mr Skinner advised that the M-Net sponsorship with the team had expired, and technology (new decoder) had not been provided, but that there may be a new one following in future. Mr van Schalkwyk recommended that someone from the PEIMC be involved if the dish was resited.

2.23 Conservation Officer's Reports

The Chair stated that Mr Nel, the first Conservation Officer, was consistent and went more than the extra mile. Dr Jackson commented that his helpfulness with the Tourism EIA was to be commended. The Chairman also recommended that this committee draft a letter of thanks to Mr Nel for his good work. Prof Smith mentioned that the BSTG had suggested that he be reimbursed for his efforts and that perhaps this committee should recommend this as well. Mr Skinner advised that there were no longer notch increases, with Mr van Schalkwyk adding that he had already been appointed on a higher notch due to his Conservation Officer status. The Chair closed by emphasising the bird strike problem, stating that blinds must be installed during the next takeover and that the availability of oil dispersant on the Island was a necessity.

2.24 Application to capture penguins on Marion Island

Mr van Schalkwyk provided a brief rundown of developments in this regard, stating that the Norwegians had originally requested Macaroni Penguins but now wished to capture Rockhoppers instead. It was decided to refer the application to Mr J Cooper of the SCAR Bird Biology Working Group to review and refer to referees in light of the recent decline in Rockhopper Penguins on Marion Island. The Chair undertook to contact Mr Cooper in this regard. It was also felt that the approval of this request was within the ambit of the PEIMP, as it met the educational purposes criteria.

As regards the care, quarantine, transfer, etc. of the birds, the committee recommended that the Norwegians must take care of all these aspects, as soon they took delivery of the penguins which would be on the Island as soon as they were captured. The final decision was that if the removal of the penguins was a threat to the conservation of the species, the PEIMC would not support the application, but if it was not a threat the application would be approved.

2.25 Concept Master Plan: Marion Island

Mr van Schalkwyk advised the committee that no new plan had been received, but that it had been discussed by Messrs Holzhausen (PWD), Dreyer and himself and decided that the kitchen would in the interim be upgraded. Mr Jacobs informed that the PWD Engineer was in the process of completing his take-over report, with recommendations on the structural stability of buildings. Mr van Schalkwyk felt that a short-term maintenance plan, a long-term plan (perhaps rebuilding the base) and the level of funding must be determined. Mr Hendrikse agreed that these aspects must be addressed and that the time-scales and so on could be decided at the PWD/DEA&T meeting.

2.26 Committee Members: Re- and new appointments

The Chair mentioned that the present PEIMC's term-of-office was drawing to a close on 12 January and 1 March 1988, and that the Acting Director-General must appoint a new committee. He recommended that Mr Cooper replace Mr Berruti and that Dr Ryan be co-opted for his knowledge of the fishing aspects. Mr van Schalkwyk stated that this matter would be attended to.

2.27 SACAR 3 forms for all personnel

The Chairman recommended that all groups, not just scientists, visiting Marion Island must submit SACAR 3 forms. Mr van Schalkwyk stated that this was already being implemented and requested that the PEIMC meeting be scheduled earlier next year in order that PWD and DEA&T could timeously address relevant matters.

3. MARION ISLAND RELIEF VOYAGE

3.1 Management Report

The Chair stated that the relief voyage had gone reasonably well, especially in terms of the Management Plan, and provided a brief rundown of his report, highlighting the serious environmental concerns regarding the collapse of the concrete slab at the point. Mr Hendrikse advised that "Terra Force", which was more aesthetically pleasing, would be used to address this problem and would be discussed further at the PWD/DEA&T meeting.

The Chair mentioned that the laboratories were not fully maintained, but that most were structurally sound, expect for the ionospheric laboratory which was to be referred to DEA&T to decide what to do with. The Chairman strongly recommended that in terms of the team members, perhaps someone aside from the diesel mechanic could be appointed to take care of year-round maintenance. Dr Hall-Martin agreed that regular maintenance was better than rush jobs once a year and that such a person would also be able to advise better what needed to be done during takeover.

The Chair mentioned that a large rodent had been spotted on Marion Island and that the situation was being carefully monitored, but that rat guards on the ship were thus essential. Prof Smith stated that he had been involved in the programme for 27 years and that there had been an increased introduction of alien species over the last few years. In accordance with the mandate of the PEIMP to stop alien introductions, the PEIMC recommended that no fresh vegetables be taken to Marion in the future. The Chair mentioned the possibility of cross-contamination via the orange containers. Mr Skinner stated that a high pressure hose was used to clean these containers and that specific containers were allocated to Marion, Gough and SANAE respectively, that PWD was also instructed to do this, but that although DEA&T had attempted to get specific sheds allocated at the harbour, this was not possible. Prof Smith suggested that the plants outside the stores in Cape Town be eradicated by spraying once a year, and the Chair recommended that the areas where the containers stood should be treated with herbicide. He also said that the new-issue boots had holes in the sides where seeds could easily accumulate. Mr Skinner undertook to advise Mr Valentine of the Clothing Committee accordingly.

Regarding the erection of the VHF repeater, the Chair mentioned that an EIA had not been done prior to the Marion voyage and that one was done hurriedly on the Island. He recommended that all the alternatives should be investigated and that in future all such items must be directed through this committee first. Mr Skinner said that there had been a misunderstanding between the Pretoria and Cape Town offices and that Mr F Hofman was requested to discuss the issue with the Chair directly on the way to Marion before doing anything. The Chairman asked DEA&T to express the committee's appreciation to Mr Hofman for the good job done with the removal of the rhombic antennas.

The Chair stated that the visit to PEI had been very successful, due to the coordination of Mr Valentine and that Mr Skinner was please to convey the committee's thanks to him. He also mentioned the excellent cooperation from the South African Air Force. He continued that there had been no evidence of human visits, but that much debris had been washed ashore. The Chair requested that a new alien species, also present on Marion, be eradicated on PEI as soon as possible.

In closing, the Chair mentioned the significant differences seen first hand between Marion and PEI, stating that this huge discrepancy was largely due to the fact that there were no cats, mice or alien plants on PEI, and that it was therefore important to keep PEI alien free. Last but not least, he praised the former and present expedition teams for their excellent adherence to the provisions of the PEIMP.

4. MATTERS ARISING FROM TASK GROUP MEETINGS

4.1 Oceanographic Sciences Task Group meeting (8 August 1997)

4.1.1 Marine and Island Biology Workshop

The Chairman stated that the request for such a workshop, received from Dr Miller, did not fall within the remit of this committee. He suggested that the matter be referred to the Biological and Oceanographic Sciences Task Groups to organise, pending the availability of funding. This was accepted by the committee who supported the proposal.

4.2 Biological Sciences Task Group meeting (10 September 1997)

4.2.1 Policy decision: Number of participants in relief voyages

The Chairman advised that 64 persons were allowed on Marion Island in accordance with the PEIMP, but that there had been a lengthy debate on this issue at the BSTG meeting, with conflicting views expressed. Mr Hendrikse stated that the base was utilised by a small team throughout the year, and that the four weeks of the takeover period did not justify extending the base. Prof Smith commented that the toilets leaked as they were not properly maintained, that the laundry facilities were insufficient and that meals took so long because there was a lack of adherence to scheduled meal sessions. Mr Hendrikse said that two extra washing machines could be taken down next year, but that the rest was as a result of poor maintenance. Prof Smith agreed that with good discipline and management, the base could handle 64 persons.

4.2.2 Decrease in number of Gentoo Penguins at Marion Island

The Chair advised the committee that there had been a decrease in the number of Gentoo Penguins and provided a rundown of the report received from expedition member, Ms M Greyling, on the Island. He was concerned that the late takeovers affected the pairing of the birds due to the disturbance around the base area and recommended that the Marion takeover be shifted earlier if at all possible as the weather was also better then. Mr Skinner indicated that this would not be possible this year or next year due to existing SANAE commitments, but that it could be considered as from 1999/2000. Dr Hall-Martin enquired whether other vessels could be used for relief voyages, and Mr Skinner replied that SAN vessels had to be reserved at least two years in advance and were not equipped to undertake oceanographic work which was done during relief periods.

5. NEW ITEMS

5.1 A new topographic map for Marion Island

The Chair referred to Doc. 5.5 and stated that the completion of the maps using either SPOT or RADARSAT fine beam data was quite expensive. Mr Skinner said that if the Department of Land Affairs was pressurised to complete the maps, satellite data - which was more expensive - would have to be used.

5.2 ISO certification of PEIMP

Mr Skinner was unable to shed any light on this subject.

5.3 Implementation of the recommendations of the Marion Island Master Plan

This item was handled under item 2.25.

5.4 Planning period before execution of request for maintenance work to be done

Mr Hendrikse reported that any new requests required three years of planning as follows: one year for the suggestion/recommendation, another year to obtain funding and a third year for the implementation thereof. The Chair stated that this would be kept in mind.

5.5 Prince Edward Islands: Mapping

This matter was addressed under item 5.1.

5.6 Draft Policy Plan: Prince Edward Islands

Mr Loock reported that he had visited Marion Island with two people and that they had covered everything they intended to do. He advised that certain artifacts could be dated, especially military equipment, and that any comments could be forwarded to him as Doc. 5.6 was only a draft document.

5.7 Survey of Historical Sites on Marion Island

The Chair congratulated Mr Loock and his team for the excellent document produced and added that copies were available from Ms Jacobs. Prof Smith felt that it would be worthwhile if this document could be published for distribution to expedition members, etc. Mr Loock stated that the document needed to be revised and information added. The Chair recommended that a copy of the document "as is" be forwarded to Marion with the next takeover and that the document be published once it had been updated after the next visit to Marion Island.

5.8 Marion Island: Radionuclide Monitoring Station

Mr Skinner advised the committee that South Africa had signed and become a party to the Comprehensive Nuclear-Test-Ban Treaty and mentioned that a request regarding the possibility of establishing a radionuclide monitoring station on Marion Island had been received. He added that Doc. 5.8 had been tabled for information, and that any suggestions in this regard must be passed through the PEIMC. Prof Smith undertook to e-mail the details of the USA's present station operators on Marion to Mr Skinner to determine whether it was necessary to replace the existing station. Mr Skinner would keep the committee informed of developments.

5.9 Environmental section of 1998/99 SACAR 1 project proposals

Profs Smith, Chown and van Aarde, and Drs Bester and Boelhouwers' proposals were endorsed by the committee for onward transmission to SACAR. Dr Ryan's proposal was also endorsed, but with regard to his request to visit PEI, he was to indicate what he intended to do there and the matter was deferred to the next meeting. Dr Crawford's project was recommended, but he was also required to provide an indication of his intentions when visiting PEI.

6. DATE OF NEXT MEETING

This item was not discussed.

7. CLOSING

The Chair thanked the committee for their involvement over the past two years. He also thanked DEA&T and the Directorate: Antarctica and Islands for their assistance and for all the lunches. He stated that the composition of the committee could change entirely and that they would be advised accordingly in due course. Mr Loock expressed the committee's thanks to the Chair for his efficiency.

PROF S L CHOWN
CHAIR

DATE:

Department of Environmental Affairs and Tourism • Departement van Omgewingsake en Toerisme
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Reference A 10/2/1/2/7/2

Enquiries Ms O M Moitsi

Prof V R Smith
Department of Botany
University of Stellenbosch
Private Bag X 1
MATIELAND
7602

18 February 1998

Dear Prof Smith

PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE MEETING: 26 FEBRUARY 1998

1. Herewith for your information, please find the agenda and documentation for the above-mentioned meeting.

2. I look forward to seeing you on 26 February 1998.

Kind regards

ACTING DIRECTOR-GENERAL

Department of Environmental Affairs and Tourism • Departement van Omgewingsake en Toerisme
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Enquiries Ms O M Moitsi

Prof V R Smith
Department of Botany
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Private Bag X 1
MATIELAND
7602

13 February 1998

Dear Prof Smith

4th PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE MEETING: 16 OCTOBER 1997

Attached for your information, please find a copy of the final minutes in respect of the above-mentioned meeting.

Kind regards

ACTING DIRECTOR-GENERAL

With regard to the Kerguelen Cabbage problem I would strongly urge that every attempt be made to undertake a sound ecological study of the problem over at least a two to three year period. It is quite clear that Prof. V.R. Smith would make the most ideal principal investigator, especially given that he is prepared to do the work, and that his proposals in this regard have already been reviewed by a number of outside referees and have received reasonable support from the assessors on the Biological Sciences Task Group. Obviously if he is not fully funded by DEA&T he cannot devote all his time to this work. However, I believe that a great deal can be achieved during a relief period such as the forthcoming one, and this would go a long way to providing the information on the status of the Kerguelen Cabbage that is desperately required by the Prince Edward Islands Management Committee.

I trust that you will appreciate my anxiety in this regard, and that above all, the sound management of these islands remains my primary concern.

With thanks in advance for your time and trouble.

Yours sincerely

PROF. S.L. CHOWN
CHAIRMAN, PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE

Department of Environmental Affairs and Tourism • Departement van Omgewingsake en Toerisme
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Enquiries Ms O M Moitsi

Prof V R Smith
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7602

12 February 1998

Dear Prof Smith

8th SACAR BIOLOGICAL SCIENCES TASK GROUP MEETING: 10 SEPTEMBER 1997

Attached for your information, please find a copy of the final minutes in respect of the above-mentioned meeting.

Kind regards

ACTING DIRECTOR-GENERAL

MINUTES OF THE EIGHTH SACAR BIOLOGICAL SCIENCES TASK GROUP (BSTG) MEETING HELD ON 10 SEPTEMBER 1997 AT THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS & TOURISM, DIRECTORATE: ANTARCTICA & ISLANDS CONFERENCE ROOM (RM 813), FEDSURE FORUM, 315 PRETORIUS STREET, PRETORIA

PRESENT

Prof J A J Nel (*Chairman*)	:	University of Stellenbosch (US)
Prof V R Smith	:	Department of Botany (US)
Dr M N Bester	:	Department of Zoology & Entomology University of Pretoria (UP)
Prof S L Chown	:	Department of Zoology & Entomology (UP)
Prof R J van Aarde	:	Department of Zoology & Entomology (UP)
Dr P G Ryan	:	Percy FitzPatrick Institute of African Ornithology University of Cape Town (UCT)
Prof M R Perrin	:	Department of Zoology & Entomology University of Natal, PMB
Dr R Crawford	:	Sea Fisheries Research Institute (SFRI) Department of Environmental Affairs and Tourism (DEA & T)
Mr H Valentine	:	Deputy Director: Antarctica and Islands, CT (DEA & T)
Mr R N Skinner	:	Deputy Director: Antarctica & Islands, PTA (DEA & T)
Ms C A Jacobs (*Minutes Secretary*)	:	DEA & T
Ms M R Mohlala (*Observer*)	:	DEA & T

APOLOGIES

Mr D J van Schalkwyk:		Director: Antarctica & Islands (DEA & T)
Prof S H Hanrahan	:	Department of Zoology University of the Witwatersrand

1. WELCOME AND OPENING

The Chairman welcomed all present at the meeting, especially Mr Valentine and Ms Mohlala who were attending for the first time. He extended the apologies of Prof Hanrahan and Mr van Schalkwyk. The following items were added to the agenda:

4.5 **Protective clothing** - Mr R N Skinner
4.6 **Antarctic bibliography database** - Prof V R Smith
4.7 **Appointment of personnel** - Dr R Crawford
4.8 **Joint ventures (Norwegian/Swedish/New Zealand)** - Dr M N Bester

2. MINUTES OF THE SEVENTH SACAR BIOLOGICAL SCIENCES TASK GROUP MEETING: 27 AUGUST 1996

The following amendments, indicated in ***bold/italics***, were proposed:

par. 2.1.8 (p. 4) - Heading: "***Environmental Health and*** Safety Manual"
par. 2.1.10 (p. 5) - Insert comma after "well": "... was working well, and Prof Chown ..."
1st par. (p. 8) - Mr van Schalkwyk to replace "He": "***Mr van Schalkwyk*** continued ..."

After these changes were incorporated, the committee accepted the minutes as a fair reflection of the *seventh SACAR Biological Sciences Task Group meeting*. The Chairman signed the minutes accordingly.

2.1 *MATTERS ARISING:*

2.1.1 Dedicated cruise to Prince Edward Island (PEI)

Dr Bester reported that a report had been drawn up in this regard, circulated, comments received and a final document forwarded to Mr van Schalkwyk. Prof Chown stated that such a voyage was supported by the Prince Edward Islands Management Committee (PEIMC), if executed correctly, as the birds on PEI must be monitored. Mr Skinner reported that no funds were available for a dedicated cruise because it would cost in the region of R 1,6 million for a 36-day voyage. However, the possibility existed of accompanying one of the South African Naval (SAN) illegal fishing inspection voyages, but this would be at short notice. Dr Ryan felt the SAN option was worth exploring, with Prof Chown asserting that the SAN would have to adhere to the provisions of the Prince Edward Islands Management Plan (PEIMP). Prof Smith confirmed that a risk-free voyage was not possible in 2-3 days. Dr Ryan asked about the possibility of a chopper landing, and the committee felt that this was a more reasonable option. The Chair concluded that if anything was possible it should go through the PEIMC. Prof Chown said that the best months for such a cruise were October/November, that the possibility of a visit to PEI by 15 persons for 2 weeks in 3 years time should be investigated and that a letter in this regard should be submitted, but that the final decision lay with DEA & T.

2.1.2 Fishing in Exclusive Economic Zone (EEZ) of the Prince Edward Islands

Prof Chown reported that this matter had been raised by the PEIMC and passed on to SACAR and the Antarctic Management Committee (AMC) accordingly. Mr Skinner informed the committee that Dr Miller had raised the issue formally at the last CCAMLR meeting - mentioning the countries involved - but that thus far there had been no prosecution of the illegal operators photographed in our waters. He added that those countries who had been identified as fishing illegally in the EEZ had been sent diplomatic notes from the Department of Foreign Affairs expressing South Africa's concern and asking them to address the issue.

Dr Ryan advised that Dr Miller was going to request permission from CCAMLR to legally fish in the EEZ in summer in order to have a legal presence in the area. He suggested that the PEIMC approach the five legal permit holders with a code of conduct on how to operate around the Prince Edward Islands, particularly as the possibility of mortality of sea birds is increased in summer.

2.1.3 Protected status for Vesleskarvet and Robertskollen in terms of the Antarctic Environmental Protocol

Mr Skinner reported that Mr van Schalkwyk had met with Mr Cooper and provided him with all the necessary information, but that he had received no feedback as yet. This was noted by the committee.

2.1.4 Environmental Health and Safety Manual for Marion Island

Mr Skinner reported that Mr P Gildenhuys was in the process of finalising such a document, and that hopefully it would be tabled at the PEIMC meeting in February 1998.

2.1.5 Sir Robin Irvine's report

Mr Skinner advised the committee that all the avenues to obtain this report had been consulted, to no avail, and it did not appear that the report would be forthcoming, as Sir Robin Irvine had passed away. There were no plans to conduct such an exercise again at present.

2.1.6 Effects of the ornithogenic products on ecosystem structure and functioning in Antarctica (Final report: Mr J Cooper)

Mr Skinner reported that Mr Cooper had let DEA & T know that it would take a while for him to revise his report. Dr Ryan undertook to take the matter up with Mr Cooper.

2.1.7 Chief Scientist's report: Marion Island 1997

Prof Chown provided a brief summary of this report, praising DEA & T for its efficiency at the stores, mentioning that the maintenance of the laboratories on Marion Island was shocking and that the huts were in a disastrous state. He felt that the Department of Public Works (PWD) should be made aware of this and that the committee should note that safety and work were now being compromised. Scientifically, he reported that everyone was happy with the work that had been done and thanked Mr Valentine for a well-coordinated takeover. He listed two complaints that had been received, namely: (1) informal tourists to the Island, and (2) problems with the logistic coordination. Prof van Aarde felt that the perception of "informal tourists" was largely due to a lack of communication in terms of what people were supposed to be doing and added that people must be advised on conditions and behaviour on the Island, and recommended that a Safety Manual be drafted for this purpose.

With reference to the rat guards mentioned in the report, Mr Skinner informed the committee that the Marine Superintendent at Sea Fisheries, Capt. N Hagan, had been requested to ensure that rat guards were placed on all the mooring ropes and that he had confirmed that this would be done. However, he had subsequently resigned, as had the Captain of the *mv S A Agulhas*, Capt. B Pieters. He added that the replacement of the huts during 1998 had been discussed with PWD, but that the level of funding would only be known in November 1997. He mentioned that alternative avenues had been investigated to no avail, e.g. private contractors, transfer of PWD Islands budget to DEA&T, and continued that small jobs were not a problem, but that big jobs must be budgeted for at least two years in advance. No contingency funding was available. Mr Skinner mentioned that a few years ago he had recommended that one voyage should be dedicated for maintenance only, as a "quick fix" was not going to take place if a huge maintenance effort was not made. Prof Chown felt that a list of what maintenance was required should rather be made and addressed accordingly.

On an invitation from the Chair to air any grievances, Dr Bester reiterated that the state of the huts was a recurring problem and must be addressed, that the SACAR 3 forms submitted for the composition of the Sailing Instructions must be adhered to, and that any changes must first be investigated by the Chief Scientist in terms of how it impinged on the work of others on the Island, and finally, that 64 persons was impossible for Marion Island to accommodate, as the facilities and ablutions were not sufficient. He continued that two years ago only 45 persons had participated in the relief voyage to Marion and that it had been a pleasure. He felt that relief voyages should be restricted to a maximum of 54 persons. He added that the scientists must restrict their support staff to the minimum and not take unnecessary personnel to the Island, as this resulted in the perception of "informal tourists". Prof Chown pointed out that the base had accommodated 80 personnel in the past, and that if the facilities were well maintained 64 persons could easily be accommodated. Dr Ryan added that this had been his first visit to Marion in 12 years and that the base now functioned much better, especially in terms of environmental impact and awareness, even with 64 persons. It was ascertained that the PEIMP specified that a maximum of 64 persons could be accommodated on the Island and the committee suggested that this be reviewed by the PEIMC.

Dr Bester mentioned that many of these aspects could have been circumvented, and emphasised the necessity for a Takeover Manual. Finally, he said that he had only found out the day before the ship departed that there was going to be a dedicated voyage to PEI, and felt that persons must be informed of what was happening and afforded the opportunity to participate.

Regarding the logistic coordination of the takeover, a number of participants questioned the manner in which the takeover had been coordinated and, as the Chief Scientist, Prof Chown responded that he had a different style of management and that he had only agreed to act in this capacity to give other scientists an opportunity to concentrate on their work. He suggested that a table of where the scientists intended to work be added to the SACAR 3 forms and that a manual with a checklist be made available to the Chief Scientist. He reported that DEA & T had contracted Ms C Hänel to redraft a new "blue" book for the PEIs, which she was in the process of doing very thoroughly.

2.1.8 Framework for establishing Marion Island as a Long Term Ecological Research (LTER) site

Prof Chown reported that no further progress had been made in this regard, as he and Dr Miller were unable to contact one another.

2.1.9 Replacement of huts at Marion Island

This item was dealt with under item 2.1.7.

3. INTERIM PROGRESS REPORTS (1 July 1996 - 30 June 1997) - (A) and PROJECT PROPOSALS 1998/99 - (B)

Mr Skinner advised the committee that ±R 580 000 was available for biological sciences research in 1998/99. He continued that, in the other Task Groups, if consensus could not be reached as to recommended levels of funding, it was left to the Chair and two independent members to decide and forward their decision to DEA & T accordingly.

3.1(A) Structural and functional classification of Marion Island habitat types *(Prof V R Smith)*

Prof Smith stated that a database was available on request for use by other scientists, including a map of Marion Island containing information and to which further information could be added. This would be included on a stiffy and accompany his final report which would be forthcoming in January 1998. This had been a 2-year project, for which no further data were required. The format of the report was queried, but it was ascertained that Prof Smith had adhered to the prescribed guidelines and the report was accepted accordingly.

3.1(B) **Ecophysiology and pathology of the Kerguelen Cabbage *Pringlea antiscorbutica* and its herbivores on Marion Island *(Prof V R Smith)***

Prof van Aarde questioned whether new projects should be considered during the presently approved 5-year cycle and cautioned against losing continuation due to the approval of such projects. Prof Smith felt that viable projects should be considered, but that he did not wish to be a threat to the currently approved projects. He asked that the BSTG consider the project in terms of its scientific merit, stating that he would accept SACAR's decision accordingly. Prof van Aarde said that the project could not be faulted in terms of scientific merit, but that he had a problem with the submission and cost of this proposal.

Prof Chown felt that all the biology projects were important, but that trimming across the board would not amount to the R 260 000 which needed to be cut. A further concern was that the biologists and field assistants were being paid almost his salary due to the revised Government remuneration packages. Prof van Aarde felt that it would be more feasible to pay such persons University salaries. Mr Skinner mentioned that the Earth Sciences Task Group (ESTG) appointed personnel on bursaries (MSc - R 30 000, PhD - R 40 000), but that they only had home-based personnel and that such appointments for overwintering personnel would have to be taken up with the Public Service Commission, as bursaries did not include any benefits. The committee felt that a big saving could probably be effected if bursaries were implemented.

Prof Perrin suggested that the proposal be evaluated in terms of the mission and criteria of the BSTG, and Prof Smith responded that his project had been submitted in accordance with these objectives. Prof Chown agreed that all the projects should be reconsidered for support in terms of scientific criteria, from a zero base in terms of *quality* and *relevance* added Prof Perrin. Mr Skinner advised the committee that all the approved projects had been reviewed both nationally and internationally, and that if Prof Smith's project was supported by the BSTG, it would be sent out for evaluation accordingly. In terms of cutting projects, he mentioned that one physics project had been cut for the continuation of the rest, and that within the ESTG a project had been cut due to dissatisfaction with the results produced to date. Dr Crawford was not convinced that the funding allocated for research was wisely distributed between the Task Groups and felt that the way SACAR managed the programme was very inflexible. Prof Chown remarked that increased support for Marion Island research was highly unlikely.

Prof van Aarde queried the necessity for a biologist and field assistant, offering to share assistants in terms of saving, but suggested that this proposal be recommended to SACAR with a high conservation and management implication for Marion. Prof Perrin reported that he had prioritised all the projects, with this one being strongly supported as a high priority and advised he would submit his report to the Chair. The Chair suggested that the proposal be referred to SACAR as a special case, after being sent out for external review. Prof Chown stated that SACAR would not consider this project as a special case and was concerned if only Prof Perrin's report would be considered at the SACAR meeting.

3.2(A) The impact of long-line fishing on Wandering Albatrosses and other sea bird populations *(Dr P G Ryan)*

Dr Ryan was requested to submit a shorter report to conform with reporting guidelines and to submit it to Ms Jacobs for the forthcoming SACAR meeting. Dr Ryan agreed to do so and apologised for exceeding the stipulated number of pages, stating that he had submitted a document which he thought would be of use to the committee. The Chair acknowledged that the report was very interesting.

3.2(B) Prof Perrin felt that this was a high profile project in terms of global conservation, but that there was too much to be done in the time available. He added that long-line fishing was out of control, however, and that with hundreds of birds being killed per year, the full impact of which was unknown. Dr Ryan mentioned that he would like to visit Gough Island during the 1998 takeover. This request was supported by the committee, however, he was asked to submit his application to DEA & T in writing.

3.3(A) Monitoring sea bird populations at the Prince Edward Islands *(Dr R J M Crawford)*

This report was also too long and would have to be rewritten. Dr Crawford undertook to do so. Prof Perrin enquired whether any trends or patterns had been established and how many more years would be necessary to do so. Dr Crawford replied that the data must first be collected before trends could be established, mentioning that earlier counts had been very scant, but that they now had a well laid-down procedure. Prof Smith stated that much of this research had been done before, with Dr Ryan commenting that for understanding demographic parameters this project was ideal over 5 years and that sufficient information would be obtained. Dr Crawford mentioned that he had noted a decrease in the number of Gentoo Penguins at Marion Island over the past few years, which could be related to the timing of the relief period, and recommended that the PEIMC should look into this matter.

3.3(B) Prof Perrin felt that this project tackled many species in a complex situation, but that he would like to see more hypotheses and that perhaps a shorter term should be considered. Prof van Aarde commented that a lot of manpower was going into this project, and that in terms of the need for conservation, this project merely monitored - any increase or decrease in population numbers was irrelevant. Prof Chown agreed that there was not much going on in terms of science and that the hypotheses were not really significant. He mentioned that other countries were conducting similar research, but with interesting questions arising, whereas we were merely collecting information. Prof Smith questioned the scientific merit of the project and asked that the assessors check the original external reviewers' evaluations. The Chair undertook to do so. Dr Bester pointed out that the project fell within the ambit of CCAMLR and should thus be supported. Dr Ryan supported that this project was part of our international obligations, but the way in which species and numbers were counted could be improved. Prof van Aarde conceded that if an effective way of counting was developed, then this project would be significant.

3.4(A) **Altitudinal gradients in assemblage structure, population energy usage and survival strategies of invertebrates on Marion Island: The effects of climate** ***(Prof S L Chown)***

Prof Chown reported that this project would be compromised if a high altitude hut was not put in place, although it could be restructured to exclude the high altitude component. He continued that a new alien species had been detected on the Island, with Prof Smith adding that the PEIMP was not working as it should, as four new alien species had been found on Marion and one on Prince Edward.

3.4(B) Prof Perrin rated this project, which addressed many aspects, very highly in terms of research. The committee supported this project in terms of science and value for money. Prof Chown reiterated that in order to finalise his project, a high altitude hut was essential. He also asked that every attempt be made to retain the services of Mr A Gabriel, as other organisations wished to poach him.

3.5(A) **Autecology of the House Mouse** ***Mus musculus*** **(senso lato) on Marion Island** ***(Prof R J van Aarde)***

Prof van Aarde undertook to reduce his report to four pages and tabled some replacement pages, apologising for the incomplete report submitted. Prof Chown requested that the "error of samples" in respect of Table 1 be included, as it would be very useful.

3.5(B) Dr Ryan commented that this was a well-budgeted and important project. Prof Perrin added that the first year had been critical in terms of measuring impacts on the Marion Island system, and that the work should be continued. Prof van Aarde mentioned that it may be necessary to increase the number of exclosures.

3.6(A) **Monitoring of pinniped populations at the Prince Edward Islands** ***(Dr M N Bester)***

In Question 1 on page 1 of Doc. 3.6(A), Prof Perrin questioned the accuracy of utilising pup numbers, with Dr Bester responding that there was a good correlation between pups and adults, with discrepancies due to the death and washing away of pups.

3.6(B) Prof van Aarde commented that with the running expenses at less than R 10 000, this project was good value for money, although he felt that a more effective system of monitoring must be designed. Prof Chown was concerned regarding this project's output, as other countries doing similar work were producing much more, and felt that it must be made more effective in terms of science. He added that the data collected was extremely valuable and useful and should be published in really good journals. Prof Perrin said that good work was being done, but agreed that he would like to see more predictions and hypotheses. Dr Crawford pointed out that as the project progressed, the return on understanding dynamics became more and more. Prof Smith asserted that the original referees' evaluations must be looked at and a decision made accordingly.

GENERAL COMMENTS:

(A) *Prof Chown remarked that for the just over R 1 million that had been spent so far, the six papers produced were very little, as the physics programme was producing very highly. Prof van Aarde stated that the BSTG was producing more than just papers, e.g. high level manpower training, conservation, etc. Prof Smith felt that they had only been back from Marion for four months, and that publications could not be expected so soon.* ***All the interim progress reports were accepted by the committee to be forwarded to SACAR.***

3.7(B) Foraging behaviour, attendance cycles and influence of parental condition on chick growth in Pintado Petrels *Daption capense* at Bouvetoya *(Dr P G Ryan)*

Dr Ryan withdrew his proposal, as it was not logistically feasible.

3.8(B) Archaeological investigation of Sealer's habitation and shipwreck sites on Marion Island *(Mr J J Boschoff)*

It was felt that a useful document had been produced, with no direct scientific value, but that it would raise the profile regarding the history and conservation of Marion Island. The request submitted was for two persons to visit Marion again, with no clear indication of what they wished to do. The committee decided that it was up to the PEIMC to support this project or not.

3.9(B) Distribution and abundance of pack ice seals in the eastern Weddel Sea, Antarctica *(Dr M N Bester)*

Dr Bester stated that this was an *ad hoc* funding request for the current financial year. The committee supported the proposal, should funding be available.

4. NEW ITEMS

4.1 "Marion Island sea bird monitoring" (Dr M de L Brooke)

Drs Crawford and Ryan undertook to incorporate Dr Brooke's request into their projects as far as possible.

4.2 Establishment of a Mouse Working Group

Prof Chown stated that a concrete answer from Prof van Aarde was awaited before the matter could be further addressed. Prof van Aarde reported that he was interacting with Australia for the screening of samples, and that a number of samples had also been lodged with a company in Johannesburg for viruses.

4.3 Survey of historical sites on Marion Island

This item was for noting only.

4.4 Management report: Marion Island relief 1997

Prof Chown provided a brief summary of his report, requesting PWD to address the removal of rubbish, reiterating the importance of rat guards and adding that the "rat" sighting was cause for serious concern. Prof van Aarde said that no evidence of a rat had been found thus far, but that the awareness, alertness and concern was considerable. Prof Chown continued that the alien species' invasions were to be addressed as fast as possible and that the Tourism Environmental Impact Assessment (EIA), stating only whether tourism was a good or bad idea, would be circulated to the Interested and Affected Parties in due course. He felt that Mr D Nel, who was a biologist for Dr Ryan, should be remunerated for his efforts as Conservation Officer, and thanked Dr Ryan for allowing Mr Nel to act in this capacity in his spare time. He also recommended the appointment of an independent Conservation Officer for inspections prior to takeovers and for monitoring during takeovers. Prof van Aarde supported the remuneration of Mr Nel and agreed that, due to the conservation status of the Islands, a home-based Conservation Officer should be appointed from year-to-year. Dr Ryan pointed out that there would be no continuity if a new person was appointed each year and suggested that the matter be referred to the PEIMC.

4.5 Protective clothing

Mr Valentine reported that the logistics budget was also shrinking and that the new Clothing Policy was now in line with that of other countries, i.e. from now on all items were to be returned to DEA & T and would be cleaned for re-issue. Regular visitors would receive the same kit bag the following year. Any special needs would have to be negotiated.

4.6 Antarctic bibliography database

Prof Smith informed the committee that he had used Foundation for Research Development (FRD) funding of ±R 5 000 per year to subscribe to a CD-ROM database from which he received information; there were about 10 external enquiries per month. FRD had subsequently cut his funding and he enquired whether anyone was interested in taking over this database for use by DEA & T, SACAR or the Task Groups. It appeared not.

4.7 Appointment of personnel

Dr Crawford would take this matter up directly with Mr Skinner.

4.8 Joint ventures (Norwegian/Swedish/New Zealand)

Dr Bester would address his queries in writing to the Department in this regard.

5. CLOSING

The Chair thanked all the committee members for attending the meeting, as well as DEA & T for the refreshments.

Prof J A J Nel
CHAIRMAN

Date:

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16 February 1998

Dear Dirk

RE: ALIEN INSECTS AT MARION ISLAND

Your fax of 12th February 1998 refers.

I have now investigated (to the best of my ability given that I am in Pretoria) the report submitted by Mr. J. Joubert (M54-127) of more than 20 alien insect specimens discovered in a Blue Tote Box labeled "DE 024 S.L. Chown/A.Gabriel/C. Hänel". The facts pertaining to this matter are as follows:

1. The Blue Box was found in the Microbiology Laboratory by Mr. J. Barendse who casually mentioned the alien species to the Team Leader and reported them to the Conservation Officer.

2. The Team Leader took it on himself to report this matter with the greatest urgency, given that the Conservation Officer was of the opinion that the insects were part of an old insect collection, of little immediate threat, and that it could be dealt with quite adequately in his monthly report. However, the Conservation Officer is apparently now drafting a report.

3. Mr. Richard Mercer has now provided a preliminary list of the insects found and his report is as follows:

"Here is the list of insects that were found in the MITIE box. It was one of the blue bins (with the hardboard lid) that we found in the darkroom in the lab. I haven't had too much time to get proper IDs for all of them so I have tried to give their common names. Most of the species are single specimens and their conditions range from complete to mere body parts. The majority of what we found consisted of body segments. If I was able to gleem any kind of ID from these then I

included them below.

Coleoptera:	Carabidae (1 specimen) 4 staphylinids (2/3 species) 4 other specimens (3/4 species)
Isoptera:	Winged termites (12 specimens) + lots of wings
Hymenoptera:	2 small (parasitic?) wasps (2 species?) 2 ants (2 species)
Lepidoptera:	2 adult moths (2 species) 1 larva - this is shrivelled up quiet a bit A single cocoon was found on some netting (might not be lepidopteran?)
Blattodea:	1 cockroach nymph (German cockroach?)
Hemiptera:	approx. 3 cicadas (3 species?) lots of small green jobs which seem to be all from the same species
Diptera:	8 specimens (8 species)

It is a very strange set of insects. The termites and small hemipterans I can possibly see flying into a box or container (taking their numbers into consideration). The other species represented by single specimens makes me wonder if its not someones ento collection thats fallen into the box.

We have kept everything that we found (even the broken stuff) and have it all in bottles. If you want me to try and ID things more then let me know and I will try my best with them.

Richard & Jaco

P.S. I will be making a copy of this email to give to Deon Nel

4. The blue box was apparently last used during Voyage 81 and after that voyage was stored in the Wet Laboratory according to Ms. C. Hänel and Mr. A. Gabriel, the expedition members present after that relief. Subsequently the box must either have been moved by current team members or during the last relief. However, none of my team's members can be absolutely sure that the box was not returned to South Africa and used during the 1997 relief voyage to Marion Island.

These are the facts of the matter as far as I can ascertain. I have talked to all of the Entomology programme's members and none have any recollection of seeing so many insects in a box and are indeed surprised that they were not discovered before. All of my team's members are sufficiently aware of the aliens problem at the islands to have notified me had they come across this array of species when originally unpacking the boxes. Indeed, this large variety of insects in one of our boxes remains a mystery to me, especially because I am careful, to the point of paranoia, in the packing and

unpacking of my research material both because of the aliens problem on the islands and because of my position as Chairman of the Prince Edward Islands Management Committee. However, there may have been a lapse of attention, during packing for the 1997 relief, while I was away at Sheffield on sabbatical.

Given that the material consists of such a wide variety of species, of which many are fragmentary, I can only conclude that either part of an old entomology collection ended up in this box during the packing process, which I did not supervise, or that the material came in with packing material at some point. This may have taken place with the Entomology Team's shipping of goods to the island during the 1996/7 or 97/8 relief voyages, or at some later point during either the 1996/7 year or the current one. As you well know, cigarettes, personal items and other parcels were delivered to the islands both by fishing vessels in 1996/7 and by the Aquatic Pioneer recently. The involvement of fishing vessels in the transfer of insects to the islands cannot be ruled out at this stage, especially because the insects were only discovered now, some 8-9 months after the 1997 relief, and coincidentally very shortly after the visit of the Aquatic Pioneer.

In addition, I am not unaware of the alacrity with which the Team Leader responded to this issue without the Conservation Officer's direct input, nor am I unaware of the ill feelings generated towards both the Conservation Officer and myself with regard to our negative position on the recent delivery of goods to Marion Island via the Aquatic Pioneer. I have spoken to Jan Joubert (Team Leader), Deon Nel (Conservation Officer) and Richard Mercer (entomologist) at the island, and there are clearly interpersonal problems in the current team generated at least partially by the Aquatic Pioneer incident. The discovery of this collection of very dead insects in an Entomology tote box was not reported directly to me by the Entomology Team, nor by the Conservation Officer, and has served, at least to my mind, as a basis for some purely political manoeuvring precipitated by the Aquatic Pioneer incident.

Be that as it may, as Principal Investigator of the Entomology Programme I remain responsible for the actions of the Entomology Team at the islands and I take full responsibility for the accidental importation of these insects to Marion Island, given that all of the circumstantial evidence points to the involvement of the Entomology programme in this importation. In this respect I will make sure that the issue is investigated comprehensively from my side, and I will take the necessary steps to ensure that something like this does not happen again. A full report on the collection can, of course, only be made when I have seen all the material and ensured that the identifications are indeed correct. If any of the specimens can be identified to species level, we may have a better idea of how this array of insects made its way to Marion Island.

Furthermore, as Chairman of the Prince Edward Islands Management Committee, I find this discovery extremely embarrassing. It casts doubt on my concern for the islands correct management, and highlights the need for a Conservation Officer and Chairman who are not involved with research at the islands. My position as "player and referee" is not ideal and this particular incident further serves to illustrate my concerns, raised many times before, regarding this matter. In consequence, I am of the opinion that, because it appears that the Entomology Programme accidentally brought these

specimens (of fragments of specimens) to Marion Island, I have very little option but to step down from the Management Committee. Therefore, I propose that my resignation as Chairman of the Prince Edward Islands Management Committee be discussed at the next meeting of the Management Committee, and if the Committee and the Department of Environmental Affairs & Tourism are in agreement, I will resign both from this position and from the Committee.

Obviously, this is not the course that I would have pursued had this incident not occurred. As you well know I have devoted a large portion of my time, over the past two years, both in South Africa and at the Prince Edward Islands, to the better management of these Special Nature Reserves. I remain highly concerned about the correct management of the Prince Edward Islands and this incident constitutes one of the darkest hours of my career.

Yours sincerely

PROF. S.L. CHOWN
PRINCIPAL INVESTIGATOR, ENTOMOLOGY PROGRAMME &
CHAIRMAN, PRINCE EDWARD ISLANDS MANAGEMENT COMMITTEE.