Inception Report – Version 1

Sustainable Health Care Waste Management in Gauteng

August 2001

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List of Abbreviations

AP	Action Plan
CBA	Capacity Building and Awareness
CONNEP	Consultative National Environmental Policy Process
CTA	Chief Technical Advisor
DACEL	Department of Agriculture Conservation Environment and Land Affairs
GDACEL	Gauteng Department of Agriculture Conservation Environment and Land Affairs
DANCED	Danish Co-operation for Environment and Development
DEAT	Department of Environmental Affairs and Tourism
DWAF	Department of Water Affairs and Forestry
DK	Denmark
DKK	Danish Kroner
ECBU	Environmental Capacity Building Unit
EIA	Environmental Impact Assessment
ETD	Electro-thermal deactivation
GALA	Gauteng Association of Local Authorities
GDoH	Gauteng Department of Health
GDTPW	Gauteng Department of Transport and Public Works
GIS	Geographical Information System
HASA	Hospital Association of South Africa
HCF	Health care facility
HCF	Health care Facility
HCGW	Health care general waste
HCRW	Health care risk waste
HCW	Health care waste
HCWIS	Health care waste information system
HCWM	Health care waste management
I&AP	Interested and Affected Party
ICASA	Infection control association of Southern Africa
IPC&WM	Integrated Pollution Control and Waste Management
LFA	Logical framework approach
MEC	Member of Executive Council
MoU	Memorandum of Understanding
MSW	Municipal solid waste
NDoH	National Department of Health
NEHAWU	National Education and Health Allied Workers Union
SASOM	South African Society of Occupational Medicine
NEMA	National Environmental Management Act
NGO	Non-Governmental Organisation
NWMS	National Waste Management Strategy
PC	Personal computer
PMG	Project Management Group
PSC	Project Steering Committee
RSA	Republic of South Africa
RSA	Republic of South Africa
SA	South Africa / South African
SANCO	South Africa National Civic Organisations
SANGOCO	South African NGO Council
SMLC	Southern Municipal Local Council
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WHO	World Health Organisation
WIS	Waste information system
ZAR	South African Rand

1. Executive Summary

1.1 Background

According to the Project Document, dated October 2000, the Development objective of the Sustainable Health Care Waste Management in Gauteng is:

- *"Sustainable Health Care Waste Management in Gauteng established within the frames and principles of the National Waste Management Strategy, covering the full health care waste stream from cradle to grave"*

And, the immediate objectives of the project are:

- *"Integrated HCWM Strategy and Action Plan developed for Gauteng"*
- *"Gauteng HCWM Guidelines, technical specifications and tender material prepared"*
- *"Institutional arrangements for provision of sustainable HCWM in Gauteng defined and in operation*

The Project addresses an important environmental and public health issue in Gauteng and will serve as a demonstration project for subsequent HCWM initiatives by the national, provincial and local governments of South Africa.

The development of strategies, guidelines and pilot projects will involve bodies other than Gauteng DACEL and will include agencies such as DEAT, DWAF, NDoH, GDoH, GDTPW, ICASA, SABS, NEHAWU, SASOM, SANCO, GALA, Business SA, etc. and local governments, all of which are expected to play leading roles in the implementation of the project. A Project Steering Committee, consisting of selected stakeholders, is expected to provide support, guidance and direction to the project.

Before the project can be formally launched, DANCED requires that an Inception Phase be undertaken. During this phase the responsible parties are to plan the project implementation, undertake the necessary review and where necessary, revise the Terms of Reference and detailed conditions specified in the formal agreement between the South African and Danish Governments, as set out in the Project Document and the Project Implementation Plan. This Inception Report is therefore intended to document any changes proposed to the initial Project Document and Project Implementation Plan.

1.2 Activities during the Inception Phase

The project formally started on the 2nd of May 2001. The main activities undertaken during the Inception Phase were the following:

1. Initially setting up an interim office on the 16th floor of the Glencairn Building, followed by establishment of the permanent office at the 15th floor of the same building
2. Setting up of expatriate short term consultant's residence

3. Establishment and initiation of activities related to the Project Management Group (PMG).
4. Establishment and initiation of activities related to the Project Steering Committee (PSC)
5. Discussion of Institutional Arrangements to be prepared by DACEL
6. Interview and selection of the SA Consultants
7. Interview and selection of the Project Secretary
8. Review of the Status Quo Report
9. Mobilisation of the Danish and South African Strategic Planners
10. Visits to selected health care facilities and HCWM service providers
11. Liaisons with various HCWM persons, organisation etc.
12. Drafting of the outline Gauteng HCWM Policy for internal discussion purposes
13. Drafting of the outline Gauteng HCWM Strategy for internal discussion purposes
14. Meetings with the DEAT Environmental Capacity Building Project
15. Meetings with DANCED and attendance of CTA workshop.
16. Compilation of this Inception Report and a Project Procedures Manual.

1.3 Review of Project Context

The main purpose of this Inception Report is to update the Project Document in order to ensure that it is relevant to the present situation in Gauteng (particularly bringing it in-line with the recent policy and legislative developments) and agreements between project stakeholders. This document critically reviews, assesses and makes recommendation about the following:

1. Present HCWM Situation in Gauteng
2. Existing Tools for Addressing HCW Problems
3. National Waste Management Strategy (NWMS)
4. Current workload of DACEL for management of EIA and Scoping Reports for applicants wishing to establish HCRW treatment facilities, crematoria and similar
5. Recent legislative developments
6. The institutional arrangement required to support the project implementation
7. The availability of the anticipated ECBU inputs to the Capacity Building and Training Activities
8. Project Management procedures and project organisation
9. Capacity building and participation by stakeholders,
10. The Project Implementation Plan
11. Project assumptions,
12. Project outputs.
13. The status quo analysis,
14. Possibility of introducing sustainable Short Term Improvements based on the budget of DKK 4.0 million
15. Project Organisation
16. Expatriate and Sub-Consultants

1.4 Summary of the most important recommended changes to the Project Document

The most important recommended changes and modifications to the Project Document are summarised below.

1.4.1 Revision to Structure and Activities

In general the project design, as described in the Project Document has been deemed highly relevant and suitable for improving the HCWM in Gauteng. Hence, only minor adjustments to the scope of work as laid out in the Project Document are proposed:

1. Because of absence of commitment and funds for carrying out the anticipated capacity building and awareness activities by the Environmental Capacity Building Unit (ECBU) of DEAT it has been deemed necessary to transfer those activities to this project, which requires additional funding for both services and fee for South African consultants. Furthermore, it is proposed to include a limited input of a Senior Danish Infection Control Nurse experienced in European and international HCWM practices and capacity building to secure adequate health professional and hands-on expertise to support the CBA and pilot projects.

2. Because of the lack of anticipated ECBU resources for the project it has been deemed necessary to adjust the staffing and activity schedule to a minor extent to allow for possible approval of the Inception Report's recommendations before initiation of the preparations and planning of Capacity Building and Awareness programmesand Pilot Projects.

3. It has been deemed important to conduct a limited Study Tour for selected project stakeholders by the PMG and PSC, which would require additional funding.

4. It has been agreed with the PSC that the PMG meetings will be held weekly with the participation of the DACEL project management and the CTA and that all PMG members (DACEL, GALA, GDoH, GDTPW and the CTA) are welcome to participate in all weekly meetings, but to allow for members to economise with their time the GALA, GDoH and GDTPW will be particularly informed in advance of meetings that needs all members participation.

5. The Project Document includes provisions for a Secretary for the Project Director in addition to the Project Secretary. It has been agreed that the second secretary intended to support the DACEL Project Management will not be hired at the moment due to constraints in office and staffing arrangements and that the savings from the initial months will be reallocated towards training and capacity building of Project Staff and various, additional workshop expenses complementary to the budgeted DACEL workshop expenses and other office expenses. Such training may include aspects like courses of relevance to the project objectives, e.g., on GIS, WIS, Business & Report Writing Skills, Project Management, Time Management Skills etc.

6. Based on recommendations of the PMG it is suggested to improve the planned assessment of the impact of the pilot projects by carrying out an elaborated waste composition survey before and after introduction of the pilot project activities. It is suggested that specialised service providers be contracted to carry out i) assessment of the composition of HCW before and after introduction of the pilot activities, and ii) assessment of composition of the supplied materials for the pilot projects with a view to assess the potential for substituting undesirable materials such as PVC, heavy metals etc. Such a survey would be the first of its kind in South Africa and would provide valuable information to the provincial as well as the national future planning of HCWM improvements. Hence, it is suggested that such a survey should be seen as Short-term Improvement activity and be funded via the budget allocated for that.

7. A preliminary review of the possibilities of establishing sustainable and suitable short-term improvements that addresses the current backlog in HCWM in Gauteng has revealed that it may be difficult to identify short-term investments that address the backlog in an environmentally, institutionally or financially sustainable manner. This Inception Report includes a long-list of possible Short-term Improvements that will be further assessed together with possible additional actions in the coming months. Among others for this reason, it is suggested that the additional resources needed to fund the suggested adjustments in the scope of work could be funded e.g. by i) allocating a minor part of the DKK 4.0 million intended for short-term improvements, ii) additional external funds from DANCED, iii) use of contingency funds, or iv) Any other solutions to be suggested by DANCED/PSC.

8. Because of an urgent need of DACEL to receive some of the planned Project Outputs earlier than originally scheduled it is suggested to move forward certain minor project activities that include assistance with developing background documentation for DACEL's EIA and permitting procedures and support for HCWM activities that in the Project Document was planned to take place in the second year of the project. This will not have financial implication.

9. As a consequence of the need for establishing a fully functional forum for development of the HCWM Policy with the active participation of all key stakeholders it is suggested that the Policy (Output 1.2) shall be available ultimo September 2001 instead of coinciding with the planned publishing of the Inception report.

1.4.2 Revision of Time Schedule

The following changes to the time schedule is proposed:

1. That the activities linked to the pilot projects be rearranged to cater for the inability of the ECBU and allow time for endorsement of the proposed alternative funding to support the Gauteng HCWM project and the subsequent redesign and loss of momentum.

2. The duration of the Pilot Projects be extended as much as possible to allow sufficient time for the full implementation of the pilot projectsthroughout the selected organisations, thus, obtaining a better understanding of the impact that the new systems and strategies may have on HCWM in Gauteng

3. Transfer of time allocation between consultants to meet the particular demands of the project as described in the Inception Report below.

1.4.3 Revision of Budget

The following budget revision indicates the increase in budget because of necessary changes to the project:

1. To bring the missing ECBU funded Capacity Building Activities into the Project DKK 870,000

2. Conducting a limited study tour for selected participants for approximately 8 persons DKK 300.000

3. Allocation of some of the short-term, improvement funds (DKK 4.0 million) for a detailed HCW composition survey, including assessment of supplies with a view to minimise use of PVC, heavy metal containing materials etc. ("green" purchasing). This has no overall financial implication for the contracted budget.

4. Reallocation of fees between appointed staff will result in minor financial adjustments that can be kept within the overall budget frame.

5. Minor reallocation of certain reimbursables that can be kept within the overall budget frame.

Table 1.1: Budget Revision, Total Sum

Item	Costs DKK
To bring the anticipated ECBU funded Capacity Building into the Project	870,000
Conduction of a limited study tour for selected participants	300.000
Allocation of some of the short-term, improvement funds (DKK 4.0 million) for a detailed HCW composition survey, including assessment of supplies with a view to minimise use of PVC, heavy metal containing materials etc. ("green" purchasing). This has no overall financial implication for the contracted budget.	0
Reallocation of fees between appointed staff will result in minor financial adjustments that can be kept within the overall budget frame.	0
Minor reallocation of certain reimbursables that can be kept within the overall budget frame.	0
Total	**1,170,000**

The table below summarises the project budget revisions and compares the original project Document budget with the revised budget.

Table 1.2: Comparison between Contracted and proposed Revised Budget

Ref.	Item Name	Contract April 2001 DKK	Proposed Change DKK	Proposed New DKK
A	Expatriate Members of Project Team	4,100,696	174,531[1]	4,275,227
B	Local/National Personnel	3,089,000	375,000[2]	3,464,000
C	Reimbursable Expenses for Expatriate Team Personnel	2,214,566	24,000[3]	2,238,566
D	Reimbursable Expenses for Local/National Personnel	9,098	-[4]	9,098
E	Project Procurement and Equipment (Note some procurement included under other items)	0	594,750[5]	594,750
F	Specific Project Activities (To be detailed during the course of the Project)	4,800,000	(868,281)[6]	3,931,719
	Total	14,213,360	300,000[7]	14,513,360
	Contengencies	1,402,400	1,102,400[8]	1,102,400
	Grand Total	15,615,760		15,615,760

***Notes**: 1) An additional input for expatriate training and capacity building expertise. 2) An additional input for SA training and capacity building expertise. 3) Airfares etc. for expatriate staff. 5) Production of training and awareness material including outsource preparation. 6) Cost of capacity building and awareness proposed funded via the short-term improvements budget as this is contributing to the immediate improvement of the JCWM in Gauteng, 7) Cost of Study Tour proposed funded via contingencies, 8) Proposed remaining contingencies for future unexpected expenses (if any).*

The table indicates that if the additional expenses are partially funded via the budget for short-term improvements and partially funded via the contingencies an amount of DKK 1,102,400 will be remaining as contingencies. It is therefore requested that the increased expenses be approved, as this is expected to leave sufficient contingency funds for future unexpected expenses, if any.

2. Introduction

Guidelines for preparing an Inception Report are detailed in the DANCED Project Implementation Manual, dated February 1997. This Inception Report has been produced in accordance with the DANCED Manual. This Inception Report documents the proposed changes to the Project Document and on approval will become a formal amendment to the Project Document.

DACEL is the implementing agency. The project will be supported, guided and directed by the Project Steering Committee (PSC) and managed on a day to day basis by the Project Management Group (PMG) in accordance with the requirements of the agreement as set out in the Project Document.

Section 3 of this report describes the activities undertaken during the Inception Phase. The project context is reviewed together with the project assumptions in Section 4. A review of the outputs follows in Section 5 and based on these reviews, the proposed revisions to the

Project Document are presented in Section 6, including the revised assumptions, outputs and implementation plan. A number of Annexures are attached.

3. Activities during the Inception Phase

The Project formally started on 2nd of May 2001. However, there was an agreed two weeks preparatory mission by the CTA in March-April 2001 for the purpose of initiating the appointment of South African staff, securing accommodation for the CTA and the short-term expatriate staff as well as similar project preparations.

The main activities during the Inception Phase are described below.

3.1 Establishment of Project Offices

Until the intended permanent offices for the project could be established by the end of June 2000, the project staff were temporarily seated in the open plan office. Initial project activities included establishment of access cards, parking bays, telephones, fax machines, printers and computers.

The permanent project offices comprise of two enclosed offices as well as an open plan workstation for short-term staff. Because of the lack of conference facilities during the use of the temporary offices, consultant's meetings and strategic planning sessions were conducted at the house rented for short-term staff accommodation in the nearby suburb of Parkview. The permanent project offices can accommodate the following staff:

1. Room 1: The CTA and smaller meetings (2-4 persons) that will include the CTA. One Desktop PC with network connection and the fax/copier/printer
2. Room 2: Project Secretary and 1 short-term staff member. Two Desktop PCs with network connections and a rented photo copier
3. Open plan work place: One short-term staff member without a desktop PC.
4. Conference facilities: Larger meetings planned in advance can be arranged at the Board Rooms located in the neighbouring Diamond Corner Building or at the 13th floor of the Glencairn Building.

The Project Document states that DACEL will provide 3 double offices (6 persons) for CTA, Secretary and Short-term Consultants including furniture, 2 computers, telephones, telefax and Internet connections, water and electricity. Compared to the agreed DACEL input there is 3 instead of 2 computers, but only 2 double offices instead of 3, however supplemented with an open plan workstation (in total 4 workplaces). The permanent offices provided as suitable for the Project.

In total the permanent Project Offices/workstation can accommodate four persons.

The consultant's team consists of the following members:

1.	Chief Technical Advisor	Torben Kristiansen (Permanent staff)
2.	Project Secretary	Elsie Stompie Darmas (Permanent staff)
3.	Danish Strategic Planner	Niels Juul Busch (Short-term staff)
4.	Danish WIS Specialist	Erik Nørby (Short-term staff)
5.	Danish Handling Specialist	Jens Kjems Toudal (Short-term staff)
6.	Danish Cap. Building Spec.	Fleming Koch (Short-term staff)
7.	Local HCW Strategic Planner	Kobus Otto (Short-term staff)
8.	Local HCWIS Specialist	Linda Godfrey (Short-term staff)
9.	Local Waste Handling Specialist	Dave Baldwin & Phil Mashapa (Short-term staff)
10.	Local Waste Treatment Specialist	Dave Baldwin & Phil Mashapa (Short-term staff)
11.	Local Legal Expert	Robyn Stein & Associates (Short-term staff)
12.	Local Economist	John Clements (Short-term staff)
13.	Local Environmental Health Specialist	*Yet to be appointed* (Short-term staff)
14.	Local Capacity Building Consultant	*Yet to be appointed* (Short-term staff)

Hence, it is assumed that South African Consultants work from their own offices and attend meetings and discussions at DACEL only, whereas it is assumed that Danish consultants will be working in the offices provided at DACEL.

Initial activities included establishing a project office, a project bank account, renting and furnishing full time and part time staff accommodation (house), establishing a filing system and a project library, finalising administrative issues, and vehicles, drafting the Inception Report, and, Procedures Manual.

3.2 Setting up of Accommodation for Expatriate Staff

During the Inception period one house for the CTA and his family as well as another house for short-term staff have been identified and rented including various practical arrangements for public supplies, security and other services. The house rented for Short-term consultants has been used for meetings and discussions during the Inception Period.

3.3 Establishment and initiation of the activities of the Project Management Group (PMG).

The PMG has been formed as specified in the Project Document and has started conducting meetings in agreement with the decisions made at the first PSC meeting. Meetings are held weekly and normally on Tuesday mornings at 9h30. Please refer to the enclosed minutes of meetings conducted to date (Annexure G).

The PMG meetings are chaired by the CTA.

3.4 Establishment and initiation of the activities of the Project Steering Committee (PSC)

The PSC has been formed as stated in the Project Document. The majority of the PSC members were also members of the PSC for the first phase of the project. The first PSC meeting was held the 30th of May 2001, where it was agreed to amend the composition of the PSC and that meetings should be quarterly with the next meeting scheduled for the end of August 2001. Please refer to the enclosed minutes of meeting conducted. (Annexure G) A list of proposed dates for the remaining PSC meetings is attached in Annexure D.

The PSC meetings are chaired by Joanne Yawitch, Chief Director, DACEL.

3.5 Other Institutional Arrangements

The DACEL Project Director on behalf of the DACEL Management has taken full responsibility for all institutional arrangements related to the project. DACEL proposes that any meetings between the Project team members and other project stakeholders or PSC members be arranged through DACEL's formal channels and with DACEL's full participation.

During the Inception Period it has been possible to make the following institutional arrangements:

1. Drafting of Memoranda of Understanding for this project between DACEL and GDoH and between DACEL and NDoH. It is expected that the Memoranda of Understanding will soon be forwarded by DACEL for comments and possible signature. A Memorandum of Understanding already exists for this project between DACEL and DEAT
2. Preparation for a meeting to be scheduled in the middle of August 2001 between the MEC of DACEL and the MEC of GDoH for discussion of the implementation of the HCWM Project.
3. Sending a written request and a follow-up letter from DACEL to GDoH for official appointment of a GDoH representative in the PSC and for arrangement of visits to the Provincial Hospitals and Clinics. Since no reply has been received to date, the planned brief inspection of selected health care facilities in Gauteng has not been fully possible.
4. Discussion between the CTA for this project and the CTA for the ECBU project (anchored in DEAT) for identification of opportunities and constraints for the anticipated ECBU funding of HCWM capacity building and awareness activities.

There is much interest in the management of HCW in Gauteng and nationally at the moment and a number of institutions are looking at ways to improve their HCWM. Hence, there is considerable scope for co-ordination and integration of the various efforts and the Gauteng project has the potential to be one of such integrators.

At the moment DEAT and NDoH are investigating the possibilities for carrying out a joint meeting regarding national HCWM guidelines to the provinces cf. the NWMS. The GDoH are conducting workshops and focusing on HCWM also. Furthermore, there has been an initiative to update the SABS Code of Practice for HCWM comprehensively. The SABS Code is for the time being halted and it is uncertain how it may progress. In order to capture

the efforts that have been made by the SABS and the stakeholders, DACEL has invited the SABS to participate in the PSC where the NDoH, GDoH and DEAT is present already.

3.6 Interview and selection of some of the SA Consultants

Advertisements were placed in two national newspapers by DACEL (the Sowetan and the Mail&Guardian) in March 2001 for both the project secretary and the South African Consultants. Based on the expressions of interest DACEL and the CTA jointly prepared shortlists for the positions and conducted interviews of the short listed applicants. Following an evaluation of the interviews a joint decision was made by DACEL and the CTA as to the persons to be appointed for the respective positions.

As some of the positions are not required immediately it has been decided to delay final appointment of some positions until a later stage.

The table below shows the expressions of interest received and the selection of South African consultants based on the above mentioned procedures:

Table 3.1: Expressions of Interest Received and Selection of SA Consultants

Position	Selected Candidate	Other Applicants				
Local HCW Strategic Planner	*Kobus Otto, KO & Associates*	Herman Wiechers, Wiechers Environmental	Marious van Zyl, Jarrod Ball & Associates	D. Clements		
Local HCWIS Specialist	*Linda Gotfrey, CSIR*	n/a				
Local Waste Handling Specialist	*Dave Baldwin.& Philemon Mashapa Environmental & Chemical Consultants*	n/a				
Local Waste Treatment Specialist	*Dave Baldwin & Philemon Mashapa, Environmental & Chemical Consultants*	Thabo Koalai Moeti, Freelance				
Local Legal Expert	*Robyn Stein, Mandela Institute, WITS*	Gloria Mapula Masemola, Mapula Masemola & Associates	Brian Blignaut & Caroline Garret Blakes&Maphanga	Jenny Hall, Environmental Council cc	Salim Ibrahim	Malose B Mahloko, Human Rights Commission
Local Economist	*John Clements, Executive Task Force*	Ncema Philadelphia Zenxile Maseko, GDoH,	Sello William Nhlapo,			
Local Environmental Health Specialist	*Yet to be decided*	Lona Rossouw, Infection Control Consultant, Health Guard	Jane Magner, Infection Control Consultant	Frans Malesela Kekana	*Possible other candidates may be investigated.*	
Local Capacity Building Consultant	*Yet to be decided*	Nancy Coulson	Liz Kneale&Themba Buthelezi, Communications CC	*Possible other candidates may be investigated.*		

Four applications for the position as SA Strategic Planner were received. All four were found suitable based on their qualifications and invited to participate in an interview. The interviews were conducted the 3rd, 4th and 6th of April by the Evaluation Committee.

Interviews were held the 4th and 5th of July with four candidates for the Legal Specialist. For the remaining posts the candidates were selected based on discussions and the quality of the Expression of Interest received. All decisions were made unanimously by the Evaluation Committee consisting of the DACEL Project Manager, Assisting DACEL Project Manager and the CTA.

Two positions are yet to be filled, however, it has been agreed to delay these last two appointments among other because those specialist are not needed immediately which would allow for making a decision at a time when the funding of the capacity building and awareness activities have been settled.

3.7 Interview and selection of the Project Secretary

Based on the March 2001 advertisements approximately 70 applications for the position of Project Secretary were received. Six of these candidates were found suitable based on their qualifications. Five candidates were interested in participating in an interview.

The interviews were conducted the 29th of March by the Evaluation Committee consisting of the DACEL Project Manager, Assisting DACEL Project Manager and the CTA. Following the interviews Elsie Stompie Darmas was offered and accepted the position.

3.8 Review of the Status Quo Report

The Status Quo Report[1] has been reviewed by the CTA and the Danish Strategic Planner and a presentation meeting has been conducted with the Phase 1 consultants for discussion of the assumptions and methodologies used in the completion of Phase 1.

The Status Quo Report has been found to be valuable and highly relevant baseline information for the Project.

3.9 Mobilisation of the Danish and South African Strategic Planners

The Danish Strategic Planner Niels Juul Busch carried out his first mission for the project during the period 14th of May – 1st of June 2001. The South African Strategic Planner Kobus Otto have been mobilised also.

The objective of the first mission was to visit health care facilities in Gauteng to gain a first hand impression of the health care waste management situation as well as preliminary drafting of the HCWM Framework (Policy) and the HCWM Strategy and Action Plans as well as preliminary planning of the contents of the Feasibility Report and providing contributions to the Inception Report.

Because of lack of response from the DoH on the letters regarding appointment of a mandated representative to select hospitals to be visited and participate in pilot projects as well as for participation in the PMG and PSC it was not possible to arrange visits to the provincial hospitals in general during the first mission.

The following mission by expatriate staff are planned for the remains of 2001:

1. N.J. Busch, week 32-33
2. N.J. Busch, week 38-39
3. F. Kock, week 39-40
4. E. Norby, week 39-40
5. N.J. Busch, week 45-48
6. E.Norby, week 48-49
7. F. Kock, week 49-50

[1] Feasibility Study into the possible regionalisation of health care risk waste treatment / disposal facilities in Gauteng, November 2000, Kobus Otto and Associates et al.

The above mentioned dates may be adjusted to accommodate for developments in the project and the specialists availability.

3.10 Visits to selected Health Care Facilities and Service Providers

Although the feasibility study into the possible regionalisation of health care risk waste treatment / disposal facilities undertaken for Gauteng was primarily aimed at quantifying the amount of waste being generated in relation to the available treatment capacity, various operational shortcomings were identified during the investigations. A vast variety of HCW management practices were encountered in the industry, each resulting in varying degrees of success. In order to be able to address the most prominent problems that exist in the HCW management industry, it is important that first hand information be obtained not only on the existing problems, but also on the underlying reasons.

It is also important that the DACEL project staff as well as the Danish and South African consultants working together on the project have the opportunity to undertake the required investigations together, thus coming from the same reference background that will allow them to discuss the various problems and identify solutions that will address the needs of the industry.

Table 3.2: *List of Proposed Health Care Facilities to be Visited at the Project Inception*

	Service	**Ownership**	**Category**	**Name**	**Motivation**
1.	Hospital	Military		1 Military Hosp.	Unique situation as it is to be verified what is done with HCW in particular during manoeuvres and combat operations.
2.	Hospital	Mining		Premier Hosp.	Mining hospital is unique in the sense that it is catering for special types of illnesses and injuries, with aids statistics amongst the patients also expected to be high.
3.	Clinic	NGO			NGOs are playing a significant role in particular as regards to HIV/AIDS patients and primary health care
4.	Hospital	Private	Rehabilitation	Castle Carey	A rehabilitation hospital where no surgery is done and the type of waste being generated is probably limited.
5.	Mobile Clinic	NGO (Religious groups)	Primary health		Sponsored health care mobile clinics providing services at informal settlements.
6.	Hospital	Private		ARWYP	Already visited by T. Kristiansen.
7.	Hospital	Private		Glynwood	Private hospital with its own incinerator on site.
8.	Clinic	Private	Dental	Benmed clinic	Private day clinic.
9.	Disposal	Private		Holfontein Haz	Disposal facility for incinerator ash. Already visited
10.	Treatment	Private		Rietfontein Inc.	Large private incinerator. Already visited
11.	Hospital	Public	Central	Johannesburg H	Extremely large operation with relative high HCRW generation rates being recorded.
12.	Hospital	Public	Central	Baragwanath H	Extremely large operation with relative low HCRW generation rates

	Service	Ownership	Category	Name	Motivation
					being recorded.
13.	Hospital	Public	District	Pretoria West H	Hospital in a lower category.
14.	Hospital	Public	Psychiatric	Weskoppies H	Psychiatric hospital without any surgery.
15.	Hospital	Public	Regional	Helen Joseph H	Already visited
16.	Hospital	Public	Regional	Leratong H	Already visited
17.	Hospital	Public	Special	Tropical Dis. H	Special hospital.
18.	Clinic	Public		Diepkloof Com	Public (provincial) day clinic.
19.	Clinic	Public		Sammy Marks	Municipal day clinic.
20.	Container Clinic	Public		Rural areas / informal settlements	To get familiar with the most basic health services in informal settlement areas.
21.	Mortuary	Public		Mortuary	Small generators.
22.	Disposal	Public		Weltevreden	Example of good disposal facility for sterilised HCRW.
23.	Disposal	Public		Nigel	Example of poor disposal facility for sterilised HCRW.
24.	Treatment	Public	Incinerator	Johannesburg Inc.	Large public incinerator with scrubber.
25.	Treatment / Hospital	Public	Incinerator	Tembisa Hospital	Evaluation of upgraded treatment facility at public hospital.
26.	Education / Auditing	Private		NOSA	Evaluation of some of the existing training and auditing programmes in use.
27.	Clinic	Private	Daycare	Birchmed Day Clinic	Possible alternative to Benmed Clinic.
28.	Laboratory	Private	Pathological	Ampaths Lab	Pathological Lab. for testing of blood and tissue
29.	Dental	Private	Dental	Dr Delmar	Small generator of HCW
30.	Gen Practice	Private	Medical	Dr Kruger	Small generator of HCW
31.	Pharmacy	Private	Pharmacy	Willie Brits	Small generator of HCW
32.	Veterinary	Private	Veterinary	Dr Erasmus	Small generator of HCW
33.	Treatment	Private	Microwave		Microwave Incinerator
34.	Treatment	Private	EDT	City Deep	Evertrade Stericycle Plant. Already visited
35.	Treatment	Private	Incineration	Clinex	Implement Macroburn incinerator and assembly plant. Review of latest achieved technical standard of Macroburn Incinerator
36.	Crematorium	Public	Crematorium	Krugersdorp	Comparison in emissions and standards between incinerators and crematoria.
37.	Crematorium	Public	Crematorium	Johannesburg	Comparison in emissions between incinerators and crematoria.
38.	Crematorium	Public	Crematorium	Germiston	Comparison in emissions between incinerators and crematoria.
39.	Clinic / Laboratory	Public		Bloodtrans-fusion, Roodepoort	Central laboratory for testing of blood from various transfusion centres throughout Gauteng.

Because of incomplete institutional arrangements regarding the process of obtaining approval to visit selected health care facilities for the initial introduction of the Gauteng Health Care Sector to the foreign and South African consultants, it has not been possible to visit a series of representative health care facilities in Gauteng during the Inception Phase.

However, the following visits have been arranged based on bilateral agreements between the parties on operational level:

Table 3.3: Facilities Visited during the Inception Period

	Facility Visited	Brief Description
1.	Leratong Provincial Hospital (Public Hospital)	A provincial hospital with 704 beds and one on-site incinerator planned to be closed down before July 2001. The incinerator has a capacity of 64 kg/hour. The hospital uses the services of Skip Waste for removal of its HCW as appointed via the GDoH tenders. On-site outsourced services like the laboratories, blood bank etc. use the services of SanuMed for their HCW collection, treatment and disposal.
2.	Helen Joseph Hospital (Public Hospital)	A provincial hospital with 454 beds and one on-site incinerator that has been closed recently. The incinerator has a capacity of 36 kg/hour. The hospital uses the services of iBuhle Waste (as appointed via the GDoH tenders) for removal of its HCW. On-site outsourced services like the laboratories, blood bank etc. use the services of SanuMed for their HCW collection, treatment and disposal.
3.	Evertrade Stericycle HCRW Treatment Facility (Private HCRW treatment facility being established)	The Evertrade plant is being erected at the moment and is expected to be ready for commissioning and testing during 2001, however, the plant does not hold a permit yet. The treatment technology is the proprietary Stericycle technology using Electro-Thermal-Deactivation (ETD) following mechanical shredding and mixing of waste in cyclones.
4.	SanuMed Incinerators at Rietfontein (Private HCRW treatment facility)	The SanuMed incinerators at Rietfontain consists of 2 incinerators with a combined capacity of 400 kg/hour.
5.	SanuMed Incinerators at Roodepoort (Private HCRW treatment facility) (visited December 2000 during the pre-bid visit)	The SanuMed incinerators at Roodepoort consists of 2 incinerators with a combined capacity of 700 kg/hour. A third back-up unit (200 kg/h) is used in the event of breakdowns on the main units.
6.	Arwyp Hospital, Kempton Park (Independent Private Hospital)	A private hospital with 251 beds and one on-site incinerator that has been closed recently. The incinerator has a capacity of 9 kg/hour. The hospital uses the services of SanuMed for removal treatment and disposal of its HCRW.
7.	SA Blood Transfusion Services Blood Bank - Kempton Park	Blood stained items are disposed removed for treatment and disposal by SanuMed, whilst discarded blood is returned to the main Blood Transfusion Centre in Roodepoort.
8.	Aston Pharmacy – Kempton Park	Expired medicines are returned to the suppliers. No facility exists for collection and destruction of medicines from private residences in the area.
9.	Kempton Park Veterinary Hospital	HCRW from the veterinary services are collected by SanuMed for treatment and disposal. Animal carcasses (mainly pets) are refrigerated until collected by SanuMed on a bi-weekly cycle.
10.	Ampaths Pathology Laboratory-Kempton Park	A private pathology laboratory used for blood and other specimen testing. Once tested and not required for further testing, specimens are collected, treated and disposed of by SanuMed. Effluent from test equipment is released into the sewer in accordance with an agreement with the Local Council.
11.	Tembisa Hospital Incinerators via GDTPW	The two identical incinerators have a combined capacity of 300 kg/hour. The units where installed 1998 but have not received a permit to operate and are standing by. Similar units and conditions apply for the Tambo Memorial Hospital incinerators.
12.	Veterinary in Kempton Park	The veterinary places sharps in used glass saline bottles. Dead animals, anatomical waste and similar is placed in a deep freezer. The owner of the practise disposes the contents of the freezer and the sharps.
13.	General Practitioner in Kempton Park	Sharps and HCRW is placed in large sharps' containers provided by the Laboratory that handles the laboratory work of

		the GP. The service provided by the Lab is a courtesy motivated by general co-operation. The Lab disposes of the sharps and provides sharps' containers free of charge to the GP.
14.	Dentist in Kempton Park	The dentist uses the typical reusable syringe system for dentist and only needs to dispose the needle in a sharp' containers. The anaesthetics' containers are small cylindrical glass containers normally half full of anaesthetics. The anaesthetics containers are placed in a cardboard box and disposed via the system provided by the council. Used/excess amalgam (mercury) is sold to an individual paying 6 cents per gram or disposed via the normal refuse.
15.	ClinX Medical Waste Company / Bulldog Haulers	ClinX has established one 160 kg/hour HCRW incinerator based on the latest model of Macroburn/SAFURCO. The unit has an automatic double sluiced feeding system and a semi-automatic de-ashing system. The incinerator is not yet licensed via the EIA process. ClinX has developed a series of sharps' and HCRW containers including 200 liter metal drums and wheeled containers.
16.	Private Afrox affiliated Clinic	The unit has 13 beds and carries out minor surgery, maternity, X-ray etc. Sharps containers are used as well as the cardboard box system. Filled cardboard boxes are placed in a locked room with access from outside, from where it is collected by a service provider. Afrox has a Procedures Manual that includes instructions on the management of HCRW.
17.	Municipal Clinic in Kempton Park	The clinic uses the cardboard box and sharps containers provided by SanuMed. There are normally no disposal of expired drugs, as the nurses are focused on sharing and saving drugs to overcome shortage and wastage. Filled boxes and sharps containers are collected when they call the SanuMed. Until collection filled boxes are placed under lock in a large cupboard.

In summary the Consultants have made the following general observations during the visits:

Table 3.4 Observations made during Visits to Facilities During the Inception Period

Issues	**Observations**
Health Care Facilities	
Hygiene and infection control at health care facilities	∪ There appears to be general problems at many public hospitals in terms of general hygiene and infection control (e.g. type and availability of soap, cleaning of floors and non-essential equipment, maintenance of ventilation systems, inappropriate storage of waste in passages, etc.)
Human resources at health care facilities	∪ There appears to be shortage of health care professionals, in particular nursing staff. Combined with a relative large turn-over of staff (even volunteers) this creates a capacity building constraint ∪ The senior nurses and infection control nurses appear to be very capable, committed and aware of the infection control and HCWM issues, but lack support in the form of staff, equipment and funding.
HCW segregation practices at health care facilities	∪ Generally, separation of HCRW from other waste is a well established practise, although not always effectively implemented ∪ Syringes and needles are mostly discharged together in large sharp's containers without prior separation ∪ There appears to be many cases of miss-segregation, in particular of non-sharp waste.
Availability and quality of sharp's containers	∪ Most sharp's containers in use at the provincial hospitals are of unsafe and impractical design with poorly fitting lids that tend to fall of, thus resulting in spills and containers being used for

Issues	Observations
	alternative purposes. ∪ Most service providers for public and private hospitals do not provide a long sharp's container for the long needles, scopes etc. resulting in excessive manipulation (bending) causing unsafe working conditions ∪ There is a considerable cost-saving potential in the introduction of segregation of syringes and needles combined with provision of improved and smaller sharp's containers and training. ∪ Sharp's containers are in many instances placed where patients and visitors can access the contents ∪ The sharp's containers provided are often large compared to the generation leading to long filling times in the wards ∪ The shape of the containers does not fit the racks supplied by the previous service provider, thus resulting in containers being placed in unsafe positions ∪ The round containers used is probably not very effective in terms of airspace utilisation when transported
Availability and quality of nurse trolleys	∪ Nurse trolleys are often not equipped with a rack for sharp's containers ∪ Nurse trolleys are often not effectively used when patient rounds are undertaken
Availability and quality of internal transport and storage systems	∪ In most health care facilities there are insufficient intermediate storage facilities (e.g. in-side sluice room) leading to HCW being stored in hallways, under stair cases etc. awaiting collection. ∪ In most health care facilities where trolleys are used for the collection of waste, trolleys are overloaded by stacking the containers too high, thus resulting in the risk of spillage ∪ Sealing of the HCRW containers is not effectively done due to tape being removed from the sources of generation, thus making the HCRW accessible to by-passers ∪ Waste collection rounds are not done frequently, thus resulting in a build-up of waste in the passages ∪ HCRW containers are sometimes used to transport stolen goods from hospitals ∪ Storage facilities outside the hospital from where the waste is to be collected by private contractors, are often leaving the waste exposed to the elements whilst not being secured against unauthorised access ∪ Limited guidelines exists on the way in which waste is to be stacked when transported as well as during intermediate storage
On-site Incinerators	
Physical condition	∪ All on-site incinerators visited were insufficiently maintained. Common problems included: i) damaged refractory, ii) severe corrosion of stacks, iii) un-operational/insufficient support burners, iv) insufficient air control/fans ∪ Storage facilities at incinerators not always capable of accommodating the waste stream, thus resulting in waste being stacked where it is exposed to the elements
Environmental standards	∪ All on-site incinerators visited are clearly unable to meet the current emission standards. It is unlikely to be technically and economically feasible to up-grade any on-site incinerators to current typical international standards ∪ Visibly poor combustion efficiency based on organic content of bottom ash
Operator skills	∪ Many operators of on-site incinerators appear to have very limited training on the combustion principles and operation procedures often further aggravate the environmental impact. ∪ Lack of warm-up and cool-down periods causing black smoke emissions

Issues	Observations
Operation and management problems in general	∪ Lack of management support/interest in particular at provincial incinerators ∪ Lack of record-keeping ∪ Occupational Health and Safety measures are not always adhered to. ∪ Ash from incinerators is not disposed of on hazardous waste disposal sites ∪ Limited if any emission control tests are executed
Off-site Transport	
Vehicle suitability	▪ Storage facilities on vehicles often does not allow for limited stacking height of containers, or for securing of containers whilst vehicle is in motion
Operation and management	▪ There is a lack of procedures or enforcement thereof during loading and offloading of HCRW ▪ Occupational Health and Safety measures are not adhered to during handling of the HCRW containers ▪ A variety of different container shapes and sizes is making it difficult to stack the containers effectively when loaded
Off-site Incinerators	
Physical condition	∪ All incinerators visited were insufficiently maintained. ∪ Storage facilities at incinerators not always capable of accommodating the waste stream, thus resulting in waste being stacked where it is exposed to the elements
Environmental standards	∪ It is unlikely to be technically and economically feasible to up-grade any on-site incinerators to current typical international standards ∪ Visibly occasional poor combustion efficiency based on organic content of bottom ash
Operator skills	∪ Operators appear to be operating the plants as well as physically possible.
Operation and management problems in general	∪ Lack of record-keeping procedures ∪ Limited incentive to invest in improved environmental protection measures. ∪ Overloading of incinerators to meet production targets at private incinerators, particularly whilst there is a shortage of treatment capacity ∪ Poor segregation of HCW results in material entering the incinerators that damages the facilities, e.g. aerosols, concentrated pharmaceuticals, etc. ∪ Ash from incinerators is not disposed of on hazardous waste disposal sites ∪ Limited if any emission control tests are executed ∪ Occupational Health and Safety measures are not always adhered to.
Alternative Treatment Tech.	
Alternative Technologies in Gauteng	∪ There are currently the following alternatives to HCRW incineration available or being planned in Gauteng: ∪ ETD (Evertrade, City Deep, Johannesburg) ∪ Microwave ∪ Steam Sterilisation
ETD:	∪ The plant is not commissioned yet. The plant layout appears to be well planned and designed to avoid emissions to the environment ∪ The container system proposed will allow for effective waste tracking in reusable containers that are sterilised every time that it was used.

In addition to the health care facilities visited in Gauteng the CTA has arranged a weekend visit to Swaziland during June 2001 where the i) Mbabane Hospital, ii) Sipophaneni Clinic and the iii) Sitobela Health Care Centre were visited. This, together with past visits (December 1998) to public and private health care facilities in Walvisbay and Swarkopmund in Namibia will assist the consultants in placing the situation in Gauteng in the Southern African context for the proposed Southern African HCWM conference to be held during the last quarter of this project.

3.11 Liaisons with various HCWM persons, organisation etc.

During the Inception period liaisons with the following persons and organisations of relevance to the HCWM have been made:

Table 3.5: Liaisons Made During the Inception Period

Organisation/Person	Discussions
Eurocare, UK Medical Waste Treatment and Management Company. Joe Watson, Sales Manager	Eurocare visited South Africa and DACEL in June 2001 to investigate the possibilities for entering into the SA HCWM market. A meeting was held centred around: • Possibilities for international technology providers to enter the HCWM market in Gauteng and SA • The current UK situation in HCWM • The performance of the Thermal Screw Disinfection technology proprietary to Eurocare
MCM Medical Waste Treatment Systems, Israel	MCM non-burn technology of Israel made a presentation of their technology and the management of HCW in Israel at DACEL
National Solid Waste Management Strategy for Swaziland, CTA Tinus Joubert	The Swaziland Project was visited to participate in the formulation of HCWM pilot projects as a component to the national SWMS. As part of the visit a number of hospitals and clinics in Swaziland were inspected and discussions held with the Ministry of Health and Social Welfare regarding HCWM.
Daniels Corporation / Dan Daniels	Producers of unique reusable sharp's containers being used extensively in Australia and being introduced in the US at the moment. The possibilities for using reusable sharp's containers in SA was discussed including a general discussion on the current services, technologies and performance levels in SA.
Environmental Capacity Building Unit (ECBU) situated in DEAT / Margot Nielsen	Several meetings and telephonic discussions were made with the CTA for the ECBU project concerning the anticipated ECBU resources for carrying out the capacity building and training activities. During the discussions it became apparent that the ECBU had not been committed to provide the expected input and that there are no resources available within the ECBU budget for this or any other purposes, as all resources have been allocated.
National Department of Health / Dr. T. Pule	A brief introductory meeting was requested by Dr. Pule to meet the CTA and the SA Strategic Planner for discussion

	of the current HCWM activities being tables by various government agencies.
Mitchell Incinerator Manufacturer	A meeting was held at the workshop of Mitchell. The possibilities of up-grading the 1970 Los Angeles Lucifer design was discussed including the current market conditions and willingness to pay for more advanced environmental solutions as well as the status of the South African incinerator industry and its ability to adapt to international standards.
Macrotech (Macroburn) Incinerator Manufacturer	As above

3.12 Drafting of the Outline Gauteng HCWM Policy for Internal Discussion Purposes

A draft outline HCWM Policy has been produced for the purpose of internal DACEL discussions, after which the document will be finalised for submission to PMG firstly and secondly the PSC for comments.

3.13 Drafting of the Outline Gauteng HCWM Strategy for Internal Discussion Purposes

As an outcome of the first visit of the Danish Strategic Planner a draft outline HCWM Strategy has been produced for the purpose of internal DACEL discussions, after which the document will be finalised for submission to PMG first and the PSC for comments.

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3.14 Meetings with the Environmental Capacity Building Project

Because of the planned integration of the ECBU's resources in conducting the Project's capacity building and awareness activities consultations have been held with the CTA of the ECBU project regarding the availability of ECBU resources and expertise for the Project.

These consultations has revealed that the ECBU has not been committed to supply the anticipated inputs to the Project and that all ECBU resources have been allocated to already approved activities. Hence, there appears to be no ECBU resources available, which is critical and will have a major impact on the success of the planned Pilot Projects aimed at incorporating the practical experience from the pilot projects in the final versions of the Provincial HCWM Strategy, Guidelines and Technical Specifications/Tender Documents.

DACEL submitted a formal request for ECBU support in 2000 that was not responded to by DEAT.

3.15 Participation of the CTA in the semi-annual DANCED CTA Meeting.

DANCED arranged a 2 day CTA workshop in Pretoria in the end of May 2001 for all CTA's in Southern Africa. The CTA participated in that event.

3.16 Compilation of this Inception Report and a Project Procedures Manual.

The required Procedures Manual and the Inception Report were completed during the Inception Phase and circulated for comments to the relevant stakeholders.

4. Project Context

4.1 Project Background

Reference is made to the Project Document for a detailed description of the Project Background. Rather than repeating the information provided in the Project Document this section focuses on commenting and adding to the Project Background presented in the Project Document.

4.1.1 Present Health Care Waste situation in Gauteng.

Since the publishing of the Project Document there has been little change to the HCWM situation in Gauteng. However, the following observations/tendencies have been noted:

- There is increased focus on the poor environmental and technical performance of existing on-site incinerators and a number of hospitals have or are in the process of closing incinerators and outsourcing the treatment of HCRW to service providers such as Phambili, Skip Waste, iBuhle, Sanumed, etc.
- The fee structure at the existing HCRW treatment facilities is being adjusted to the changing market conditions resulting in changes in the flow of waste. However, there is still limited HCRW treatment capacity available in Gauteng
- There are a number of alternative technologies to incineration of HCRW treatment being investigated by the industry at the moment and some of them are being implemented, including Electro-Thermal Deactivation (ETD) and microwave treatment
- There appears to be a movement towards closure of the existing on-site HCRW incinerators at the hospitals and instead letting service contractors remove the HCRW for of-site treatment at one of the commercial HCRW treatment facilities in Gauteng. The closure plans are often motivated by complaints from the neighbourhood, environmental performance and the fact that many existing incinerators are in need of capital investment to allow for continued operation.

4.1.2 Existing tools for addressing Health Care Waste problems.

The Constitution of South Africa sets out the right of every South African to an environment, which is not harmful to their health or well being. Every South African has the right to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that prevent pollution, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Environmental Impact Assessment (EIA) regulation that was promulgated under Sections 21, 22 & 26 of the Environmental Conservation Act (Act 73 of 1989) is one of the legislative mechanisms that has been employed to ensure that government can give effect to these environmental rights and fulfil the assigned functions. Provincial Members of the Executive Council (MEC's) for Environment have been delegated authorisation powers. In the Gauteng Province this function is the responsibility of the MEC for Agriculture, Conservation, Environment & Land Affairs (DACEL), Ms. Mary Metcalfe.

The most common method of treating and disposing of medical waste in Gauteng is by incineration. Incineration is a process, which is controlled under Schedule 2 of the Atmospheric Pollution Prevention Act (Act No. 45 of 1965), and as such is identified in GN R1182 as a process, which requires authorisation from DACEL in terms of the EIA regulation.

The requirement for thermal processors to be authorised under the EIA regulation is fairly recent with the legislation coming into effect in September 1997. In 1994 the Department of Environmental Affairs & Tourism (DEAT) produced emission guidelines which prescribed the allowable stack emissions for various scheduled processes, set minimum operating temperatures, minimum residence times of flow gases as well as requiring all units to have secondary combustion chambers. In order to ensure compliance, a period of 8 years was granted for incinerator operators to comply with these requirements. Full compliance is therefore expected in the year 2002.

The majority of HCRW incinerators are owned and operated by provincial hospitals, which have, due to other priorities, not applied sufficient financial resources to upgrade or replace all provincial hospital incinerators to meet the 2002 compliance requirement. The slow adherence to the 2002 compliance deadline on the part of the public sector has resulted in a similar approach being adopted by the private sector, and it is therefore unlikely that the target date for compliance will be reached if a firm commitment is not made by the public sector. This slow compliance program also impacts negatively on future installations, as environmental standards cannot be improved in the private sector if the same standards are not being applied in the public sector.

4.2 Review of Objectives

It is recommended that the Development Objective and three Immediate Objectives be kept unchanged. No changes to the project outputs are proposed either.

It appears that the third immediate objective that focuses on development of suitable institutional arrangements is critical for the sustainability of the project.

The inception phase has maintained the focus of the project as outlined in the Project Document.

4.3 Review of Project Context

The main purpose of this Inception Report is to update the Project Document in order to make it relevant to the present understanding and agreements between all project stakeholders as to what the Project will address and produce. A primary factor in this regard is to review and update the Project Document. The following sections outline the progress, which have been made in this regard and how this impacts on the Project.

A Starter Document was prepared as part of the Project Formulation Process that was followed by the drafting and approval of the Project Document.

4.3.1 National Waste Management Strategy

The National Waste Management Strategy (NWMS) continues to be the cornerstone of the national, provincial and local waste management initiatives in South Africa. This project builds on the principles of the NWMS. The NWMS is seen as a generally well accepted and suitable framework for achieving improved waste management at national, provincial and local levels.

Furthermore, there are preparations for implementation of certain parts of the NWMS via a future DACED supported project that would include HCWM. This project in Gauteng will be in a position to feed into the coming national initiative.

4.3.2 Current workload of DACEL for management of EIA and Scoping Reports for applicants wishing to establishing HCRW treatment facilities, crematoria and similar

DACEL is currently experiencing that a disproportionate part of the workload in the Integrated Waste Management Section is due to HCWM issues, in particular, due to applications for Scoping/EIA for HCRW treatment facilities.

The statistics show that out of a total of 14 pre-applications HCW activities counted for 1, whereas out of a total of 66 EIAs HCW activities counted for 13, being the category with single highest number of EIAs compared to e.g. industrial, mining, hazardous, landfilling and other typical activities[2].

Hence, it is evident that the Project is highly relevant and that several of the project's expected outputs are required urgently to assist the department in managing the high workload related to HCWM issues.

4.3.3 Recent legislative developments

No recent legislative developments have been noted that may impact on the planned scope of work of the project.

4.3.4 The institutional arrangement required to support the project implementation

The Project Document and the project design appreciate that active and dedicated involvement and support of other government agencies is a precondition for achieving the project objectives.

In particular the participation of GDoH/NDoH, DEAT, DWAF, GALA and GDTPW is important, for example for being able to float well formulated tender documents that will allow for implementation of the Gauteng HCWM Strategy in practice via the appropriate tender procedures supported by the necessary legal, regulatory, advisory and enforcement initiatives of the relevant authorities and organisations.

[2] Cf. Annual Report of DACEL 1999-2000.

Also, it is envisaged that the Gauteng HCWM Project may establish the legal and institutional shortcomings to be addressed nationally, for example via the planned DANCED supported DEAT project aiming at introducing the HCWM part of the National Waste Management Strategy using, among others, Gauteng as a pilot project.

In particular the active and full participation of the GDoH is a prerequisite for achieving the project objectives. DACEL has addressed the senior management of the GDoH on several occasions to formalise this co-operation.

4.3.5 The availability of the anticipated ECBU inputs to the Capacity Building and Training Activities

The Project Document assumes that the ECBU will be in a position to allocate the necessary funds for the intended capacity building and awareness activities required supporting the pilot projects for testing of the HCWM Guidelines and the Health Care Waste Information System.

There is general need for training and capacity building. The levels of awareness amongst HCW managers and the capacity amongst handlers and disposers to understand the dangers associated with the waste, is low. This is a result of inadequate and inefficient use of resources allocated for HCW Management. Due to a lack of proper training on HCW segregation and sound operation of incinerator facilities, the operational costs are increased dramatically. The general public is also not actively involved in using the existing community structures such as awareness campaigns and pressure groups.

The Project Document includes only limited resources for the intended capacity building and awareness raising required for the success of, among others, the pilot projects. With the unavailability of the anticipated ECBU funds, additional funds are required for both procurement of services as well as increase consultancy inputs to support the pilots and produce the required capacity and training materials.

A separate budget has been made in Section 5.3.1 for the required additional resources for taking over the anticipated ECBU activities.

4.3.6 Project Management procedures and project organisation

The project management procedures have been discussed and agreed by the DACEL project management and the CTA as described in the Procedures Manual issued as a separate document.

The agreed principles are basically as assumed in the Project Document with the common understanding that DACEL is managing all institutional arrangements for the project.

4.3.7 Capacity building and participation by stakeholders,

National Government

The national HCW Strategy affects the following national departments:

- The Department of Environmental Affairs and Tourism (DEAT)
- The Department of Health (DOH)

- The Department of Transport and Public Works (DTPW)
- *The Department of Water Affairs and Forestry (DWAF)*.

The National Department of Transport and Public Works has been invited to participate in the development of the Gauteng HCWM Project. However, it has not been possible nor deemed essential to have the involvement of the national department, whereas the Gauteng Department of Transport and Public Works is an important stakeholder being the responsible for operation and maintenance of the majority of the existing HCW incinerators.

Provincial/Regional Government

According to the Constitution, the Provincial Departments are responsible for planning, as well as monitoring of functions that are delegated to the local government. Planning for sustainable HCW management is therefore the role of the provinces. At provincial/regional government level, the affected provincial departments are:

- *Provincial Department of Agriculture, Conservation, Environment and Land Affairs (DACEL):* DACEL has a legislative responsibility to implement the Environmental Impact Assessment (EIA) regulations in terms of the Environment Conservation Act of 1989. Incineration as treatment of HCRW is a scheduled process (in terms of the Atmospheric Pollution Prevention Act) and therefore requires an EIA study.
- *Gauteng Department of Health (GDoH)*: At provincial level, the Department of Health is responsible for implementation and management of the Health Act and the Human Tissues Act. The GDoH is a generator of HCW and as such has a "duty of care", which is defined in Chapter 7 of NEMA. The provincial Department of Health is therefore responsible to ensure that all health care institutions under its jurisdiction are disposing of their HCW in a manner that is not harmful to health or the environment. Implementation of the HCW Strategies and Action Plans will have a direct impact on the HCW Management operations of the provincial health care facilities, making it important for them to be part of the process.
- *Gauteng Department of Transport and Public Works (GDTPW)*: By being responsible for the provision, maintenance and upgrading of HCRW incinerators in most government hospitals, these departments are faced with escalating costs involved in the upgrading and maintenance of medical waste treatment facilities. This department is considered to be active partners in the quest to achieve sustainable HCW Management services at an affordable cost.
- Department of Water Affairs (Regional offices): *DWAF is represented by a number of Regional Offices throughout SA, and is responsible for water pollution prevention and control in various catchment areas. Illegal dumping of HCRW on general waste landfills, together with the disposal of incinerator ash on such facilities, are major areas of concern that is to be identified by the Regional Offices of DWAF where such practices occur and referred to the national office of DWAF, who is ultimately responsible for the management of hazardous waste (which includes HCRW).*

Local Authority Level

- *Local Authorities:* Local Authorities are constitutionally responsible for ensuring the provision of municipal services to communities in a sustainable manner whilst promoting a healthy and safe environment. Local authorities have a constitutional obligation to play a developmental role and to strive to meet the developmental objectives. One specific responsibility is to ensure the safe collection and treatment/disposal of HCRW in its areas of jurisdiction.

- Umbrella body for Local Authorities: *Being the umbrella organisation of Gauteng local governments, GALA is the relevant partner in terms of communication and spreading of the project results to all provincial umbrella bodies, who in turn will forward the information to the respective local authorities.*
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Other Stakeholders and Affected Parties

Many Non-Governmental Organisations (NGOs), Community Based Organisations (CBOs), Labour and Employee organisations have missions that relate to environmental management and are investing in relevant capacity building programmes among their members, client communities and common interest groups. Although some of the affected organisations and unions are listed below, other relevant stakeholders that may not yet be included will be identified during the inception phase of the project.

Labour Organisations

- *Chemical and Industrial Workers Union:* The union serves as a democratic, independent organisation where elected leaders of the labour community formulate policy on different levels. The union represents a strong united front where the workers' general, co-operative interests are co-ordinated within the organisation.
- Democratic Nursing Organisation of South Africa (DENOSA): *DENOSA serves a specific constituency of the labour force, i.e. the nursing profession. The nursing profession at both private and public health care institutions is a strategic starting point to reach workers at the point of HCW generation. Valuable information regarding HCW generation, segregation, handling and storage can be obtained from this sector.*
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Community Based Organisation's (CBOs)

- South African National Civic Organisation (SANCO)*: SANCO believes that an integrated developmental strategy must be followed that takes into account conservation and environmental concerns. Previously disadvantaged communities are often the target area for unsafe and unhealthy disposal of untreated HCRW with informal reclaimers often being affected. SANCO will have a strong input to make in this regard.*
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Affected Industries/Industrial Associations

- *Industrial and Business Environmental Education (IBEE)*: The IBEE is a non-profit association of leading businesses that strives to be proactive in the environmental field by committing itself to sound environmental management and by treating environmental issues as a corporate priority. The IBEE raises awareness within the business community on environmental issues and works with businesses in developing sound environmental management practices.
- Corporations, Waste generators, Transport and Treatment Contractors and Individual Businesses*: This sector will include individuals who are owners and operators of HCW plant and facilities related to HCW collection, transport, treatment and disposal. Involvement in HCW Management by this part of the private sector is business orientated.*

Non-Governmental Organisations:

- *South African Non Governmental Organisations Council (SANGOCO): The umbrella body of NGO's, SANGOCO, may be interested in the HCW Project. The organisation's mission is to promote public participation in caring for the environment The*

organisation aims to promote sound environmental values and sustainable lifestyles, integrating conservation and development, securing the protection and responsible use of natural resources and finally to serve as an environmental watchdog.

4.3.8 The Project Implementation Plan

The Project Implementation Plan appears to be critically centred on a number of milestones and activities, including:

- The current provincial tenders for HCW collection and disposal will terminate March 2003. Hence, it is assumed that new tender documents shall be available well in advance of that date, e.g. October/November 2002 to allow for suitable development of proposals, financial packages, development of prototypes etc. However, the Project Implementation plan only delivers the final technical outputs for the tender process in March 2003. It is suggested that possible ways to address this gap be investigated in the forum of the PSC with the key stakeholders. For example the possibility of extending existing contracts by 2-6 months could be investigated.
- The Pilot Projects are planned to run for a relative short period of time in the period June-December 2002 to allow for sufficient gathering of experience and time for introducing the lessons learned. However, there may be a need for running the pilots longer to allow for sufficient implementation and subsequent generation of results to allow for detection of a measurable impact of the pilots.
- Due to the relative high level of ambitions for the future regionalised HCWM system for Gauteng to be implemented with the introduction of new tender documents for the 2003 tenders for HCW collection and treatment compared with the current level of service and environmental and occupational health performance there may be a need for extensive institutional arrangements to be made that may require much time.

Among others for the above-mentioned reasons the Implementation Plan is viewed as a very tight and critical one that can easily be influenced by factors beyond the control of the project management, thus, making achieving of the project objectives difficult within the 24 months implementation period.

However, the Project Implementation Plan is at this stage suggested to remain unchanged except for minor rearrangement of individual activities to address the current best possible.

4.3.9 Project outputs.

The planned project outputs, as described in the Project Document, are deemed highly relevant and appropriate. No changes to the project objectives are proposed. For reference the project objectives are described, *and in some cases commented*, below.

Objective 1: Integrated Health Care Waste Management Strategy and Action Plan developed for Gauteng

Output 1.1: Status Quo Study report prepared.
This Objective has been received and the Final Report of the Status Quo Report has been submitted and approved by the Client.

Output 1.2: HCWM Policy (Framework HCW Strategy and Action Plan) for Gauteng, based on the Status Quo Study report and the National Waste Management Strategies and Action Plans and other relevant information.

It is suggested that this HCWM Policy be used as a more correct term instead of the term used in the Project Document being "Framework Strategy" Also, because of the timing and the need to have a fully functional forum for development of the Policy with the participation of the key stakeholders, it is suggested that the Policy be finalised in September 2001 instead of the beginning of August 2001 .

It is of major importance for Gauteng to establish a working platform for both the present project and for the province's most imminent administrative initiatives with regards to HCRW Management. To support this a HCWM Policy will be prepared on the basis of the IP & WM white paper, the priority issues in the National Waste Management Strategies and Action Plans, the Status Quo Study report and other relevant sources of information. The fast tracked Policy document will be prepared, consulted and modified accordingly within the inception period of the project. At a later stage of the project (Output 1.5) the Policy document will be revised, updated and extended into a final integrated HCW Management Strategy and Action Plan for Gauteng. As part of the Policy the short term Action Plans will define the immediate actions to be taken. The selected actions can be implemented after consultation and approval.

Indicator: HCWM Policy available

Output 1.3: Gauteng Health Care Waste Information System in line with the National Waste Information System.
Proper planning of future HCW initiatives relies on establishment of a Health Care Waste Information System (HCWIS). It is important to select a proper set of design criteria that will maximise the impact of the resources spent on the HCWIS. These criteria should involve:

- Data collection must be as simple and as cheap as possible;
- Starting the system with only basic data and then gradually expanding;
- Accurate enough to ensure well-informed decisions;
- Comprehensive enough to support the activities in this project;
- Co-ordination with the NWMS WIS;
- Regularly updating of information;
- Co-ordination with the NWMS System Development Guidelines;
- Co-ordination with the Southern Metropolitan Local Council (SMLC) project on Waste Information Registration.

A HCWIS has already been developed for the Gauteng Province by the CSIR. The current WIS design was however based on quite different design criteria. It is therefore necessary to review and amend the current system in light of the design criteria provided, based on the order of importance listed above. Before the review is undertaken, it is important to adjust the list as required in a consultative manner, in order to gain consensus among the stakeholders.

In March 2000 the Department of Environmental Affairs and Tourism (DEAT) published the 'Programme for the Implementation of the National Waste Management Strategy – Waste Information System'. This publication describes a full-blown Pollution Release and Transfer Register (PRTR) that contains considerable more information than the WIS originally envisaged as part of the NWMS. Introducing that level of detail into the HCWIS would require an enormous amount of resources and training for the whole HCW Management sector, which on short and medium term is unrealistic and unlikely to achieve.

To ease the burden of implementing the HCWIS it is recommended to use a phased approach with only the most critical and urgently needed information included in the initial phase.

Currently the Southern Metropolitan Local Council (SMLC) is establishing a Waste Database to support development of a first generation waste management plan for the area. As that general waste management project has a number of items in common with DACEL's HCW Management project, the activities should be closely linked as required by Activity 3.1.3

Testing of the revised HCWIS will be included in the pilot project described as Output 2.2.

Indicator: Revised HCWIS operational and tested.

Output 1.4: Feasibility study for HCRW management in Gauteng for various scenarios covering the waste stream undertaken.

Feasibility study undertaken for HCRW management in Gauteng for various scenarios covering the waste stream from "cradle-to-grave". The Strategy and Action Plan should be drafted on as broad and substantiated basis as possible, and all relevant issues should have been properly dealt with. A Feasibility Study will therefore be conducted to provide information on proven and relevant HCW management technologies and systems, especially with regards to HCRW treatment and disposal. A range of scenarios will furthermore be established and assessed with the legal and financial implications regarding operation and ownership for the alternative scenarios detailed. The Feasibility Study will be presented in a report that reflects the most feasible HCW management solutions for Gauteng under the present as well as predicted future conditions. The feasibility studies will include:

- Establishment of a number of HCRW management scenarios for Gauteng, with centralised and decentralized treatment / disposal options, including assessment of the feasibility of these scenarios;
- Determination of site requirement principles for HCRW treatment / disposal facility locations, including preliminary environmental requirements;

- Assessment of various ownership and service delivery scenarios for services and facilities under the HCRW management scheme including legal, financial, contractual and practical implications;
- Status quo assessment of legislation and regulations applicable to HCWM institutions and authorities covering the full HCW stream. This will include analysis of gaps as well as assessment of legal implications in implementing the scenarios; cf. Activity 1.4.2;
- Determination of financial implications in implementing the scenarios, cf. Activity 1.4.2;
- Presentation of an outline of necessary permit application and EIA procedures for potential localities for hcrw treatment facilities;
- Investigation of various alternative forms of treatment / disposal facilities suitable for South African conditions;
- Compilation of information obtained from activities 1.4.1 - 1.4.7 into a draft feasibility study report.

Indicator: Feasibility Study report finalised and approved.

Output 1.5: Final integrated HCW Management Strategy and Action Plans drafted, consulted and approved.

The Outputs 1.1 - 1.4 will form the basis for preparation of a final integrated Strategy and Action Plan that will be consulted with all relevant stakeholders before being finalised and issued as the Gauteng HCW Management Strategy and Action Plan. The final Strategy and Action Plan will also form the basis for the Outputs and Activities related to Objective 2 of the project.

Indicator: Final integrated HCW Management Strategy and Action Plan drafted, consulted and approved.

Objective 2: Gauteng Health Care Waste management guidelines, technical specifications, and tender material prepared

Output 2.1: Gauteng guidelines for HCW Management based on ongoing activities, documents and international standards prepared.

Gauteng Guidelines will be prepared, based on existing activities and documents as well as international standards. The Guidelines will address administrative, institutional, legal and organisational issues as well as operational and general technical issues. An outline of the proposed Table of Contents is given under Activity 2.1.2. The Table of Contents will have to be defined and detailed at the project commencement stage and the drafting will take place in consultation with the institutions selected for implementation of the pilot study.

Indicator: Guidelines available.

Output 2.2: Pilot studies for HCRW Management at selected health care institutions designed, executed and reported.
A Pilot Study for HCW management at 2 selected health care institutions designed and recommended to be executed at a small sized public hospital (100 beds) and a private clinic (20-30 beds). However, the actual selection of the appropriate pilot institutions, including determination of the size and range of activities undertaken, is still open and will be done in consultation with the PSC at the project inception stage. The selection would be based on a set of selection criteria. The pilot project period, assumed to extend over a 4-month period, will also have to be finalised at the project inception stage. A lump sum has been allocated for supporting the pilot study activities. The purpose of the pilot study is to test various strategies and guidelines within the hospital environment, to introduce and demonstrate new HCW management systems and to record differences in HCW management before and after the pilot project period. The issues to be addressed in the pilot study are:

- Implementation/testing of draft Guidelines including institutional/administrative aspects to determine potential shortcomings (Output 2.1 and Output 3.2);
- Implementation and testing of training material/capacity building programme as outlined in Output 3.5;
- Introduce and test the HCRW Information System which will be the future system for collection of numerical HCRW data from the Health Care sector (Output 1.3);
- Categorizing, quantifying and record the status of HCW at the 2 pilot institutions before, during and after the pilot period (Activity 2.2.5).

The findings on the Pilot Study will be reported in a feedback document and the information on various aspects of the Pilot Study will be used to modify the relevant documents.

The pilot study should be carefully designed, agreed and executed in full co-operation with the institutional staff at all levels.

Indicator: Pilot project feedback report.

Output 2.3: Technical specifications, standard tender material and specific tender material for selected contract areas for Gauteng HCRW segregation, containerisation and storage at source prepared.
Clearly defined technical specifications, standard tender material and specific tender material for Gauteng HCW segregation, containerisation and storage at source, will be developed not only to ensure uniform standards throughout Gauteng, but also to level the playing field for Tenderers. Standard tender documentation developed for Gauteng will be adopted for implementation of segregation and containerisation in specific health care facilities.

Indicator: Specifications and tender documents available.

Output 2.4: Technical specifications, standard tender material and specific tender material for selected contract areas for Gauteng HCRW collection and transport prepared.
Clearly defined technical specifications, standard tender material and specific tender material for Gauteng HCRW collection and transport will be developed not only to ensure uniform standards throughout Gauteng, but also to level the playing field for Tenderers. Standard tender documentation developed for Gauteng will be adopted for implementation in specific collection and transport areas.

Indicator: Specifications and tender documents available.

Output 2.5: Technical specifications, standard tender material and specific tender material for selected facilities for Gauteng HCRW treatment and disposal prepared.
Clearly defined technical specifications, standard tender material and specific tender material for Gauteng HCRW treatment and disposal will be developed not only to set uniform standards throughout Gauteng, but also to level the playing field for Tenderers. Standard tender documentation developed for Gauteng will be adopted for implementation on specific treatment and disposal facilities.

Indicator: Specifications and tender documents available.

Objective 3: Institutional arrangements for provision of sustainable Health Care Waste (HCW) Management in Gauteng defined and in operation.

Output 3.1: Project organisation and linkages established.
Project organisation and linkages will be formalised and established. The Project Management Group and the Project Steering Committee will be established and the Terms of Reference agreed. Project related institutional linking and communication channels will be established. Organisational set up and linkages will be reported in the Procedures Manual and Inception Report as required by the DANCED Project Implementation Manual.

Indicator: Organisation and linkages in place and reports produced as required by DANCED.

Output 3.2: Institutional HCW management roles, responsibilities and functions at all levels of government described and future HCW management roles and mechanisms for co-operation defined, agreed and put in operation.
As a precondition for both the project implementation and future sustainable HCW management in Gauteng, it is necessary to establish a clear definition, understanding and agreement of the existing and future roles, responsibilities and functions. The established mechanism for future co-governance will be formalised and put into operation during the course of the project. The mechanism should be achieved through consultation with and participation by the stakeholders and tested in the pilot institutions.

Indicator: Institutional, administrative and organisational co-governance arrangements for allocation/sharing of HCWM functions and responsibilities signed, distributed and put in operation.

Output 3.3: Project consultation process defined, agreed and implemented.
A clear procedure to be developed for the identification of stakeholders and a structure and time schedule for the project consultation process is to be compiled that will ensure full and timeously participation from stakeholders and limit deviations from the scope during the consultation process.

Indicator: Consultation process scheduled, agreed, reported (Inception Report) and implemented

Output 3.4: HCW awareness plan outlined.
The HCW awareness plan is to make provision for HCRW awareness raising on various levels and focusing on aspects related to HCW within the industry as well as amongst members of society. The target groups and the tools for awareness raising should be specified and justified and a funding mechanism further outlined. Cognisance is to be taken of the complexity of the South African society during the development. It is the intention that DEAT will outline the plan and the DEAT Capacity Building Unit has been requested informally to consider the task. DACEL will follow the matter up by formally requesting assistance for the development of the awareness program, by referring to the White Paper's policy principles. However, limited funds for compiling a plan has been allocated on this project, should DEAT for some reason fail to deliver.

Indicator: DEAT HCW awareness plan presented.

Output 3.5: HCW Capacity Building programme developed and implemented.
The programme will address all aspects related to HCW Management within both public and private sector. Part of the programme will be a further specification and development of the needed training material for implementation in the pilot study. It is the intention that DEAT will develop the programme and the DEAT Capacity Building Unit has been requested informally to undertake the task. DACEL will follow up by formally requesting assistance for the development of the Capacity Building programme, by referring to the White Paper's policy principles. However, limited funds for developing a Capacity Building programme and training materials has been allocated on this project, Should DEAT for some reason fail to deliver.

Indicator: DEAT capacity building programme and training materials available timeously.

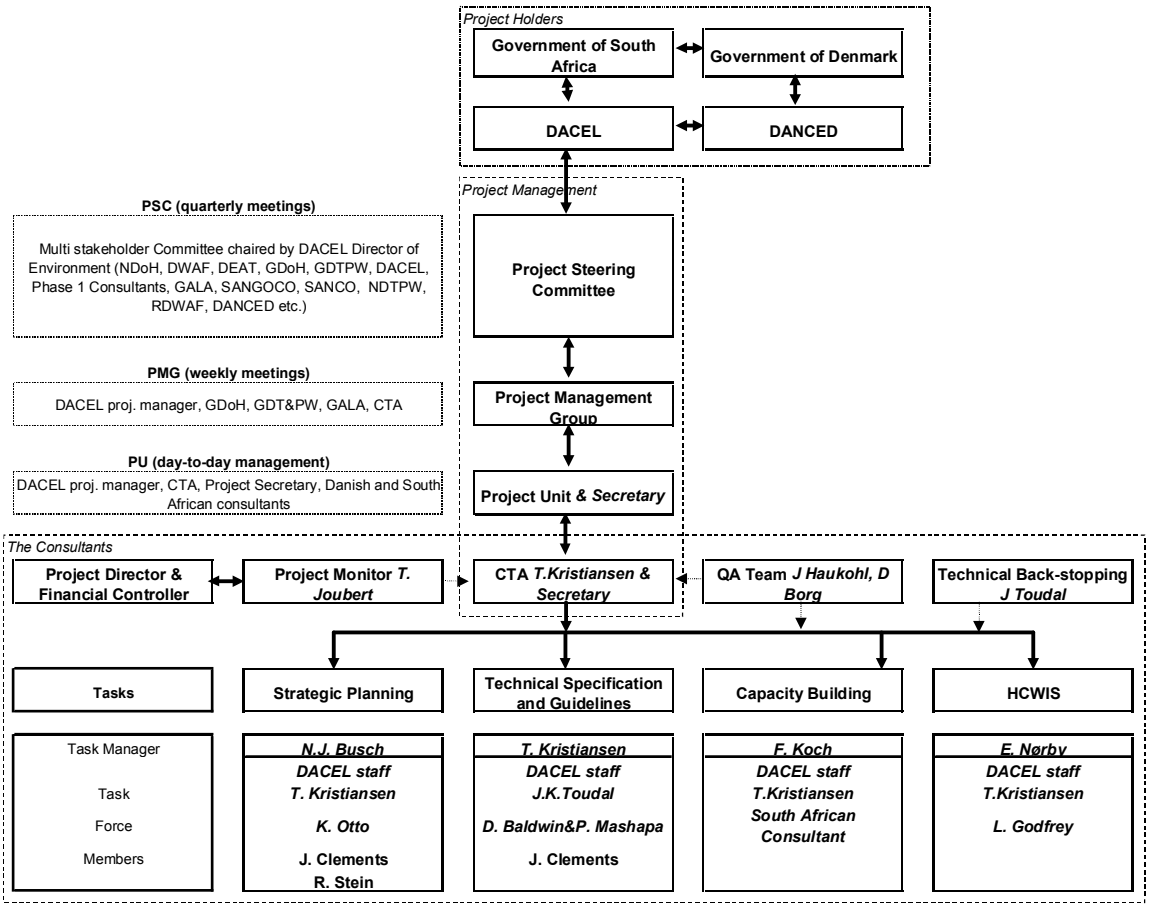
Output 3.6: A national/international HCW Management conference set up and run in close co-operation with DEAT and DOH.
This conference will not only be aimed at building capacity by the parties attending the conference, but also by the general public through detailed publicising the event and possible declaration of S.A. National Health Care Waste Week. The opportunity will therefore not only be used to extend the capacity building beyond the borders of Gauteng, but also beyond the borders of S.A.

Indicator: Lists of participants.

4.3.10 Project Organisation

The Project Organisation has been established as envisaged in the Project Document, as follows:

Figure 4.1: Project Organisation



4.3.11 Expatriate and Sub-Consultants

Based on an assessment of the best possible utilisation of the available resources it is suggested to make a cost neutral adjustment of the anticipated input of the different Danish and South African consultants, as indicated in the table below:

Table 4.2: Planned and Proposed Use of Consultants

Position	**Name**	**Cf. Contract**	**Proposed change**	**New Total**
DK Staff		**Person-months**	**Person-months**	**Person-months**
Chief Technical Advisor	Torben Kristiansen,	21.5	0	21.5
Strategic Planner	Niels Juul Busch	5.5	0	5.5
WIS Specialist	Erik Nørby	2	0	2
Handling Specialist	Jens Kjems Toudal	3.5	0	3.5
Cap. Building Spec.	Fleming Kock,	1.5	0	1.5
	Yet unallocated (DK)	1.5	0	1.5
Sub-total		35.5	0	35.5
SA Staff		**Person-months**	**Person-months**	
Local HCW Strategic Planner	Kobus Otto	10.5	0	10.5
Local HCWIS Specialist	Linda Gotfrey	3	0	3
Local Waste Handling Specialist	Dave Baldwin & Phil Mashapa	9	-3	6
Local Waste Treatment Specialist	Dave Baldwin & Phil Mashapa	2.5	0	2.5
Local Legal Expert	Salim Ibrahim	1.5	1	2.5
Local Economist	John Clements	5.5	-1.5	4
Local Environmental Health Specialist	A candidate yet to be selected	1.5		1.5
Local Capacity Building Consultant	A candidate yet to be selected.	3	0	3
	Yet unallocated (SA)		3.5	3.5
Sub-total		36.5	0	36.5
Total		72	0	72
Note: 1) Additional input suggested to cover the lack of ECBU resources				

In addition to the changes shown above, it is proposed to internalise the capacity building and awareness component of the project due to unavailability of the anticipated ECBU contribution to the project, cf. Section 5.3.1. This would among others, require additional input from the to Danish Capacity Building Specialist as well as a proposed new input from an internationally experienced Danish Infection Control Nurse.

Expressions of interests were requested from a wide range of consultants in South Africa as shown in the sections above.

4.4 Project Assumptions and Preconditions

The project document sets precondition and assumptions as indicated in the table below. In the table an evaluation and possible proposed revision is suggested.

Table 4.3 Assessment of Assumptions and Risks as Expressed in the Project Document

No.	Assumptions, Risk and Preconditions (Cf Proj. Doc)	Proposed Revised Assumptions, Risk and preconditions
	Preconditions to be met before project commencement:	
1.	∪That the status Quo Study Report be available at project commencement and quality is sufficient to commence project activities	∪ *This precondition was met.*
2.	∪That DACEL invites and adjudicates tenders for South African consultants before project commencement and agrees (with DANCED), awards and finalises tenders for South African consultants as soon as the expatriate consultants were appointed, in order to fast track project implementation;	∪ *This precondition was met*. However, selection of remaining SA Consultants will be completed by the PMG at a later stage.
3.	∪That DACEL initiates negotiations with affected government departments and institutions at all levels to establish a mechanism for sustainable future HCW Management co-governance (Output3.2) and that departments, institutions and other stakeholders co-operate constructively in defining their respective roles;	∪ *This precondition has not been met fully*, as there is no outcome of the communications that DACEL made with the DEAT regarding the co-operation of the ECBU. Communications with GDoH, NDoH, GDTPW, and GALA as well as NGOs have been made by DACEL following the Project Commencement, but no feedback was received on certain aspects required by DACEL.
4.	∪That DACEL, before commencement of the project, establishes contact with the DANCED funded Southern Metropolitan Local Council (SMLC) project and likewise establishes contact with DEAT in terms of funding/support for the HCW Awareness and Capacity Building Programme.	∪ *This precondition has not been met fully*. At this stage there has been no need for such contact. However, contact to the redesigned SMLC project will be made when needed. As stated above there it is not possible for the ECBU to co-operate with the Project.
5.	∪That DEAT develops a NWMS HCW-programme for capacity building/awareness timeously for incorporation into the Gauteng Strategy and Action Plan. DACEL should aim to reach agreement with the DEAT Capacity Building Unit as soon as possible for the latter party to undertake the drafting process (Output 3.4 and 3.5);	∪ *This precondition has not been met.* It is suggested to rephrase the condition as follows: *That an agreement is reached for the Project to carry out the intended ECBU activities via additional funding, as ECBU funding and arrangement of activities is not possible within the Project's time limits and the ECBU's funding*
	Assumptions and Risks	
6.	∪That political and institutional commitment at all levels be secured for application and implementation of the Gauteng integrated HCW Management Strategy and Action Plan;	∪ This risk still exists and needs to be resolved in order to ensure that the work undertaken during this project is implemented
7.	∪That DEAT Capacity Building Unit will comply to the project management of requirements for outcome	∪ This risk has eventuated. The DEAT ECBU cannot deliver the input envisaged because of lack of agreements and unavailability of funds.
8.	∪That sufficient staff at DACEL be allocated to drive the process and that motivated staff be present and available at all levels within the targeted and supporting institutions;	∪ The workload of the DACEL Project Director and Deputy Director is very high and this could result in them not being able to participate and give comments on time, which could in turn have a negative impact on the overall programme for the project.
9.	∪That suitable and appropriate Pilot hospitals/clinics can be identified and that an	∪ From the few visits brought to provincial health care facilities, it is evident that the staff is under extreme

No.	Assumptions, Risk and Preconditions (Cf Proj. Doc)	Proposed Revised Assumptions, Risk and preconditions
	agreement can be reached on constructive cooperation between the project, the department, the hospital/clinic management and ground staff. That sufficient and motivated staff are allocated for training;	pressure due to high workloads, with some already being dependent on support from volunteers to get the work done. Backup arrangements will therefore have to be made to provide support to permanent staff if they can not cope with the additional burden put on them during the Pilot Projects.
10	∪That key stakeholders show interest and participate constructively and timeously in the HCWM project and that agreements regarding the HCW principles and the way forward can be reached.	∪The institutional co-operation between the various stakeholders is not secured and there are a number of individual initiatives being taken at present that could result in projects being undertaken in parallel.
	Proposed Additional Assumptions and Risks	
11		∪That the institutional arrangements are addressed adequately for the Project to be implemented timeously without delays.
12		∪That GDoH, NdoH and representatives of Health Professionals actively co-operate in producing the HCWM Guidelines
13		∪That funds and procedures to publish and disseminate the HCWM Guidelines can be established with the active support and endorsement of all necessary institutions.
14		∪That pilot projects can be completed within the anticipated period, thus, allowing for incorporation of experiences in the final revision of Strategy, Action Plans, Guidelines and HCWIS.
15		∪That sufficient suitable and sustainable Short Term Improvement can be identified and implemented within the project period using the DKK 4.0 million funds for this purpose.
16		∪That the health care facilities will be able to afford the improved HCWM standards in the long term to ensure that the implementation thereof will be sustainable.
17		∪That the Gauteng DoH is actively involved throughout the project process to ensure a firm DoH ownership and successive implementation of Guidelines, Technical Specifications and floating of developed Tender Documents for HCWM for the health care facilities in Gauteng.
18		∪That achieving of the Project Objectives is not hindered by legal challenges that, e.g., would require enactment of national legislation, to succeed.

5. Review of Project Outputs

The Project outputs comprise of both Management Reports as defined in the DANCED Project Management Manual and Technical Reports as defined in the Project Document.

5.1 Management Reports

According to the DANCED Management Manual, the responsibility for drafting the Inception Report, the Progress Reports and the Completion Reports lies with the Project Director (D. Fischer) assisted by the Chief Technical Advisor (T. Kristiansen). It has been agreed that the CTA drafts the Inception Report with assistance of the Project Director who will submit the report. The Procedures Manual is to be drafted by the CTA with the assistance of the Project Director.

The Implementing Agency (DACEL) comments on all reports before it is submitted to the PSC. The DANCED Project Document requires Management (Progress) Reports every 6 months.

The content of the various management reports are outlined in the DANCED Procedures Manual. The purpose of the Inception Report and Procedures Manual has been described earlier in this document. The purpose of the Progress reports are to describe on a regular basis, any problems that may have been encountered during implementation especially in relation to project outputs and objectives, the project Implementation Plan and/or any other project documents. Listed output indicators as well as compliance with the completion date for management reports are to be used for verification of progress, which is all to be recorded on the Output Monitoring Form, cf. Annexures.

Table 5.1: Management Reports

Management Report Type	Proposed Date for Submission
Project Inception Report	End July 2001
Project Procedures Manual	End July, 2001
Progress Report 1	End October, 2001
Progress Report 2	End April.2002
Progress Report 3	End October 2002
Progress Report 4	End April 2003
Completion Report	End February, 2003 (two months before expected completion of project)

5.2 Other (Technical) Reports

The other (technical) reports defined in the Project Document as amended by the Contract are listed in table 5.2.

Table 5.2: Project Document Outputs

Technical Report Type	Proposed Date for Submission
1.1 Status Quo Report	Dec 2000
1.2 Framework HCWM Strategy and Action Plan	Draft Version: End September 2001 Draft Final Version: Mid October 2001 Final Version: End October 2001
1.3 HCWIS Report	Draft Version: February 2002 Final Version: January 2003
1.4 Feasibility Report	Draft Version: December 2001 Draft Final Version: January 2002 Final Version: February 2002
1.5 Integrated HCWM Strategy	Draft Version: May 2002 Draft Final Version: Mid February 2003 Final Version: End February 2003
2.1 HCWM Guidelines	Draft Version: May 2002 Draft Final Version: Mid February 2003 Final Version: End February 2003
2.2 Pilot Project Feedback Report	Draft Version: Mid February 2003 Final Version: End February 2003
2.3-5 HCWM Technical Specification and Tender Documents	Draft Version: January 2003 Draft Final Version: February 2003 Final Version: March 2003
3.1 Memoranda of Understanding and agreements	Final Version: End August 2001
3.2 Institutional roles and functions	Draft Version: Mid February 2002 Draft Final Version: Start March 2002 Final Version: End March 2002
3.3 Schedule for multi-stakeholder consultation	Draft Version: Start September 2001 Draft Final Version: Mid Sep. 2001 Final Version: End September 2001
3.4 HCW Education and Awareness Plan	Draft Version: January 2002 Draft Final Version: End January 2002 Final Version: Mid February 2002
3.5 Training Material	Draft Version: Mid April 2002 Draft Final Version: May 2002 Final Version (after Pilots): March 2003
3.6 Conference proceedings	Draft Version: April 2003 Final Version: End April 2003
4. Study Tour Report, if any	One months after completion of study tour, if any.

5.3 Revision of Project Outputs

The above project outputs have been reviewed during the inception period. It has been agreed that the project phases and outputs will stay the same as proposed. Some minor amendments however need to be made to the time schedules for the various outputs to coincide with the availability of the various expatriates and Sub-Consultants. The due dates for the various outputs are indicated on the output monitoring form (Annexure B). Serious concerns are however expressed regarding the following aspects:

5.3.1 Capacity Building and Awareness (CBA) / ECBU

Based on consultations with the ECBU's CTA, it became evident that the ECBU has no resources allocated for the intended execution of the capacity building and awareness (CBA) component of the HCW project. Although there is a limited amount of contingency funds available at the ECBU, it is uncertain whether such resources could be made available for the HCW project. It is therefore recommended that the entire capacity building and awareness component of the project be carried out independent of the ECBU.

Hence, as it appears virtually impossible to receive the anticipated ECBU support timeously for constructive incorporation in the HCW project, it is recommended that additional funds be allocated to the HCW project for execution of the anticipated ECBU activities as part of the HCW project. The CBA material developed in Gauteng, can then be disseminated to the various provinces through the relevant national and provincial institutions, including the ECBU.

At this stage, it is envisaged that the CBA Component of the HCW project should achieve the following main outputs: i) professional health care staff at selected pilot health care facilities trained and capacitated ii) selected waste management staff trained for the correct collection and storage of HCW at health care facilities, iii) selected HCW collection and transport staff be capacitated and iv) incinerator operators at selected pilots trained and capacitated. However, if funding can be secured it is recommended that the HCWIS also be introduced and tested at the selected pilot facilities and that training further be carried out at selected HCWM Service Providers.

As a generic output of the CBA component there is suggested to be:

- Training and instruction material produced for the pilot health care facilities that may include posters, manuals, training aids/transparencies
- Video/interactive CD ROM material
- Generic Capacity Building and Awareness material developed based on the experience from the Pilots to be distributed to the sector in Gauteng and possibly nationally.

The CBA Component should be developed in close co-operation with the relevant stakeholders that include: i) DEAT, ii) DACEL, iii) Gauteng/National DoH, iv) Gauteng/National DTPW, v) DWAF, vi) ICASA, vii) HASA, viii) etc. Hence, the PSC for the Gauteng HCWM Project could act as the consultative forum for the CBA Component, or alternatively a dedicated Working Group could be formed to address these aspects.

The HCWM Project resources allocated for the CBA Component within it's contracted budget is approximately the following: i) 1½ person months for a DK CBA specialist, ii) 1 person month from the CTA of the HCWM Project, iii) Secretarial assistance, iv) Meetings, co-ordination, selection of pilots, liaisons etc. There is however a considerable need for additional input to compensate for the anticipated ECBU involvement that did not materialise.

It is proposed that the video/interactive CD ROM be produced jointly for all the sub-components and that this would be made available nationally as well as via the Internet together with the information material that was developed. It is assumed that these tangible outputs will provide high profile visibility of possible ways to improve the National as well as Southern African HCWM practices and that this should be used as a show case at the planned Southern African HCWM Conference to be held in March-April 2003.

At this stage a preliminary proposal for the capacity building and awareness activities have been prepared, among others with a view to estimating the costs of such a programme. However, it is assumed that the detailed scope of work for the capacity building can be adjusted within the suggested budget frame as deemed necessary following the needs assessments etc.

Table 5.3: Estimated Activities and Costs of Carrying Out the Capacity Building and Awareness Activities Envisaged to be Carried out by the ECBU.

HCWM Capacity Building among Health Care Professionals (Nurses, Doctors, Lab Technicians etc .)	**Units**	**No of Units**	**Cost per unit DKK**	**Sub-total DKK**
Needs assessment at selected pilot facilities (SA Consultants)	Person months	1.0	75,000	75,000
Workshopping of needs and development of draft CBA Plan (SA Consultants)	Person months	0.5	75,000	37,500
Development of Master Trainer Curricula and Training Aids (SA Consultants)	Person months	1.0	75,000	75,000
Development of (generic) posters and sorting instructions (SA Consultants)	Person months	0.5	75,000	37,500
Coordination & Assistance by DK CBA Specialist	Person months	0.5	132,708	66,354
Assistance by Danish International Infection Control Nurse	Person months	1.0	75,000	75,000
International travel	journeys	2.0	8,000	16,000
Development of video/Interactive CD ROM with visual instructions	Lumpsum	1	165,000	165,000
Reproduction of final posters and sorting instructions	No.	300	55	16,500
Printing and reproduction	Lumpsum	1	25,000	25,000
Mass production of video/Interactive CD ROM for other facilities	No.	1,000	55	55,000
Sub-total				***643,854***
Capacity Building for Operators of (on site) incinerators	**Units**	**No of Units**	**Cost per unit DKK**	**Sub-total DKK**
Needs assessment at selected pilot facilities (SA Consultants)	Person months	0.5	75,000	37,500
Workshopping of needs and development of draft CBA Plan (SA Consultants)	Person months	0.5	75,000	37,500
Development of Operating Procedures /Training Module (SA Consultants)	Person months	0.5	75,000	37,500
Development of Posters and Instructions (SA Consultants)	Person months	0.5	75,000	37,500
Coordination & Assistance by DK CBA Specialist	Person months	0.25	132,708	33,177
International travel	journeys	1.0	8,000	8,000
Printing and reproduction	Lumpsum	1	25,000	25,000
Reproduction of final posters and sorting instructions	Lumpsum	150	55	8,250
Sub-total				***224,427***
Estimated grand-total				**868,281**

It is recommended to carry out both the capacity building of health care professionals as well as the incinerator operators. However, if priorities should be made due to financial constraints the capacity building of health care professionals should be prioritised, as it is assumed that most on-site incinerator operators will disappear in the medium term when the use of on-site incinerators are discontinued for environmental and financial reasons.

It is therefore recommended that the Lead Consultant's contract be extended with the above-mentioned budget of DKK 870,000 to make allowance for the CBA programme and that this be financed either by means of an additional grant, from the DKK 4.0 million budget for short-term improvements or from the reserve contingencies of DKK 1.5 million.

5.3.2 Study Tour for a Limited Group of Strategic Planners

It has been recommended by the PMG and the PSC to conduct a limited Study Tour for the purpose of gathering experience and information regarding:

- State-of-the-art and emerging HCW treatment technologies including steam sterilisation, microwave sterilisation, incineration, plasma arc, thermal disinfection etc.
- Study infection control practices and use of equipment in the segregation, collection, transport and storage of HCW
- Study legal requirements, existing guidelines, awareness and training materials, daily waste management practices in the health care facilities
- Study record-keeping, consignment system, reporting and control
- Study the authorities inspection, control and verification of public health and environmental performance
- International experience with HCW segregation, collection, storage, treatment and disposal methods

In addition to the immediate information gathering, the Study Tours are expected to be an essential vehicle for establishing common understanding and priorities as well as developing formal as well as informal lines of communication for the benefit of achieving the project objectives efficiently.

A draft Study Tour Programme has been prepared.

Participants	Senior National DWAF	1
	Senior Gauteng DOH	1
	Senior Gauteng DOH	1
	Senior Gauteng DACEL	1
	Senior Gauteng DTPW	1
	Senior Infec. Control Repres.	1
	Additional DACEL/DOH staff	1
	CTA	1
	Total:	8

Preliminary Programme:

Day 1	DK	Hospitals + treatment facility (inc)
Day 2	DK	Hospitals + treatment facility (inc)
Day 3	DK	National, Provincial and Local authorities
Day 4	UK	Hospitals + treatment facility (non-burn)
Day 5	UK	Hospitals + treatment facility (non-burn)
Day 6		Weekend
Day 7	EU	Weekend
Day 8	EU	Hospitals + treatment facility (inc)
Day 9	EU	Hospitals + treatment facility (non-burn)

Day 10 EU National, Provincial and Local authorities

Cost Estimate:

	Unit	Units	Price	Sub-total
Diem	Days	88	400	35,200 R
Hotel	Days	88	1,000	88,000 R
Air fares	No.	8	16,000	128,000 R
Trans	Days	10	3,000	30,000 R
Various	Prov. Sum			20,000 R
Total				301,200 R

It is suggested that the cost of approximately DKK 300,000 for the proposed Study Tour be financed via an allocation from the contingencies, as this may be seen as an oversight in the project design.

5.3.3 Preliminary Estimate for Short-Term Improvements

The Project Document as well as the contracted budget includes a provisional sum of DKK 4.0 million for introduction of short-term improvements of the HCWM in Gauteng. It is the project team's understanding that this amount is primarily intended for hardware investments and to a lesser extent intended for software support.

The following long-list of possible short-term improvements have been identified at this stage:

Table 5.4: Proposed Long List of Possible Short-Term Improvements to be implemented via the DKK 4.0 million Budget

#	Description	Estimated Cost DKK	Estimated Impact
1.	Technical up-grading of selected existing on-site incinerators, allowing optimum performance given the existing design standards. Activities: ∪ Technical investigation ∪ Identification of hard-ware needs ∪ Identification of training needs ∪ Training of 20 operators ∪ Revamping of 4-10 plants ∪ Emissions test before and after ∪ TOTAL	 270,000 50,000 50,000 70,000 700,000 500,000 1,640,000	Reduction in black smoke and CO emissions, but no significant reduction in acid gases and dust emissions
2.	Provision of improved sharp's containers and internal transportation equipment at selected hospitals. Activities: ∪ Needs assessment ∪ Tendering for equipment ∪ Training needs assessment ∪ Training of personnel ∪ Supply of equipment to 2-6 facilities ∪ Monitoring of use of equipment ∪ Reporting ∪ TOTAL	 70,000 150,000 70,000 140,000 1,000,000 150,000 70,000 1,650,000	Improved occupational safety and health conditions
3.	Establishment of improved storages for HCRW at selected health care facilities:		Improved storage of HCRW and reduced infection risk of

#	Description	Estimated Cost DKK	Estimated Impact
	Activities: ∪ Identification of appropriate pilots ∪ Assessment of storage needs ∪ Design of storage ∪ Tendering of civil works ∪ Civil Works Contract at 2-6 facilities ∪ Supervision of works ∪ Commissioning of works ∪ Monitoring of use of storage ∪ TOTAL	 70,000 70,000 250,000 150,000 1,000,000 50,000 50,000 70,000 1,710,000	workers and general public. Reduced public nuisance.
4.	Establishment of collection/bring system for minor generators of HCRW to be located at central provincial hospitals Activities: ∪ Assessment of needs & sustainability ∪ Identification of suitable collection/bring system ∪ Tendering of services of i) collection/bring locations and ii) small vehicles for collection/transport ∪ Marketing/information campaign ∪ Procurement of receptacles (2 years) ∪ Payment for disposal ∪ Record-keeping system ∪ Monitoring ∪ TOTAL	 70,000 150,000 70,000 150,000 450,000 150,000 60,000 150,000 1,400,000	Reduced inappropriate handling of HCRW from small generators, reduced health risk for workers and scavengers.
5.	Increased HCWM education and awareness and including implementing some of the materials developed through for instance "training of the trainers" and publication (printing) and distributing some of the training and awareness material.	300-1,1500,000	
6.	Implementing some of WIS and waste tracking systems (Scales at onsite incinerators, bar codes on all containers leaving the wards with a scanning and recording system on the other side, etc.) provided that we ensure that the use thereof is enforced, even if only through the provincial legislation.	300-1,1500,000	
7.	HCRW composition analysis to be conducted before and after introduction of the pilot activities at the pilot hospitals. Activities: ∪ Preparation of a sample plan and statistical study ∪ Approval of plan ∪ Training/inoculation of staff and health test ∪ Conduction of sampling and analyses (before) ∪ Conduction of procurement and supply study to assess use of PVC etc. ∪ Conduction of sampling and analyses (after) ∪ Reporting ∪ TOTAL	 70,000 0 10,000 200,000 140,000 200,000 50,000 670,000	
8.	Capacity building for small (emerging) contractors as well as established contractors that would like to get more knowledge from international contractors not only on the technical side, but also on the various aspects of the managerial side.	200-800,000	
9.	Funds could be used as a deposit by the "Section 21 (non-profitable) Company" that may be established to own and manage (not operate) the regional HCRW treatment facilities in Gauteng, to put up the required treatment facilities. This could be 10% to 20 % of the capital required for providing the required facilities, depending on the type of system selected.		

#	Description	Estimated Cost DKK	Estimated Impact
10.	Establishment of a bar coding system (eg. Bar code stickers, bar code readers, software and computers/scanners) for one complete pilot waste stream.	150-350,000	

6. Revised Project Document

The following section summarises the most important changes and modifications to the Project Document. The changes and modifications are listed in the Logical Framework Analysis (LFA) Matrix, which is a project-planning matrix. Thus the LFA-matrix remains valid except for adjustments to the Means of Verification of the outputs.

6.1 Revised Project Activities

Table 6.1: Proposed Adjustment of Project Document (where applicable)

Activity	Proposed Adjustments
1.1 Status Quo Report (Completed)	**None**
1.1.1: Pre-project activities, Status Quo Study report.	-
1.2 HCWM Policy (Framework HCWMS&AP)	**None, other than a delay in the presentation of the final policy from Early August to End September 2001.** **As already planned, the Policy is a priority for DACEL for management of the large number of permit applications for HCRW treatment facilities being received.**
1.2.1: To evaluate Status Quo Study report& other relevant sources	-
1.2.2: To draft a framework HCW Strategy	-
1.2.3: To consult and agree on the Strategy and Action Plans.	-
1.3 HCWIS	**None, except for timing to be adjusted in accordance with the Pilot Projects**
1.3.1: Describe Framework HCWIS	-
1.3.2: Assessment and decision on HCWIS resources	-
1.3.3: Technical HCWIS principles	-
1.3.4: Adjustment of the DACEL HCWIS	-
1.4 Feasibility Study for HCRWM	**Minor changes of focus to suit the current DACEL needs**
1.4.1: Summary of HCRW technologies	It has been agreed that there is no need for detailed technical descriptions and that a basic summery is sufficient. DACEL finds that it is not supposed to do technical research but should focus on setting adequate environmental requirements. Therefore, there is a need in DACEL for advise as to the requirements and pertinent issues that should be addressed in a possible scoping and EIA process. Hence, it is suggested to shift some of the resources from Activity 1.4.1 to activity 1.4.7.
1.4.2: HCRW Management scenarios	-
1.4.3: Site requirements for facility	-
1.4.4: Assess ownership and service scenarios	-
1.4.5: Identify legal implications	-
1.4.6: Identify financial implications	-
1.4.7: Permit & EIA procedures	As describe under 1.4.1 above this is a priority for DACEL and additional resources for this will be shifted from activity 1.4.1.
1.4.8: Draft Feasibility Study Report.	-
1.4.9: Consult & finalise Feasibility Study	-
1.4.10: **NEW ITEM**: HCWM Study Tour	Study Tour as suggested above.
1.5 Integrated HCRWMS&AP	**None**

Activity	Proposed Adjustments
1.5.1: Reformulate HCWM Strategy	-
1.5.2: Consult the HCWMS &AP	-
1.5.3: Issue Final HCWMS&AP	-
2.1 HCWM Guidelines	**None, but the issue of printing and publishing of the guidelines needs to be addressed**
2.1.1: Review international HCRWM guidelines	-
2.1.2: Draft of Gauteng HCRW guidelines,	As described in the Contract it is proposed that a special Working Group or a number of working groups be established for the purpose of drafting and testing the HCRW Guidelines via the Pilot Projects. It is suggested that this be combined with the general capacity building and awareness activities and that additional funding for this be secured to cover the lack of the anticipated ECBU funds for this purpose.
2.1.3: Consult HCRW guidelines.	It is assumed that the DACEL allocation for workshops shall be made available for consulting the Guidelines via e.g. 3 workshops..
2.1.4: Modify Gauteng HCRW guidelines	It is assumed that the guidelines shall be tested extensively at the selected pilot project hospitals/clinics and that this may take up to 6-8 months for actual and reliable data and experience can be collected. For this reason, it is suggested to extent the pilot testing period to a period of up to 6 months, which would require the pilots to start correspondingly early.
2.1.5: Consult HCRW guidelines.	-
2.2 HCRWM Pilot Projects	**Considerable change, due to the need to carry out the entire capacity building and awareness component by the Project rather that by the ECBU as envisaged in the Project Document.**
2.2.1: Design& plan pilot studies.	-
2.2.2: Test guidelines	-
2.2.3: Test training material for pilot study	-
2.2.4: Test HCWIS in pilot institutions.	-
2.2.5: HCW type/amount before & after pilot study	Establishment of basic data on the sorting efficiency and the generation of various types of waste has been identified as a priority by DACEL. This should be combined with an assessment of the potential for introducing "green purchasing" via a study of the current types of supplies being used. For this reason, it is suggested to conduct a relative elaborate waste composition survey before and after the pilot projects. At this stage it is suggested that the survey be subcontracted to a suitable South African organisation based on the following principles: ∪ Waste types and quantity is surveyed for a period of 5 working days before and after ∪ Waste is quantified as one of the following types ∪ Sharps (including containerisation) ∪ Typical HCRW ∪ Pathological waste ∪ Lab and chemical waste incl. batteries etc. ∪ Non-HCRW ∪ The minimum amount of containers/receptacles shall be opened ∪ Workers shall be inoculated Because of the extended survey costs, it is proposed that this be financed as a short-term improvement

Activity	Proposed Adjustments
	under the DKK 4.0 million budget.
2.2.6: Feed-back report on pilot studies	-
2.3 Specs Segregation and Storage	**Some adjustment, as indicated in the Agreement between RAMBOLL and DANCED. It is important that the actual expected output of this activity be defined and agree by all relevant project parties, including the process of the provincial tendering for the coming HCWM services**
2.3.1: Review regulations on HCRWM	-
2.3.2: Technical specs HCRW segregation, containerisation, storage.	-
2.3.3: Standard Tender Doc	It is not possible to tender out the segregation and intermediate storage of HCW in the health care facilities, as this activity is carried out by the health care professionals during the primary and secondary patient contact. Hence, focus will be on establishing good technical specifications that can be incorporated into tender documents for possible supply of equipment and HCWM services in general. Hence, such technical specifications will be included in the Tender Documents for HCW Collection and Treatment Services (Activities 2.4 and 2.5).
2.3.4: Specific tender material for HCRW segregation, containerisation and on-site storage.	As above
2.4 Specs&Tender Coll&Transport	**None, other than it is important that the actual expected output of this activity be defined and agree by all relevant project parties, including the process of the provincial tendering for the coming HCWM services**
2.4.1: Review existing regulations collection and transport.	-
2.4.2: Technical Specs for HCRW collection and transport.	-
2.4.3: Standard tender material for HCRW collection and transport.	-
2.4.4: Specific tender material for HCRW collection and transport	-
2.5 Specs&Tender Treat&Disposal	**None, other than it is important that the actual expected output of this activity be defined and agree by all relevant project parties, including the process of the provincial tendering for the coming HCWM services**
2.5.1: Review regulations on HCRW treatment and disposal	-
2.5.2: Technical specs for HCRW treatment and disposal.	-
2.5.3 Standard tender material for HCRW treatment and disposal.	-
2.5.4: Specific tender material HCRW treatment & disposal	-
3.1 Proj. Org & Links	**None**
3.1.1: Establish PMG & PSC	-
3.1.2: Establish interdepartmental co-operation.	-
3.1.3: Establish mechanisms for co-ordination with related projects.	-
3.2 Institutional HCRWM	**None**

Activity	Proposed Adjustments
Roles&Funcs	
3.2.1: Describe roles, functions & regulatory responsibilities	-
3.2.2: Define, future HCWM model	-
3.3 Proj. Consultation	**None**
3.3.1: Prepare schedule for multi-stakeholder involvement.	-
3.3.2: Implement plan for stakeholder involvement.	-
3.4 HCRW Awareness prgmm	**None**
3.4.1: Assess needs for HCW awareness raising	-
3.5 HCW Capacity Build prgmm	**Considerable changes, as ECBU involvement has been found impossible**
3.5.1: Analyse existing HCW capacity building	-
3.5.2: Define target groups, needs assessment & develop HCWM capacity building	Additional Resources are Required to carry out this planned ECBU activity previous, cf. section 5.3.1.
3.5.3: Develop training material	Additional Resources are Required to carry out this planned ECBU activity previous, cf. section 5.3.1.
3.5.4: Test training material on pilot study staff.	Additional Resources are Required to carry out this planned ECBU activity previous, cf. section 5.3.1.
3.5.5: Revise training material after feedback report	Additional Resources are Required to carry out this planned ECBU activity previous, cf. section 5.3.1.
3.5.6: Define staff qualification & capacity building for tendering	Additional Resources are Required to carry out this planned ECBU activity previous, cf. section 5.3.1.
3.6 International Conference	**None**
3.6.1: International HCWM conference for 250 participants.	-

6.2 Proposed additions to the Means of Verification:

There are no proposed additions to the Means of Verification. However, it is suggested that the PMG during the course of the project develops a mechanism for an extended monitoring of the project outputs, in particular with a view to:

- Impact monitoring, and
- Sustainability monitoring.

6.3 Revision of Time Schedule

A complete revised Project Implementation Plan inclusive of a Time, Activity and Staffing schedule is herewith attached (Annexure C).

None of the above will however impact on the total time frame of the project.

6.4 Budget revisions

The following budget revisions are necessary to fulfil the proposed changes to the Project Document. The budget revisions are agreed by the PMG.

Table 6.2: Budget Revision, Total Sum

Item	Costs DKK
To bring the anticipated ECBU funded Capacity Building into the Project	870,000
Conduction of a limited study tour for selected participants	300.000
Allocation of some of the short-term, improvement funds (DKK 4.0 million) for a detailed HCW composition survey, including assessment of supplies with a view to minimise use of PVC, heavy metal containing materials etc. ("green" purchasing). This has no overall financial implication for the contracted budget.	0
Reallocation of fee between appointed staff will result in minor financial adjustments that can be kept within the overall budget frame.	0
Minor reallocation of certain reimbursables that can be kept within the overall budget frame.	0
Total	**1,170,000**

The table below summarises the project budget revisions and compares the original Project Document budget with the revised budget.

Table 6.3: Comparison between original and proposed Revised Budget

Ref.	Item Name	Contract April 2001 DKK	Proposed Change DKK	Proposed New DKK
A	Expatriate Members of Project Team	4,100,696	174,531[1]	4,275,227
B	Local/National Personnel	3,089,000	375,000[2]	3,464,000
C	Reimbursable Expenses for Expatriate Team Personnel	2,214,566	24,000[3]	2,238,566
D	Reimbursable Expenses for Local/National Personnel	9,098	-[4]	9,098
E	Project Procurement and Equipment (Note some procurement included under other items)	0	594,750[5]	594,750
F	Specific Project Activities (To be detailed during the course of the Project)	4,800,000	(868,281)[6]	3,931,719
	Total	14,213,360	300,000[7]	14,513,360
	Contengencies	1,402,400	1,102,400[8]	1,102,400
	Grand Total	15,615,760		15,615,760

***Notes**: 1) An additional input for expatriate training and capacity building expertise. 2) An additional input for SA training and capacity building expertise. 3) Airfares etc. for expatriate staff. 5) Production of training and awareness material including outsource preparation. 6) Cost of capacity building and awareness proposed funded via the short-term improvements budget as this is contributing to the immediate improvement of the JCWM in Gauteng, 7) Cost of Study Tour proposed funded via contingencies, 8) Proposed remaining contingencies for future unexpected expenses (if any).*

The table indicates that if all additional expenses are subtracted an amount of DKK 1,102,400 will remain for contingencies.

Annexure A:

Assumption Monitoring Form

Annexure A: Assumption Monitoring Form

No.	Assumptions, Risk and Preconditions (Cf Proj. Doc)	Proposed Revised Assumptions, Risk and preconditions
	Preconditions to be met before project commencement:	
19	∪That the status Quo Study Report be available at project commencement and quality is sufficient to commence project activities	∪ *This precondition was met.*
20	∪That DACEL invites and adjudicates tenders for South African consultants before project commencement and agrees (with DANCED), awards and finalises tenders for South African consultants as soon as the expatriate consultants were appointed, in order to fast track project implementation;	∪ *This precondition was met*. However, selection of remaining SA Consultants will be completed by the PMG at a later stage.
21	∪That DACEL initiates negotiations with affected government departments and institutions at all levels to establish a mechanism for sustainable future HCW Management co-governance (Output3.2) and that departments, institutions and other stakeholders co-operate constructively in defining their respective roles;	∪ *This precondition has not been met fully*, as there is no outcome of the communications that DACEL made with the DEAT regarding the co-operation of the ECBU. Communications with GDoH, NDoH, GDTPW, and GALA as well as NGOs have been made by DACEL following the Project Commencement, but no feedback was received on certain aspects required by DACEL.
22	∪That DACEL, before commencement of the project, establishes contact with the DANCED funded Southern Metropolitan Local Council (SMLC) project and likewise establishes contact with DEAT in terms of funding/support for the HCW Awareness and Capacity Building Programme.	∪ *This precondition has not been met fully*. At this stage there has been no need for such contact. However, contact to the redesigned SMLC project will be made when needed. As stated above there it is not possible for the ECBU to co-operate with the Project.
23	∪That DEAT develops a NWMS HCW-programme for capacity building/awareness timeously for incorporation into the Gauteng Strategy and Action Plan. DACEL should aim to reach agreement with the DEAT Capacity Building Unit as soon as possible for the latter party to undertake the drafting process (Output 3.4 and 3.5);	∪ *This precondition has not been met.* It is suggested to rephrase the condition as follows: *That an agreement is reached for the Project to carry out the intended ECBU activities via additional funding, as ECBU funding and arrangement of activities is not possible within the Project's time limits and the ECBU's funding*
	Assumptions and Risks	
24	∪That political and institutional commitment at all levels be secured for application and implementation of the Gauteng integrated HCW Management Strategy and Action Plan;	∪ This risk still exists and needs to be resolved in order to ensure that the work undertaken during this project is implemented
25	∪That DEAT Capacity Building Unit will comply to the project management of requirements for outcome	∪ This risk has eventuated. The DEAT ECBU cannot deliver the input envisaged because of lack of agreements and unavailability of funds.
26	∪That sufficient staff at DACEL be allocated to drive the process and that motivated staff be present and available at all levels within the targeted and supporting institutions;	∪ The workload of the DACEL Project Director and Deputy Director is very high and this could result in them not being able to participate and give comments on time, which could in turn have a negative impact on the overall programme for the project.
27	∪That suitable and appropriate Pilot hospitals/clinics can be identified and that an agreement can be reached on constructive cooperation between the project, the department, the hospital/clinic management and ground staff. That sufficient and motivated staff are allocated for training;	∪ From the few visits brought to provincial health care facilities, it is evident that the staff is under extreme pressure due to high workloads, with some already being dependent on support from volunteers to get the work done. Backup arrangements will therefore have to be made to provide support to permanent staff if they can not cope with the additional burden put on them during the Pilot Projects.
28	∪That key stakeholders show interest and participate constructively and timeously in the HCWM project and that agreements regarding the HCW principles and the way forward can be	∪ The institutional co-operation between the various stakeholders is not secured and there are a number of individual initiatives being taken at present that could result in projects being undertaken in parallel.

No.	Assumptions, Risk and Preconditions (Cf Proj. Doc)	Proposed Revised Assumptions, Risk and preconditions
	reached.	
	Proposed Additional Assumptions and Risks	
29		∪ That the institutional arrangements are addressed adequately for the Project to be implemented timeously without delays.
30		∪ That GDoH, NdoH and representatives of Health Professionals actively co-operate in producing the HCWM Guidelines
31		∪ That funds and procedures to publish and disseminate the HCWM Guidelines can be established with the active support and endorsement of all necessary institutions.
32		∪ That pilot projects can be completed within the anticipated period, thus, allowing for incorporation of experiences in the final revision of Strategy, Action Plans, Guidelines and HCWIS.
33		∪ That sufficient suitable and sustainable Short Term Improvement can be identified and implemented within the project period using the DKK 4.0 million funds for this purpose.
34		∪ That the health care facilities will be able to afford the improved HCWM standards in the long term to ensure that the implementation thereof will be sustainable.
35		∪ That the Gauteng DoH is actively involved throughout the project process to ensure a firm DoH ownership and successive implementation of Guidelines, Technical Specifications and floating of developed Tender Documents for HCWM for the health care facilities in Gauteng.
36		∪ That achieving of the Project Objectives is not hindered by legal challenges that, e.g., would require enactment of national legislation, to succeed.

Annexure B:

Output Monitoring Form

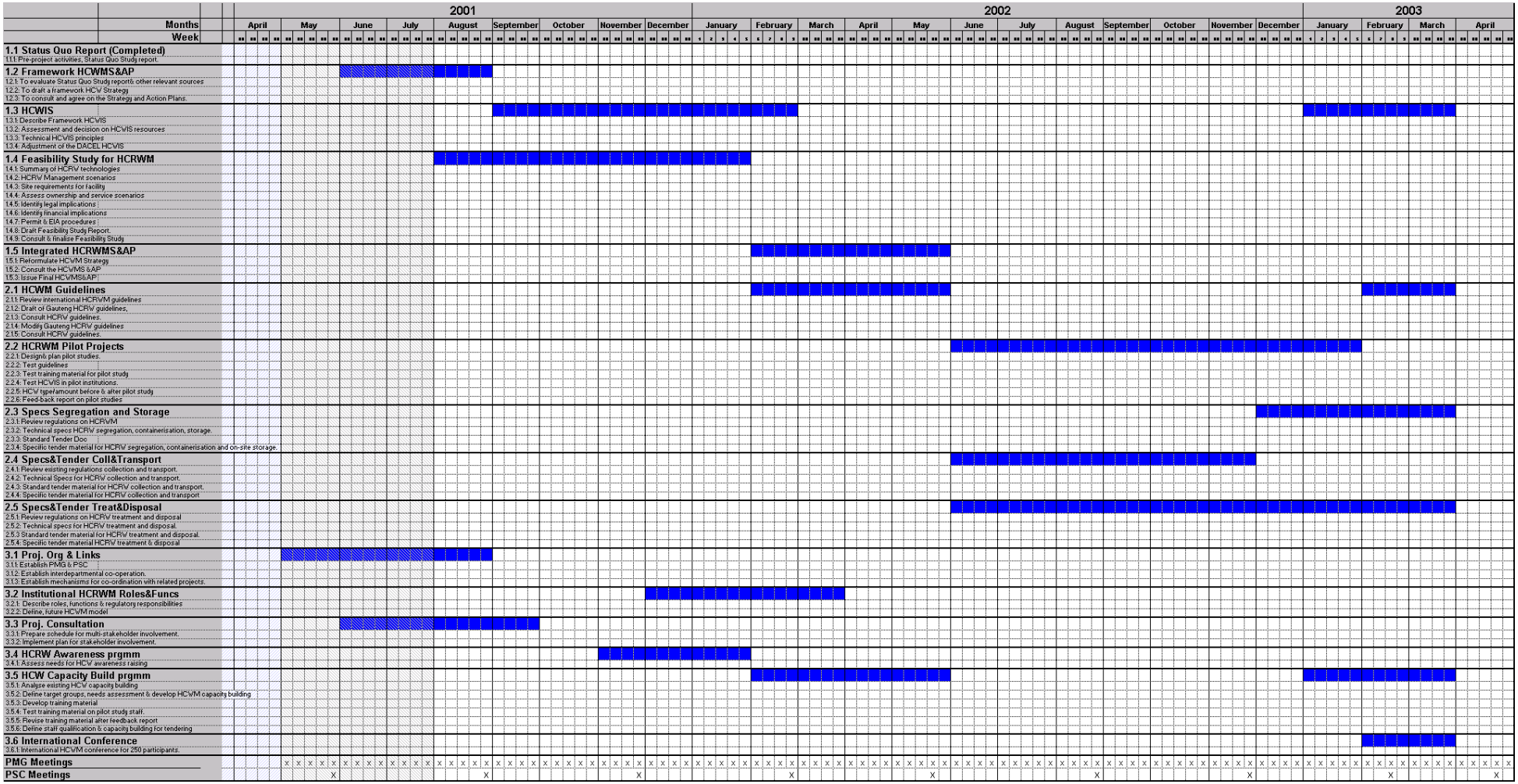
Annexure B: Output Monitoring Form

No	Output	Indicators	Means of Verification	Completion date (External out)
1. MANAGEMENT REPORTS				
1.1	Project Inception Report	Compliance with DANCED Project Management Manual	Documentary	2001-07-31
1.2	Project Procedures Manual	as above	Documentary	2001-07-31
1.3	Project Progress Report 1	as above	Documentary	2001-10-30
1.4	Project Progress Report 2	as above	Documentary	2002-04-30
1.5	Project Progress Report 3	as above	Documentary	2002-10-30
1.6	Project Progress Report 4 / Completion Report	as above	Documentary	2003-04-30

Output	Indicators	Means of Verification	Completion date(Internal out)
1.1 Status Quo Report	Documents	Review of document. Done	Dec 2000
1.2 Framework HCWM Strategy and Action Plan	Documents	Review of document	Draft Version: End September 2001 Draft Final Version: Mid October 2001 Final Version: End October 2001
1.3 HCWIS Report	Documents	Review of document	Draft Version: February 2002 Final Version: January 2003
1.4 Feasibility Report	Documents	Review of document	Draft Version: December 2001 Draft Final Version: January 2002 Final Version: February 2002
1.5 Integrated HCWM Strategy	Documents	Review of document	Draft Version: May 2002 Draft Final Version: Mid February 2003 Final Version: End February 2003
2.1 HCWM Guidelines	Documents	Review of document	Draft Version: May 2002 Draft Final Version: Mid February 2003 Final Version: End February 2003
2.2 Pilot Project Feedback Report	Documents	Review of document	Draft Version: Mid February 2003 Final Version: End February 2003
2.3-5 HCWM Technical Specification and Tender Documents	Documents	Review of document	Draft Version: January 2003 Draft Final Version: February 2003 Final Version: March 2003
3.1 Memoranda of Understanding and agreements	Documents	Review of document	Final Version: End August 2001
3.2 Institutional roles and functions	Documents	Review of document	Draft Version: Mid February 2002 Draft Final Version: Start March 2002 Final Version: End March 2002
3.3 Schedule for multi-stakeholder consultation	Documents	Review of document	Draft Version: Start September 2001 Draft Final Version: Mid Sep. 2001 Final Version: End September 2001
3.4 HCW Education and Awareness Plan	Documents	Review of document	Draft Version: January 2002 Draft Final Version: End January 2002 Final Version: Mid February 2002
3.5 Training Material	Documents	Review of document	Draft Version: Mid April 2002 Draft Final Version: May 2002 Final Version (after Pilots): March 2003
3.6 Conference proceedings	Documents	Review of document	Draft Version: April 2003 Final Version: End April 2003
4. Study Tour Report, if any	Documents	Review of document	One months after completion of study tour, if any.

Annexure C:

Time, Activity and Staffing Schedule


2001
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January
February
March
April
1.1 Status Quo Report (Completed)
1.1.1: Pre-project activities, Status Quo Study report.
1.2 Framework HCWMS&AP
1.2.1: To evaluate Status Quo Study report& other relevant sources
1.2.2: To draft a framework HCV Strategy
1.2.3: To consult and agree on the Strategy and Action Plans.
1.3 HCWIS
1.3.1: Describe Framework HCWIS
1.3.2: Assessment and decision on HCWIS resources
1.3.3: Technical HCWIS principles
1.3.4: Adjustment of the DACEL HCWIS
1.4 Feasibility Study for HCRWM
1.4.1: Summary of HCRV technologies
1.4.2: HCRV Management scenarios
1.4.3: Site requirements for facility
1.4.4: Assess ownership and service scenarios
1.4.5: Identify legal implications :
1.4.6: Identify financial implications
1.4.7: Permit & EIA procedures :
1.4.8: Draft Feasibility Study Report.
1.4.9: Consult & finalise Feasibility Study
1.5 Integrated HCRWMS&AP
1.5.1: Reformulate HCWM Strategy
1.5.2: Consult the HCWMS &AP
1.5.3: Issue Final HCWMS&AP
2.1 HCWM Guidelines
2.1.1: Review international HCRVM guidelines
2.1.2: Draft of Gauteng HCRV guidelines.
2.1.3: Consult HCRV guidelines.
2.1.4: Modify Gauteng HCRV guidelines
2.1.5: Consult HCRV guidelines.
2.2 HCRWM Pilot Projects
2.2.1: Designs plan pilot studies.
2.2.2: Test guidelines
2.2.3: Test training material for pilot study
2.2.4: Test HCWIS in pilot institutions.
2.2.5: HCV type/amount before & after pilot study
2.2.6: Feed-back report on pilot studies
2.3 Specs Segregation and Storage
2.3.1: Review regulations on HCRVM
2.3.2: Technical specs HCRW segregation, containerisation, storage.
2.3.3: Standard Tender Doc
2.3.4: Specific tender material for HCRV segregation, containerisation and on-site storage.
2.4 Specs&Tender Coll&Transport
2.4.1: Review existing regulations collection and transport.
2.4.2: Technical Specs for HCRV collection and transport.
2.4.3: Standard tender material for HCRV collection and transport.
2.4.4: Specific tender material for HCRV collection and transport
2.5 Specs&Tender Treat&Disposal
2.5.1: Review regulations on HCRV treatment and disposal
2.5.2: Technical specs for HCRV treatment and disposal.
2.5.3 Standard tender material for HCRV treatment and disposal.
2.5.4: Specific tender material HCRV treatment & disposal
3.1 Proj. Org & Links
3.1.1: Establish PMG & PSC
3.1.2: Establish interdepartmental co-operation.
3.1.3: Establish mechanisms for co-ordination with related projects.
3.2 Institutional HCRWM Roles&Funcs
3.2.1: Describe roles, functions & regulatory responsibilities
3.2.2: Define, future HCWM model
3.3 Proj. Consultation
3.3.1: Prepare schedule for multi-stakeholder involvement.
3.3.2: Implement plan for stakeholder involvement.
3.4 HCRW Awareness prgmm
3.4.1: Assess needs for HCV awareness raising
3.5 HCW Capacity Build prgmm
3.5.1: Analyze existing HCV capacity building
3.5.2: Define target groups, needs assessment & develop HCVM capacity building
3.5.3: Develop training material
3.5.4: Test training material on pilot study staff.
3.5.5: Revise training material after feedback report
3.5.6: Define staff qualification & capacity building for tendering
3.6 International Conference
3.6.1: International HCVM conference for 250 participants.
PMG Meetings
PSC Meetings

	Months		2001	April				May					June				July				August					September				October					November				December			
DK Consultants	**Week**		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Torben Kristiansen,	CTA/Waste Treatment S	21.5	1	1				1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Niels Juul Busch	HCW Strategic Planner	5.5								1	1	1										1	1			1	1								1	1	1	1	1	1		
Erik Nørby	HCWIS Specialist	2.1																								1	1											1	1			
Jens Kjems Toudal	HCW Handling Speciali	3.5																																								
Fleming Kock,	Capacity Building Cons	1.4																					1																1	1		
Yet unallocated	CTA decide in agreeme	1.6																																								
Sub-total		35.5																																								
SA Consultants:																																										
Kobus Otto	Strategic Planner	10.6								1	1	1		1	1			1	1				1		1		1	1			1	1	1			1	1			1	1	
L Godfrey	HCWIS Specialist	3.0																								1	1	1										1	1			
D. Baldwin&P. Masha	Waste Handling Specia	6.5																																	1	1	1	1	1	1		
D. Baldwin&P. Masha	Waste Treatment Speci	2.5																																			1	1	1			
R. Stein	Legal Expert	2.5																					1	1			1	1														
J Clements	Economist	2.5																																								
NN	Environmental Health S	3.0																																								
NN	Capacity Building Cons	3.9																					1														1	1	1	1		
Sub-total		34.6																																								
DACEL Staff																																										
Dacel Senior Management		0.5																																								
Project Manager D. Fischer		6								1	1			1				1				1	1				1				1					1				1		
Assist. Proj. Manager S. Nkosi		6								1	1			1				1				1	1				1				1					1				1		
Sub-total		12																																								

2002	January					February				March				April				May					June				July					August				September				October					November				December			
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Torben Kristiansen,		1	1	1	1	1	1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Niels Juul Busch											1	1	1	1																										1	1	1	1									
Erik Nørby													1	1	1																																					
Jens Kjems Toudal														1	1	1	1													1	1	1	1	1								1	1									
Fleming Kock,													1																	1																	1					
Yet unallocated																							1	1														1	1												1	1
Sub-total																																																				
SA Consultants:																																																				
Kobus Otto			1					1	1				1	1			1	1			1	1			1	1				1	1				1				1		1				1	1			1	1		
L Godfrey													1	1	1	1																																				
D. Baldwin&P. Masha			1	1				1	1			1		1		1	1													1	1			1	1							1		1	1							
D. Baldwin&P. Masha								1	1					1																1				1										1								
R. Stein			1	1							1				1	1				1				1																												
J Clements							1	1	1			1	1			1	1			1	1			1	1																											
NN															1	1	1			1	1				1				1							1	1				1		1				1	1				
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Sub-total																																																				
DACEL Staff																																																				
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Project Manager D. Fischer		1					1					1				1				1					1					1				1				1				1					1					1
Assist. Proj. Manager S. Nkosi		1					1					1				1				1					1					1				1				1				1					1					1
Sub-total																																																				

2003	January					February				March				April				
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Torben Kristiansen,		1	1	1	1	1	1			1	1	1	1	1	1	1	1	1
Niels Juul Busch											1	1	1					
Erik Nørby				1	1													
Jens Kjems Toudal				1	1	1	1											
Fleming Kock,																		
Yet unallocated											1							
Sub-total																		
SA Consultants:																		
Kobus Otto		1		1			1	1		1	1				1	1		
L Godfrey				1	1	1	1											
D. Baldwin&P. Masha				1	1		1	1					1		1			1
D. Baldwin&P. Masha							1								1			
R. Stein																		
J Clements																		
NN																		
NN																		
Sub-total																		
DACEL Staff																		
Dacel Senior Management			1															
Project Manager D. Fischer			1				1				1				1			
Assist. Proj. Manager S. Nkosi			1				1				1				1			
Sub-total																		

Annexure D:

Revised Project Implementation Plan: Detailed time schedule for implementation

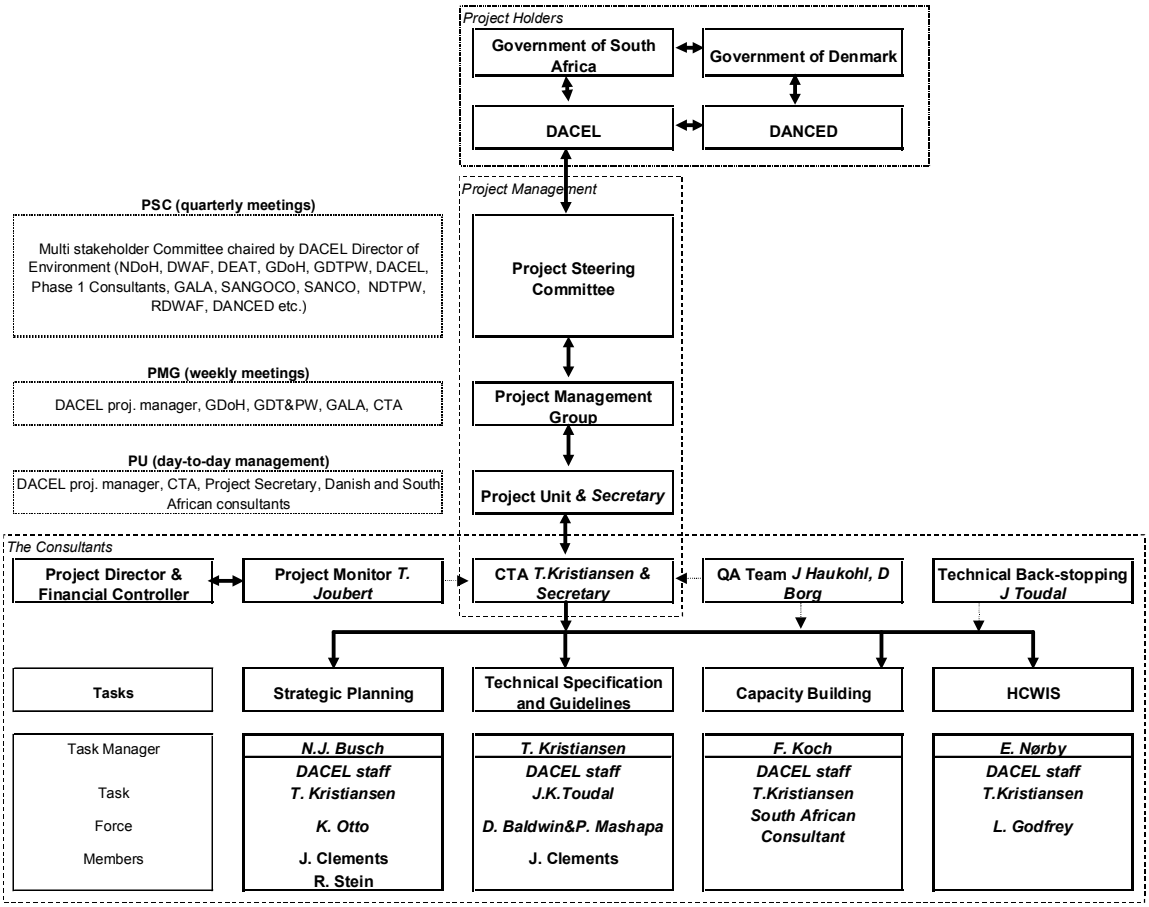
Annexe E: Revised Project Implementation Plan: Detailed time schedule for implementation

Output	Internal out	External out	Workshop	PSC-meetings	Completion Date
Inception report	2001-07-15	2001-07-30	Dacel WS August 2001	2001-08-29	2 weeks after PSC comments
Procedures Manual	2001-07-15	2001-07-30	n/a	2001-08-29	2 weeks after PSC comments
Progress 1	2001-10-15	2001-10-30	to be planned	2001-11-14	2 weeks after PSC comments
Progress 2	2002-03-15	2002-04-30	to be planned	2002-05-29	2 weeks after PSC comments
Progress 3	2002-10-15	2002-10-30	to be planned	2002-11-13	2 weeks after PSC comments
Progress 4/Completion Report	2003-03-15	2003-04-01	to be planned	2003-04-23	2 weeks after PSC comments
1.1 Status Quo Report	n/a	n/a	n/a	n/a	November 2000
1.2Framework HCWM Strategy and Action Plan	2001-08-30	2001-09-30	To be planned	2001-11-14	4 weeks after PSC comments
1.3 HCWIS Report	2002-02-01	2002-02-28	To be planned	2002-05-29	2 weeks after PSC comments
1.4 Feasibility Report	2001-12-15	2002-01-30	To be planned	2002-02-27	4 weeks after PSC comments
1.5 Integrated HCWM Strategy	2002-04-30	2002-05-30	To be planned	2002-08-28	4 weeks after PSC comments
2.1 HCWM Guidelines Final	2002-04-30 2003-03-15	2002-05-30 2003-03-30	To be planned	2002-08-28 2003-04-23	2 weeks after PSC comments
2.2 Pilot Project Feedback Report	2003-02-28	2003-03-30	To be planned	2003-04-23	2 weeks after PSC comments
2.3-5 HCWM Technical Specification and Tender Documents	2002-11-30	2003-02-30	To be planned	2003-02-26 2003-04-23	4 weeks after PSC comments
3.1 Memoranda of Understanding and agreements	on-going	on-going	To be planned	2001-05-30 2001-08-29 2001-11-14 2002-02-27 2002-05-29 2002-08-28 2002-11-13 2003-02-26 2003-04-23	2 weeks after PSC comments
3.2 Institutional roles and functions	2002-02-28	2002-03-30	To be planned	2002-05-29	3 weeks after PSC comments
3.3 Schedule for multi-stakeholder	2001-08-30	2001-09-30	To be planned	2001-11-14	2 weeks after PSC comments

Output	Internal out	External out	Workshop	PSC-meetings	Completion Date
consultation					
3.4 HCW Education and Awareness Plan	2002-01-15	2002-01-30	To be planned	2002-02-27	2 weeks after PSC comments
3.5 Training Material	2002-04-30	2002-05-30	To be planned	2002-08-28	3 weeks after PSC comments
3.6 Conference proceedings	2003-03-15	2003-04-15	To be planned	2003-04-23	2 weeks after PSC comments
4. Study Tour Report, if any	as agreed	as agreed	To be planned	To be planned	2 weeks after PSC comments

Annexure E:

Organisation and Staffing


Project Holders
Government of South Africa
Government of Denmark
DACEL
DANCED
Project Management
PSC (quarterly meetings)
Multi stakeholder Committee chaired by DACEL Director of Environment (NDoH, DWAF, DEAT, GDoH, GDTPW, DACEL, Phase 1 Consultants, GALA, SANGOCO, SANCO, NDTPW, RDWAF, DANCED etc.)
Project Steering Committee
PMG (weekly meetings)
DACEL proj. manager, GDoH, GDT&PW, GALA, CTA
Project Management Group
PU (day-to-day management)
DACEL proj. manager, CTA, Project Secretary, Danish and South African consultants
Project Unit & Secretary
The Consultants
Project Director & Financial Controller
Project Monitor T. Joubert
CTA T.Kristiansen & Secretary
QA Team J Haukohl, D Borg
Technical Back-stopping J Toudal
Tasks
Strategic Planning
Technical Specification and Guidelines
Capacity Building
HCWIS
Task Manager
Task Force Members
N.J. Busch
DACEL staff
T. Kristiansen
K. Otto
J. Clements
R. Stein
T. Kristiansen
DACEL staff
J.K.Toudal
D. Baldwin&P. Mashapa
J. Clements
F. Koch
DACEL staff
T.Kristiansen
South African Consultant
E. Nørby
DACEL staff
T.Kristiansen
L. Godfrey

Annexure F:

Financial Statement: Inception Phase

Ramboll a/c	DANCED - RAMBOLL CONTRACT	Total Contract (DKK)	Total exp. till last period	Approx exp this period	Total from start	Utilised %	Balance end of period	Remaining Budget
	FEE							
nnnDK	Home office	587,470	-	13,480	13,480	2%	13,480	573,990
nnnSA	DK Consultants	3,513,227	-	421,080	421,080	12%	421,080	3,092,147
FLS	SA Consultants	3,089,000	-	72,000	72,000	2%	72,000	3,017,000
	Sub-Total	7,189,696	-	506,560	506,560	7%	506,560	6,683,137
	WORKING EXPENSES							
TRAVELS	International Travel	371,000	-	32,000	32,000	9%	32,000	339,000
PCAR	Local Trans (DK)	320,000	-	15,750	15,750	5%	15,750	304,250
ACCOML	Housing	345,000	-	40,500	40,500	12%	40,500	304,500
ACCOMS	Short-term accomodation	293,400	-	33,000	33,000	11%	33,000	260,400
DIEM	Per Diem DK (additional to in fee)	3,196	-	-	-	0%	-	3,196
AUDIT	Auditing	10,000	-	-	-	0%	-	10,000
VACC	Vaccination	6,000	-	4,000	4,000	67%	4,000	2,000
VARIOUS	Various Office + Secretaries	865,970	-	40,540	40,540	5%	40,540	825,430
LOCTSA	Local Transport SA	7,500	-	-	-	0%	-	7,500
DIEMSA	Per Diem SA	1,598	-	-	-	0%	-	1,598
	Total Working Expenses	2,223,664	-	165,790	165,790	7%	165,790	2,057,874
	OTHER EXPENSES							
PILOT	Pilot Projects	400,000	-	-	-	0%	-	400,000
CONFER	International conference	400,000	-	-	-	0%	-	400,000
SACTION	Short-term action	4,000,000	-	-	-	0%	-	4,000,000
	Total Other Expenses	4,800,000	-	-	-	0%	-	4,800,000
	Total	14,213,360	-	672,350	672,350	5%	672,350	13,541,011
	Contingencies	1,402,400						
	GRAND TOTAL	15,615,760						

Annexure G:

Inception phase Minutes

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

15 to 18 Floor – Glencairn Building, 73 Market Street, Johannesburg
P O Box 8769, Johannesburg, 2000

Telephone: (011) 355-1663
Fax: (011) 355-1664
Email: dace@gpg.gov.za

Reference:	SD 01-05-30 Minutes of PSC 001 Ver 02
Telephone:	(011) 355-1673
Enquiries:	Stompie Darmas

MINUTES OF MEETING

Job	Sustainable Health Care Waste Management
Subject	Project Steering Committee Meeting (PSC)
Date and location	30 May 2001 2nd Floor, Diamond Corner, Boardroom 2
Meeting No.	PSC001
Taken by	Stompie Darmas
Participants	Attendance list attached
Apologies	None
Copy to	All PSC Members

ATTENDANCE LIST

TITLE OF MEETING : Project Steering Committee Meeting - 001

DATE: 30 May 2001 **TIME** 10:00

VENUE: Boardroom 2, Diamond Corner *(Second Floor)*

NAME & SURNAME (Please Print)	DEPARTMENT/ COMPANY NAME	CONTACT TELEPHONE	FAX NO.	E-MAIL ADDRESS
1. Tolmay Hopkins	DWAF	(012) 336-7553	(012) 323-0321	Tek@dwaf.pwv.gov.za
2.. Dave Baldwin	ECC	(011) 792-1052 082 820-1691	(011) 791-4222	Ecconsultants@mweb.co.za
3. Laetitia Ferreira	Dept of Health (Rep. P. Brits)	(012) 303-9035	(012) 323-4310	Paulb@gpg.gov.za Lautitiaf@gpg.gov.za
4. Tlokotsi Mackie	NEHAWU	(011) 336-1508	(011) 333-1696	
5. Kobus Otto	KO & Associates	(011) 391-5665	(011) 391-5666	Jbotto@global.co.za
6. Audrey van Wyk	ICASA	(011) 922-1019	(011) 975-6288	Infection@arwyp.com
7. Chrismar Hattingh	ICASA	(011) 922-1019	(011) 975-6888	Infection@arwyp.com
8. Peter Jonssen	DANCED	(012) 322-0595	(012) 322-0596	Petson@priza.nm.dk
9. Dr Jameson Malemela	SASOM	(016) 592-2753	(016) 592-1507	Jameson@iafrica.com
10. Dee Fischer	DACEL (Deputy Director)	(011) 355-1956	(011) 355-1664	Deef@gpg.gov.za
11. Dr Dhiraj Rama	DACEL (Director Environment)	(011) 355-1983	(011) 355-1664	Dhirajr@gpg.gov.za
12. Torben Kristiansen	Ramboll/DACEL - (CTA)	082 332-3720	(011) 355-1937	TorbenK@gpg.gov.za
13. Niels Juul Busch	Ramboll/DACEL	+4545 988572	+4545 988 950	Njb@ramboll.dk
14. Stompie Darmas	DACEL -(Project Secretary)	(011) 355-1937	(011) 355-1937	Stompied@gpg.gov.za
15. Thembisile Kumalo	DEAT	(012) 310-3567	(012) 320-1167	Ekumalo@ozone.pwv.gov.za
16. Conny Mashigo	SANCO	(011) 738-9257 072 286-1198	(011) 738-3205	
17. Albert Marumo	Gauteng Health	(011) 355-3478	(011) 355-3481	Albertm@gpg.gov.za

1. WELCOME

ACTION

The Chairperson, Dr Rama, welcomed everybody present and specifically extended his welcome to the following members:

Mr Peter Jonssen – DANCED representative from the Royal Danish Embassy
Mr Torben Kristiansen – The Chief Technical Advisor from Ramboll, Denmark.
Mr Niels Busch - Strategic Planning consultant from Ramboll, Denmark.
Mr Kobus Otto – South African Strategic Planning consultant.

2. INTRODUCTION

The Chairperson introduced the DACEL team responsible to manage the project. All members present at the Project Steering Committee (PSC) Meeting were given the opportunity to introduce themselves and to indicate their particular involvement in the project. **PSC**

A proposal was made for a list of new members to be added to the PSC. PSC members to forward proposals, if any, for further PSC members within one week from receipt of these minutes.

3. PRESENTATION OF PHASE I

Mr Kobus Otto presented an overview of Phase I of the project. He informed the meeting that DACEL circulated copies of the Phase I Report to PSC members.

3.1 Training and Awareness:

a) Current awareness of risks associated with HCRW is limited;
b) Occupational Health and Safety requirements are often not met;
c) Lack of training and financial awareness result in poor segregation which in turn increases the mass of HCRW to be treated;
d) The general public should be informed through HCRW awareness programmes.

3.2 Status Quo on sources of HCRW in Gauteng:

a) HCRW generators consists of 600 major sources, e.g. hospitals, clinics and 9 700 minor sources e.g. doctors;
b) Total HCRW generated in Gauteng is approximately 1 175 tonnes/month, with 89% generated by major- and 11% by minor sources;

c) HCRW generation in kg/patient/day varies between approximately 0.06 – 0.48 for private clinics, 0.002 – 0.05 for public clinics, 0.5 – 4.04 for private hospitals and 0.23 – 2.43 for public hospitals; Intermediate storage & internal transportation of HCRW are not standardized;
d) HCRW accessible at many health care facilities;
e) Radioactive waste not always disposed of in a controlled manner;
f) Human body tissue is either incinerated on site or collected by private contractors for off-site treatment;
g) Infected water from mortuaries & blood banks is disposed of through the municipal sewer;
h) About 2% of the total HCRW load is transported to Gauteng from other provinces.

3.3 Status Quo on HCRW treatment / disposal facilities:

a) There are 70 incinerators located in 58 Health Care facilities in Gauteng;
b) Only 58 (83%) of the existing incinerators are operational and only 25 (37%) are registered with the regulatory authorities;
c) Only 5 incinerators are equipped with secondary chambers and meet the required temperatures;
d) Only 1 incinerator is equipped with a scrubber, that is mostly non-operational;
e) HCRW incineration capacity under present optimum working conditions is 1 284 tonnes per month;
f) Ash from incinerators is often disposed of with the general waste stream;
g) Incineration is presently the only HCRW destruction technology used in Gauteng;
h) Non-burn technologies could offer cost effective and environmentally sound solutions if fully developed

3.4 Development of Waste Incinerator Information System:

a) The HCRW Incinerator Information Management System (IIMS) module developed as part of GDACEL Geographic Information System (GIS);
b) A customised and user friendly module for accessing and maintaining data was developed;
c) Spatial representation of HCRW sources and treatment facilities will assist with provincial planning for treatment facilities;
d) Data to be updated at regular intervals;
e) The system allows for upgrading.

3.5 Feasibility Study into the possible regionalisation of HCRW treatment facilities:

a) The financial model developed indicates that the current practice of on-Site incineration at provincial hospitals is uneconomic;
b) The estimated current cost of on-site incineration, including the cost Incurred through removal by private contractors, is R 810 000 per month for HCRW generated at provincial hospitals and clinics;
c) When HCRW generated by all provincial hospitals and clinics are included the financial model indicated that the optimum configuration consists of three new regional facilities;
d) Total estimated monthly cost of provincial hospital and clinic HCRW incineration at the regional facilities is R 650 000 (without scrubbers) and R 860 000 (with scrubbers);
e) Cost estimates include cost of EIA's, capital costs and operating costs for provincial hospitals and clinics only.

3.6 Recommendations:

Mr. Otto highlighted the following recommendations on aspects identified to be addressed in Phase II of the project:

a) Develop education and awareness material;
b) Conduct a study on the composition of HCRW from hospitals and clinics;
c) Develop a strategy for minimizing the use of PVC and investigate the use of alternative HCRW treatment technologies;
d) No new incinerators should be permitted without being equipped with scrubbers and complying with the 2000 emission guidelines;
e) All incinerators not complying with required standards should be phased out by the year 2009;
f) A regionalised approach should be adopted for HCRW treatment facilities;
g) Firm costing should be prepared for proposed new HCRW facilities.

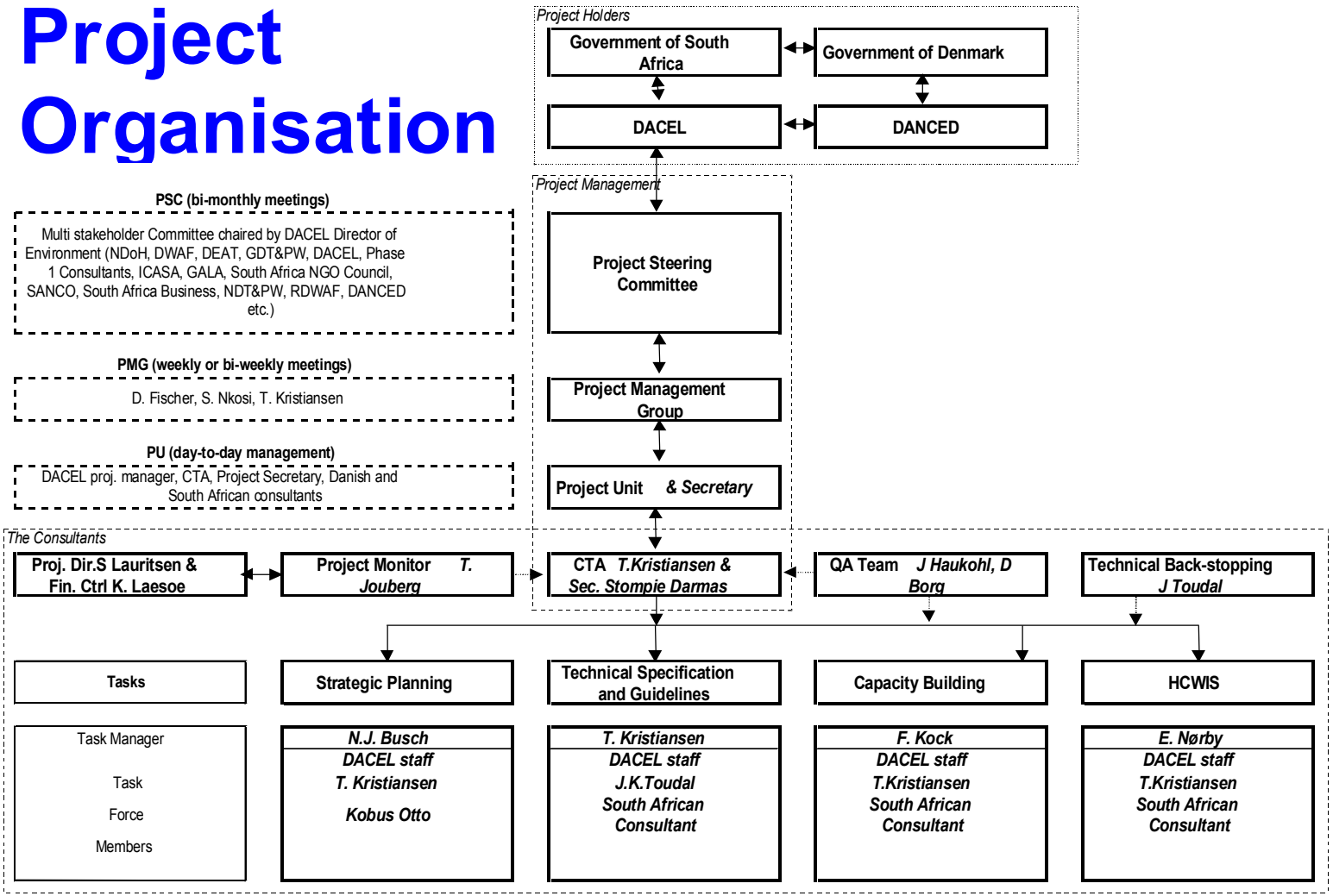
4. OBJECTIVES OF PHASE II

The CTA, Mr. Kristiansen, described the objectives for the sustainable Health Care Waste Management project for Gauteng, which are as follows:

- Integrated Health Care Waste Management in Gauteng established within the framework and principles of the National Waste Management Strategy, covering the full Health Care Waste stream;
- Gauteng Health Care Waste Management guidelines, technical specifications and tender material preparation;
- Institutional arrangements for provision of sustainable Health Care Waste Management in Gauteng defined and put in operation.

Mr. Kristiansen further presented and described the project organisation structure, as illustrated below:

Project Organisation



Gauteng Department of Agriculture, Conservation, Environment and Land Affairs

DACEL is the Implementing Agency and DEAT is the Executing Agency. The project is funded by DANCED. The Project Steering Committee (PSC) for Phase II of the project is primarily the PSC that participated on Phase 1 of the project. The opportunity exists for new members to be nominated and although the PSC should be as representative as possible, the PSC should not become too big, as it will make it difficult to function. The PSC will be meeting quarterly and representation, will throughout the project period steer the project and be responsible to comment and approve to changes made on the project document and budget of work undertaken by the consultants.

A Project Management Group (PMG) will be responsible for the day-to-day management of the project. The PMG will consist of the Gauteng DACEL, the CTA, Gauteng Dept. of Health, Gauteng Dept. of Transport and Public Works as well as GALA and will be meeting weekly. Since the latter 3 parties will not be required to attend the weekly meetings, they will be kept informed through the circulation of the minutes. All of these parties are however invited to attend the weekly meetings.

In addition to the Danish consultants that will be involved on technical matters during a number of short-term missions, there will also be South African Consultants appointed to address various technical aspects of the project. The CTA informed the PSC that one South African Consultant has been appointed, and that the selection method used for the appointment of SA consultants is based on interviews with consultants on a short list, compiled after advertisements were placed in national papers.

5. QUESTIONS AND COMMENTS FROM THE PSC MEMBERS:

5.1 Other initiatives on setting standards for integrated HCW management:

Dr. D. Baldwin informed the meeting that he was requested by DEAT to draft a Terms of Reference for consultants to determine the status quo of HCW management- and to develop a strategy for the South African HCW Management. The SABS Code for the environmentally sound management of HCRW was in turn developed at the request of the National Department of Health. The project will seek to co-ordinate activities with these and other HCWM initiatives.

5.2 General Practitioners and Dentists:

General Health Practitioners and Dentists are to be consulted through the involvement of the Health Professionals Council, as this body is in control of the registering of various Health Professionals. This will assist in getting their support and commitment to back the project as well as in enforcing the legislation and requirements once developed through this project.

It was suggested that General Practitioners make arrangements for an authorised party to collect their waste or alternatively to send it to central collection points.

5.3 Legislation/Guidelines:

A proposal was put forward that the fragmentation of the current legislation be reconciled into a single set of legislation and that appropriate guidelines and standards be compiled where required.

5.4 HCRW volumes:

In response to a concern raised about the vast volumes of HCRW being generated in various Health Care Institutions in townships where appropriate monitoring and control is not undertaken, it was pointed out that the purpose of this project is primarily to not to address the medium to long term problems in a sustainable manner, whereas the short term crisis may be addressed via the DKK 4.0 million allocated for short term improvements.

5.5 Responsible HCRW management by waste transport companies:

In response to another concern raised regarding the HCRW that is transported to areas other than approved HCRW treatment facilities for illegal dumping, it was indicated that it is envisaged that a Waste Information System (WIS) will be introduced, that may include a HCRW tracking system with bar codes or even transponder tags. By scanning containers at both ends, a comparison can be drawn between waste volumes at the health care facility with that recorded at licensed treatment facilities. This would make it possible to control the flow of waste and to take informed management decision when there are discrepancies. A Manifest System may also be introduced as an alternative to a full-scale HCRW tracking system and although this system may not be the most effective system, it may address the problems in the short term until such time that a more comprehensive system is introduced.

5.6 Reporting requirements:

It was indicated that there are certain reporting requirements that are to be adhered to in terms of the National Waste Management Strategy, and DACEL will be responsible to ensure that the reporting is done on an ongoing basis.

6. HCW MANAGEMENT PILOT PROJECTS:

The CTA reported that negotiations and discussions with the Environmental Capacity Building have been taking place regarding Training and Awareness issues, as that will form an integral part of the HCW management pilot projects.

The Pilot projects would be implemented at certain hospitals, inter alia with the intention to develop generic as well as certain specific training and awareness material that can assist in capacity building amongst HCW workers. In addition to the testing of training and awareness material, the pilot projects will further be used to test and ultimately adjust the guidelines and specifications (where required) that were developed for the project. The HCWIS is the third major component of the project that will be tested.

It is at this stage envisaged that 2 hospitals will be selected for execution of the pilot projects. Although a suggestion was made that the Pilot Projects be carried out towards the end of the project, it was pointed out that there is a limited timeframe within which the pilot projects are to be undertaken, as the overall project period of only 2 years makes it difficult to change the time for implementation of the pilot projects. The facilities identified for the pilot projects should have the required resources to undertake the pilot projects, whilst at the same time being able to provide assistance in the ongoing monitoring and adjustment of the pilot project, and by moving forward in the program, this would mean that guidelines are developed with Health Care Waste workers..

With the capacity building and awareness activities forming an integral part of the pilot projects, it was expected to be carried out by DEAT's Environmental Capacity Building Unit (ECBU). Hence, only limited funds were allocated for this in the Gauteng Health Care Waste Management Project. It is estimated that ±R600 000 – R800 000 will be required for the capacity building and awareness activities and it is proposed that such funds be made available by DANCED through the ECBU. A preliminary meeting with the CTA of the ECBU has revealed that the ECBU does not have any funds allocated for the Health Care Waste Management project and that all available funds have been allocated by the ECBU already, which will require that alternative source of funding be identified through discussions between DACEL and the ECBU.

7. STUDY TOUR:

It is envisaged that a study tour be undertaken to investigate alternative HCRW Management technologies applied in other countries and for PSC members to get a common understanding of the relevant matters. The source of funding for such a study tour is still to be identified, after which the matter will be referred back to the PSC for approval. Part of the proposal should be the reporting system that is to be implemented to ensure capacitating of the PSC members not attending the study tour.

8. PSC MANDATE:

The PSC Mandate was agreed to be as follows:

- Possible amendment of the PSC Members;
- Agreement on frequency of PSC Meeting and setting of dates;
- Agreement on commenting procedures for PSC Members;
- Approval of Procedures Manual;
- Approval of Inception Report;
- Approval of biannual Progress Reports;
- Approval of other project reports and outputs;
- General project guidance and co-ordination

It is however to be noted that the PSC will not have executive powers, as certain aspects may require DANCED's final approval after a recommendation was put forward by the PSC. Only once approved by DANCED can such items be implemented.

9. REPORTING:

The following main reports are expected:

- Procedures Manual, July 2001;
- Inception Report, July 2001;
- Progress Reports (every 6 months);
- Framework HCWM Strategy & Action Plan, July 2001;
- HCW Information System, Jan. 2002 + Dec. 2002;
- Feasibility Study Report, December 2001;
- Final Integrated HCWM Strategy and Action Plan, April 2002;
- HCWM Guidelines, April 2002 + April 2003;
- Pilot Project Feedback Report, January 2003;
- Technical Specifications and Tender Documents, January 2003;
- Institutional Agreements, February 2002 + continuously;
- DEAT/ECBU Awareness and Capacity Building Plan, January 2002.

It was agreed that PSC members will respond on documents submitted for comments according to the following procedure. Comments must be submitted in writing *(e-mail/fax/letter):*

i) Within one week for documents less than 30 pages;

ii) Within two weeks for documents larger than 30 pages (unless otherwise agreed at the PSC Meetings).

Major reports will firstly be presented to the Project Steering Committee members for possible amendments and approval before finalisation.

10. NEXT MEETING:

The next meeting will be held at the Diamond corner, second floor at 10:00 and the date will be confirmed with the PSC members once the new PSC members have been invited to participate on the PSC. During that meeting the dates for the remaining quarterly PSC meetings will be agreed upon.

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference *TOK 01-05-17 Minutes of PMG 001 Ver 3*
Date:
Telephone: (011) 355-1937
Enquiries: Stompie Darmas

MINUTES OF MEETING

Job	1459103
Subject	Project Management Meeting
Date and location	Board Room 17th Glencairn Building, 2001-05-17
Meeting No.	PMG001
Taken by	Torben Kristiansen
Participants	• Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - Project Secretary - stompied@gpg.gov.za • Sydney Nkosi - DACEL - Sydneyn@gpg.gov.za
Absent	None
Copy to	Participants and All PMG Members • Mr Madlala – GALA - Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - Fancis@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	2001-05-22, 13:00

Sustainable Health Care Waste Management in Gauteng

With support from: **implemented in partnership with:**

1. GENERAL ITEMS

ACTION

1.1 Office Practicalities

Computers

The computers for the CTA, Project Secretary and Short-term Staff are as of 2001-05-17 in full working order with all programs and email in place. **Noted**

Telephones

Four dedicated telephone lines are required (CTA, Project Secretary, Short-term staff and fax) has not been provided yet. The Project Secretary will continue to contact Sandy P. concerning this. **SD**

It was agreed - *that the Project Secretary should draft a memo requesting opening for the possibility of telephoning abroad for the Project.* **SD**

Permanent Office Facilities

The current temporary office facilities in the open plan are not facilitating the consultants work as regards to meetings etc. Hence, the Consultants will make use of the short-term house at 13 Kerry Rd, Parkview, for internal meetings where DACEL staff is not attending, as this is currently the most suitable place in terms of privacy and possibilities of having meeting facilities combined with individual workspaces. **DF**

Dee Fischer will inquire as to the availability of the planned permanent office facilities at the 15th floor of the Glencairn Building. At the moment a final availability date is unknown. However, as the builders have not commenced the offices are not assumed to be available before the middle of June 2001. **DF, SD**

Dee Fischer informed that the boardroom on the 17th floor can be used by the project when needed in the absence of the permanent offices and that the Project Secretary can prepare a draft memo from Dr. Rama to Lawrence Badenhorst regarding a permit to use the board room at the 17th floor. **SD, DF**

Filing and Management of Documents

It was agreed - *to ask the Project Secretary to present the filing and management system for the project file at the coming Project Management Meeting Tuesday 2001-05-22.* **Noted**

The following procedures have been agreed:

- The Project Secretary will maintain the complete project file that will also serve as the DACEL file. When the project ends Rambøll will take necessary copies and the complete project file will remain for DACEL's reference.
- All documents produced must be submitted to the Project Secretary for filing.

- An electronic archive has been created on the network called StompieD. In this archive separate sub-folders for each person etc. has been established where all electronic documents regarding the Project must be filed.

- A particular reference system for all electronic documents must be used for all project-related documents. The format is as follows: {NNN} {yy-mm-dd} {type of document} {brief description}. For example for this document: "TOK 01-05-17 Minutes Proj Management Dacel.doc". **DF**

Project Letterhead

The CTA has submitted a set of proposed letterheads for commenting to Dee Fischer. Dee Fischer informed that these have been forwarded to Dr. D. Rama for further commenting.

2. INTERNAL AND EXTERNAL REPORTING PROCEDURES ETC.

Torben Kristiansen expressed concerns that DACEL may be requesting unnecessary control over day-to-day project management procedures and that this may lead to time-consuming procedures for approval of daily activities.

Torben Kristiansen appreciates that DACEL is very strongly committed to the success of the project, but feels that the consultants should have the possibility of meeting Project Steering Committee members as well as arrange visits to private hospitals on their own initiative.

Dee Fischer informed that DACEL needs to be informed of all project activities and that DACEL wishes to be consulted before any meetings are arranged, in particular with other government departments, as the usual DACEL lines of communication and procedures must be followed for such activities. For this reason, DACEL procedures are important for example to conduct the planned visits to provincial hospitals and clinics. Regarding, the planning of visits to private hospitals and clinics, DACEL wishes to review the list of proposed facilities to be visited to ensure that representative facilities are visited and that the methodology is appropriate. **TK**

It was agreed - *that the CTA would submit a short-list of proposed private health care facilities to be visited for DACEL's approval.*

There has been no response to the letters sent from the HOD to DACEL addressed to the HOD of the Department of Health regarding the appointment of a DoH representative to arrange and identify provincial facilities to be visited.

Dee Fischer informed the meeting that when consultants are employed by government departments, it is not customary for DACEL to accept a meeting with the consultants unless their clients are also present. Hence, DACEL would normally expect to be present when the Consultants meet other government departments, or a meeting should be arranged via an official communication from DACEL to the relevant government departments.

Dee Fischer explained that DACEL is responsible for the co-ordination of the Health Care Waste Management Project.

It was agreed *- that weekly Project Management Meetings will be held with the participation of Dee Fischer, Sydney Nkosi and Torben Kristiansen. In addition Dr. Rama will be welcome to attend all meetings possible, as well as Kobus Otto when required.*

Signatures for Project Communications

Dee Fischer suggested that a memo be drafted to the HOD regarding the proposed use of signatures for various project communications. Usually, senior person of similar or a higher rank than the recipient signs all official letters from DACEL, for example letters to other government departments. **DF**

3. PROJECT MANAGEMENT GROUP AND STEERING COMMITTEE

Because past experience has shown that Project Management Groups with many members only with difficulty can conduct frequent meetings, it was agreed to recommend to the Steering Committee Meeting that the Project Management Group should meet weekly and that the permanent members should be as indicated in the project document, however, with the understanding that only the DACEL staff and the CTA shall participate in all meetings whereas other members will receive minutes of all meetings, but only invited to participate in meetings when relevant. **ALL**

It was agreed *- to that the following and possibly more issues should be presented for the Project Steering Committee Meeting on 30th of May 2001:*

- Adjustment of the procedures for Project Management Group
- Commenting and feedback mechanisms of written documents by PSC members
- The possibility of a HCWM Study Tour to be included in the project's scope of work
- Meeting Frequency of the PSC to be every second month
- Change of input between SA legal specialist and SA economist

The possibility of introducing the Occupational Safety and Health Section of the DoH in the PSC was discussed. During Phase 1 of the Project DoH was represented by the Environmental Health Section only. The possibility of DoH to be represented by both the OSH and the Environmental Health leg was discussed and it is suggested that both legs should preferably be represented. Dee Fischer suggested that letters to both the National and the Gauteng DoH should be drafted addressing this possibility. **DF**

It was agreed - *that the CTA will prepare a draft of two such letters. Furthermore, it was agreed that Dee Fischer will draft a Memorandum of Understanding that addresses the co-operation of DoH and DACEL concerning the HCWM Project.* **SN**

to invite the Environmental Capacity Building Unit (ECBU) in DEAT to participate in the PSC. Furthermore, it was discussed that the special Working Group II that is following the implementation of the ECBU project must address the need for allocating ECBU funds for the HCWM Project. Dr. Rama is represented in the Working Group II and he should be encouraged to raise this issue. **DF, SN, TK** **TK**

- *that Sydney Nkosi will follow-up on the participation of Business SA in the PSC as well as the participation of SANGO.*

- *that presentations for the coming PSC will be circulated for commenting the 28th of May between Dee Fischer, Sydney Nkosi and Torben Kristiansen.*

- *that the CTA will prepare a brief list of expected issues and decisions to be made at the PSC Meeting for the DACEL Chairperson Joanne Yavich.*

4. SELECTION OF REMAINING SA CONSULTANTS

It was agreed - *that the CTA will confer with Peter Jonson of DANCED regarding the possibilities of introducing adjustments of the SA consultants' input when deemed necessary by the CTA*

- *that the input of the SA legal specialist should be reduced and that the input of the SA economist should be increased accordingly.*

Furthermore, it was agreed *that the input of nine person months for the Waste Handling Specialist should be reduced and that reduction should be kept as a reserve.*

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Furthermore, it was agreed *that if possible some positions for SA consultants could be combined in one person provided that this person posses the necessary skills and capacity.*

It was agreed - *that the remaining SA consultants can be chosen based on the existing expressions of interests etc. and that the CTA will prepare a shortlist of two candidates for each position to be submitted to Dee Fischer and Sydney Nkosi* **TK**

5. SABS CODE FOR HCWM

Torben Kristiansen raised the issue of the ongoing initiate for establishing a SABS code for HCWM and the possibility of the CTA to be represented in the SABS Committee.

ALL

It was agreed - *that the CTA will draft a letter to the SABS regarding the representation of DACEL in the committee including forwarding of the Status Quo report and information on the Gauteng HCWM Project.*

TK

6. THE CONSULTANTS' WORK PROGRAMME FOR THE COMING WEEK

Torben Kristiansen informed about the consultants' programme as follows:

- The Strategic Planners are drafting an outline of the HCWM Strategy for the purpose of facilitating internal DACEL discussions on the methodology, visions, targets and table of contents of the strategy.
- The CTA is drafting the Procedures Manual that among others describes lines of communication and similar instructions to the project staff **TK**
- A demonstration of the GIS system for HCWM, database and the financial modelling is being scheduled for early next week.
- A meeting with Thebe Pule of National DoH is scheduled for the 23rd of May at 12:00.
- The CTA plan to meets with Margot Nielsen of the ECBU to discuss the co-ordination with the ECBU and the availability of ECBU resources for the HCWM Project.

It was agreed - *that demonstration of GIS and models prepared during Phase should take place at DACEL and that DACEL staff would like to participate in this. The GIS system delivered by Phase 1 is no longer operational at DACEL as the software on computer where the GIS system and database was installed has had all software replaced. Hence, the entire system and database must be brought to DACEL for the presentation. DACEL has been seeking to contact Linda Godfrey several times to rectify this situation. A boardroom at Diamond Corner can be ordered via Claudia Zwane for the meeting.*

7. POSSIBLE SHORT-TERM IMPROVEMENT PILOT PROJECT

During the visit at the Leratong Hospital a well functioning waste management system was in general observed and the personnel, in particular the infection co ntrol committee and occupational health and safety committee appears to be very committed and capable. However, it was clear that the incinerator was not operated properly and that the operation staff does not have the necessary training in operating the incinerator.

It appears that the improved operation of the existing equipment may result in a considerable reduction in the emission of black smoke, and the a possible retrofitting of temperature gauges and introduction of sound operating procedures including suitable warm-up and cool-down periods without waste feed combined with planned feeding procedures and improvement of the OSH conditions may result in considerable environmental and occupational improvements. **TK**

If managed properly, and possibly retrofitted with simple temperature gauges and correct usage of the support burners the incinerator would probably environmentally similar to the current off-site incinerators used by the contractor Skip Waste (Johannesburg Metro or EnviroServ). However, the hospital has taken a decision to close the on-site incinerator due to environmental problems and fact that the current costs of diesel etc. is expected to be similar to the cost of off-site treatment.

Torben Kristiansen proposed the idea of introducing a pilot project for upgrading existing two-chamber incinerators by means of:

- Introducing sound operational procedures, including training of operators (Training Programme and Operations Manual)
- Retrofitting of manual temperature gauges in both chambers
- Repair/adjustment of primary and secondary burners
- Establishment of a flue gas sampling point in the stack
- Possible extension of the stack (if required)
- Introduction of warm-up and cool-down periods without waste feed.
- Introduction of an operations log, where the operator notes temperature readings and feeding frequencies/amounts every 30 minutes

- Before and after testing of the flue gas emissions of: i) particulate matter, ii) CO, iii) O_2, iv) TOC, and v) Temperature
- Before and after testing of bottom ash: i) ignition loss

It is assumed that such a pilot project could result in a considerable improvement of the environmental impact at a modest cost and that this could scale the provincial level to estimate the possible cost and environmental effect of a province-wide upgrading of suitable two-chamber incinerators. At this stage it is assumed that the hardware cost would be in the range of R25-60,000. In addition to this there would be costs of analyses and reporting as well as possible consultancy fees for planning, training and follow up. In total the cost could be in the magnitude of R150-250,000 based on rough estimates that must to be detailed and verified before any decisions can be made.

It was agreed that this concept of pilot testing of upgrading of two chamber incinerators is very interesting and that it should be investigated further. However, it was discussed that it must be clear that any upgrading would be to mitigate environmental impacts in the intermediate period only as on-site incinerators without flue gas cleaning system cannot be accepted in the medium to long-term. Hence, up graded incinerators should be accepted only for a limited period as defined in the integrated HCWM Strategy that will be developed.

The possibility for intervention for a possible stay of the Leratong Incinerator was discussed.

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference	SD 01-05-22 Minutesof PMG 002 VER01
Date:	
Telephone:	(011) 355-1937
Enquiries:	Stompie Darmas

MINUTES OF MEETING

Job	1459103
Subject	Project Management Meeting
Date and location	Ms Dee Fischer's office : 22 May 2001
Meeting No.	PMG 002
Taken by	Stompie Darmas
Participants	• Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - Project Secretary - stompied@gpg.gov.za • Sydney Nkosi - DACEL - Sydneyn@gpg.gov.za
Absent	None
Copy to	Participants and All PMG Members • Mr Madlala – GALA - Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - Fancis@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	2001-05-29 09:00

Sustainable Health Care Waste Management in Gauteng

1. OPENING

ACTION

The CTA was delegated to chair the meeting.

1.1 Site Visits

The CTA informed the meeting that he and Mr Otto would be going to the Rietfontein incinerator plant and the Holfontein Hazardous Landfill after the meeting. **Noted**

1.2 Weekly meetings

It was agreed *that Project Management Meetings would be held every Tuesday Morning at 09:00.*

Noted

that weekly meetings would be the best way to ensure communication between Consultants and DACEL Project Management.

1.3 Telephones

SD

Still pending. Sandy has sent a fax to Dimension-Data regarding the installation of three extra telephone lines for The CTA, Niels and a fax. Stompie is following up.

1.4 Computer Cables

The network cable connecting Niel's computer is fixed and the computer is now in full operation.

1.5 Business Cards

Ms Dee Fischer to find out whether the CTA should arrange his own business cards, or whether GPG will organise them for him. A draft GPG card was presented for discussion. **DF**

2. INTERNAL AND EXTERNAL REPORTING PROCEDURES ETC.

2.1 Reporting

Ms Dee Fischer highlighted that the DACEL reporting system should be followed from the beginning of the project to the end. Problems should also be addressed immediately after being identified. **Noted**

Mr Kobus Otto and the CTA expressed concern about time by implementation of the project activities in case consultation with DACEL Project Management is required for all activities.

2.2 Reporting Procedures

Planning and progress reporting would be done at the weekly meetings. **Noted**

4. PROJECT MANAGEMENT GROUP AND STEERING COMMITTEE

A concern arose from the meeting regarding the number of people taking part in the Steering Committee.

It was agreed *that a list of the current Steering Committee members be forwarded to Ms Dee Fischer so that the list should be discussed and finalised a.s.a.p.*

Ms Dee Fischer informed the meeting that the final Steering Committee list is still to be proposed. In order to finalise this list, invitations to add Steering Committee members should be done immediately. The current list should also be revisited. A list of names should be submitted at the next meeting for the new people to be incorporated.

4.1 Involvement of other Health Institutions/PSC

Mr Kobus Otto highlighted that in order to get more control on private practitioners, the Health Professional Council of South Africa (HPCSA) should also be involved.

4.2 Copies of the Project Document

Copies of the Project document should be sent to new nominated people who will sit in the Steering Committee Meetings

Ms Dee Fischer to check whether she does not have a copy of the project document before requesting for a copy from Albert. **DF**

5. RESOURCES AND TRAINING NEEDED FOR THE CAPACITY BUILDING AND TRAINING

The CTA highlighted that the following needs should be looked into.

i) Discuss and establish a working group
ii) Training needs of service providers
iii) A needs assessment to be drawn
iv) Exact achievement of the awareness
v) Waste collection of staff
vi) How to run incinerators
vii) Posters – Must have high visibility, to be distributed to the different Health
viii) Department
ix) Generic Codes of practice and Generic Guidelines
x) A code of practice accessible for facilities' needs must be drafted by the staff at the facilities
xi) Interaction to make sure that things are done correctly because there are different requirements for different systems used.

The CTA will meet with Ms Margot Nielsen of the ECBU to discuss the co-ordination and funding of the capacity building and training activities. **TK**

6. PILOT PROJECT

Mr Kobus Otto advised that focus should be put for the pilot project.

It was agreed *that a discussion be held to look into the possibilities for co-operation with the ECBU capacity building before any action could be taken.*

Linda Godfrey to be contacted for alternative presentation dates. Mr Kobus Otto to get a contact telephone for Linda Godfrey. **KO**

7. PHASING OUT OF INCINERATOR PLANTS

It was agreed that the CTA drafts a letter to the Department of Transport, addressed for Mr Eksteen's attention. **TK, SD**

Ms Dee Fischer explained that the incinerators at Transport do not meet the current standards and that the requirements on the code document specify the needs and standards of incinerators. The following points should be highlighted in the letter.

- Clarity is needed whether the units at transport will be upgraded or phased out.
- Identify whether they have any plans to close down some incinerators.

Ms Dee Fischer to discuss the Department of Transport consultation with Dr Rama.

Mr Kobus Otto should inquire about the status of the emission standards referred to by Dave Baldwin. Mr Otto further suggested that the project should draw up its own standards for Gauteng, and that it would be good to have the legislation. **KO**

Mr Otto further advised that there was a need to empower, train or guide emerging contractors because many contractors have no experience when entering the market. His main concern was that contractors should be conscientious and efficient in order to balance the market so that they can be in a survival mode. There is a need to support contractors and strategically it can be addressed. He further stated that the Consultant chosen for training should not be a South African

The CTA raised a concern about the resources that would be needed for this responsibility.

Ms Dee Fischer raised a concern of taking on new activities that the project was not tasked to do.

8. SABS CODE FOR HCWM

The CTA to draft a letter to SABS and the letter should indicate that SABS be encouraged to input into the Health Care Waste Management project and the experience from the DACEL project should be incorporated into a possible final SABS code.

The contact person at SABS was Mr Appleton who has currently resigned from his position.

9. THE CONSULTANTS' WORK PROGRAMME FOR THE COMING WEEK

The CTA informed the meeting about the consultants' programme as follows:

- The CTA plans to meet with Margot Nielsen of the ECBU to discuss the co-ordination with the ECBU and the availability of ECBU resources for the HCWM Project.
- The CTA will visit the Rietfontein incinerator plant and Holfontein Hazardous Landfill
- The draft for Strategy to be discussed by NB, TK and KO and a copy will be given to Ms Dee Fischer early next week for commenting.
- Mr Kobus Otto promised to e-mail a copy of the legislations when he gets to his office **KO**
- The CTA is still busy with the draft Procedures Manual that among others describes lines of communication and similar instructions to the project staff **TK**
- A demonstration of the GIS system for HCWM, database and the financial modelling was being scheduled for early next week after Linda Godfrey's return. **KO**
- A meeting with Thebe Pule of National DoH is scheduled for the 23rd of May at 12:00. Mr Kobus Otto to attend.

10. GENERAL

Ms Dee Fischer informed the meeting that she received an e-mail from Mr Joe Watson of the UK.

Mr Watson is planning to visit Johannesburg on 18 June 2001 to assess the Clinical Waste Market in South Africa with a view to find a suitable partner to develop a Clinical Waste business based on the Head Disinfection Technology.

He wishes to discuss the Clinical waste market from a Provincial Government and Environmental/legal perspective.

A suggestion was made that Mr Watson is sent to Deat on arrival and that he should also be sent to National Health Department. Ms Dee Fischer should also request from Mr Watson via e-mail for the UK Health Manual, brochures and information about the UK coding system. **DF**

The CTA requested that Mr Watson also be introduced to him. Ms Dee Fischer suggested that a meeting be scheduled with Mr Watson for the 20th of June 2001, she will inform everybody involved about the time of the meeting.

10.1 Colour coding system of Dustbins and plastic bags

This is a National issue. Kobus suggested that the hospitals must stick to yellow dustbin bags as a standard colour to be used for public awareness. This will send a clear message to people as they will be aware of the danger of the contents. The thickness of the bag was also highlighted as a concern.

Ms Dee Fischer suggested that large wheeled bins be used in order to move away from people physically holding bins or boxes. This action would be the best personal safety.

The meeting adjourned at 15:30

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference	*SD 01-06-12 Minutes of PMG 003 Ver 01*
Date:	
Telephone:	(011) 355-1937
Enquiries:	Stompie Darmas

MINUTES OF MEETING

Job	Sustainable Health Care Waste Management
Subject	Project Management Group (PMG)
Date and location	12 June 2001 16th Floor, Glencain Building, Dee Fischer's office
Meeting No.	PMG 003
Taken by	Stompie Darmas
Participants	• Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - Project Secretary - stompied@gpg.gov.za
Apologies	Sydney Nkosi
Copy to	Participants and All PMG Members • Mr Madlala – GALA - Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - Fancis@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	19 June 2001

Sustainable Health Care Waste Management in Gauteng

AGENDA **ACTION**

1. **THE NEW VERSION OF THE STRATEGY DOCUMENT**
2. **NEW OFFICE SPACE**
3. **EXTRA TELEPHONE LINES**
4. **BUSINESS CARDS APPLICATION**
5. **SELECTION OF THE REMAINING SA CONSULTANTS**
6. **HOSPITAL VISITS**
7. **DISCUSSION WITH THE HPCSA OFFICIAL**
8. **MEETING WITH MR T PULE (NATIONAL DEPT OF HEALTH)**
9. **PSC MINUTES**
10. **DRAFT SABS CODE FOR HCWM**

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1. THE NEW VERSION OF THE STRATEGY DOCUMENT

The CTA promised that the HCWM policy document would be out within the inception period (*end July*). The CTA and DF to discuss the structure of the policy document before finalising it.

2. NEW OFFICE SPACE

It was agreed that *DF to confirm the exact date for moving to the new offices on the 15th floor, and she would also find out what were the procedures for moving.* **TK,DF**

3. EXTRA TELEPHONE LINES

Extra cables to be installed in Stompie's office for the computer and telephone of the consultant. **DF**
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4. TELEPHONES

Sandy promised that the requested telephone lines would be installed before the end of the day (12 June 2001) and that no problems would be experienced with telephone lines for the move to the new office space. The ceiling amount for the unbarring of international connection to be discussed and confirmed with Sandy . **SD, TK**

5. BUSINESS CARDS APPLICATION

A formal request was sent through to Communications Department. The CTA's new telephone number and fax to be forwarded to Communications Department. A DACEL business card for the CTA has been approved. **SD**

6. SELECTION OF THE REMAINING SA CONSULTANTS

DF suggested that perhaps two legal Specialist(s) would be required.

- One of these two candidates must also have extensive experience in company law in order to assist with information on what is acceptable in terms of the Licensing System, whereby it would be possible to control the capacity/plants for current resources available.

- The input should also be looked into, so as the input for the legal consultant may have to be increased.

It was agreed *that the new consultants should be employed before the inception period and that first priority would be to hire the legal Specialist(s)*

These Specialist(s) should be able to establish procedures which are in line with the requirements of the Tender Board.

HEALTH CARE WASTE MANAGEMENT POLICY DOCUMENT

- Policy document to be drafted urgently to highlight the gaps, and the following issues to be included as part of the policy document
- Tender rules to be established
- Establishment of Waste Management Regulations to control Provincial Hospitals
- PDI requirements
- Legislation possibilities
- Regulations to be set for transporters of waste
- Government may want to keep a record of Hazardous Waste and Health Care Risk Waste entering and leaving the Province.

- Implementation of Regional Waste Management feasibility study to be done to develop local government plans.
- A needs analysis to be done for the different types of treatment facilities in the Different areas.
- Ownership for plants and facilities should be addressed.

7. HOSPITAL VISITS

Hospital visitation was set for Helen Joseph Hospital. Date and time to be confirmed by Dr Rama.

The CTA raised a concern about the lack of response from letters sent out to establish the institutional arrangements and suggested a personal contact and bilateral meetings be considered also.

8. DISCUSSION WITH THE HPCSA OFFICIAL

The Consultants has had a brief discussion with Mr Johann Coetzer, the Senior Manager of the Health Professions Council of South Africa. Mr Coetzer advised that it would be wise to make Mr Pule part of the PSC as he can have a great input in the success running of the project, and as the minor generators (GP's etc) would be monitored this way. The possibility of establishing a register of the physical addresses of all minor HCRW generators via the HPCSA was discussed instead of the current practise of recording P O Boxes etc. **TK**

9. MEETING WITH MR PULE

Mr Thebe Pule has asked for a meeting with the Consultants to discuss general project issues. Meeting set for 12:00 on 13 June 2001. **TK**

10. PSC MINUTES

The final list of Steering Committee list of members to be finalised. SD to sent out letters to the following organisations – *SANGOGO, SA Business and NEHAWU.* **SD**

The new details of the SANCO representative to be recorded and the New candidate from the Department of Health to be verified and recorded. **SD**

Minutes of the PSC to be discussed and distributed to all current members. **TK, DF**

11. DRAFT SABS CODE FOR HCWM

The SABS Code for HCWM has been halted, and a request for suggestions for the process of finalising the codes has been sent out. DACEL will sent a recommendation to the SABS possibly suggesting that the SABS sits in on the PSC meetings to allow for incorporation of the Gauteng experience in the future SABS code.

The meeting adjourned at 12:00.

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference	*SD 01-06-18 Minutes of PMG 004 Ver 01*
Date:	
Telephone:	(011) 355-1937
Enquiries:	Stompie Darmas

MINUTES OF MEETING

Job	Sustainable Health Care Waste Management
Subject	Project Management Group (PMG)
Date and location	18 June 2001 16th Floor, Glencain Building, Dee Fischer's office
Meeting No.	PMG 004
Taken by	Stompie Darmas
Participants	Dee Fischer, Torben Kristiansen, Stompie Darmas, Sydney Nkosi
Apologies	None
Copy to All Present	**PMG MEMBERS** • Mr Sydney Nkosi – DACEL - SydneyNK@gpg.gov.za • Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen – DACEL (CTA) torbenK@gpg.gov.za ~~~00~~~ • Mr Madlala – GALA - Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - Fancis@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	26 June 2001 at 15:00

Sustainable Health Care Waste Management in Gauteng

AGENDA

ACTION

1. MATTERS ARISING FROM PREVIOUS MINUTES

1.1 BUSINESS CARDS APPLICATION

1.2 ID CARDS

1.3 EXTRA TELEPHONE LINES

1.4 MINUTES OF THE PSC MEETING

1.5 SABS DRAFT CODE FOR HCWM

1.6 SELECTION OF THE REMAINING SA CONSULTANTS

2. INTERNAL WORKSHOP

3. PILOT PROJECTS

4. GENERAL ITEMS

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1. MATTERS ARISING FROM PREVIOUS MINUTES

1.1 BUSINESS CARDS APPLICATION

Still pending -Stompie to follow up and make sure that the Communications Department provides the CTA with new telephone and fax numbers. **SD**

1.2 ID CARDS

Still pending -Stompie to follow up. **SD**

1.3 EXTRA TELEPHONE LINES

Still pending - Stompie to follow up. Wait for move to new offices. **SD**

1.4 MINUTES OF THE PSC MEETING

Ms D Fischer to work on Mr K Otto's amendments and finalise **DF**
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1.5 SABS DRAFT CODE FOR HCWM

Letter already sent through to SABS to invite one representative to PSC meetings for input in the Strategy development.

1.6 SELECTION OF THE REMAINING SA CONSULTANTS

It was agreed that a decision be taken a.s.a.p for the appointment of the currently needed consultants , in particular the legal specialist(s). The CTA to contact the ECBU re the pre-qualified consultants. **TK**

2. INTERNAL WORKSHOP

It was agreed that *an internal workshop be organised to discuss the project priorities, short and long term improvements etc.*

A date and venue to be discussed with Dr Rama. The workshop to take place in early July so that the outcome can be included in the inception report. **DF**

The CTA to draft an Agenda for the Internal workshop

3. PILOT PROJECTS **TK**

The following points to be attended to regarding Pilot Projects

- Facilities to be used as pilot projects to be identified
- Guidelines to be developed.
- The possibility of introducing and supplying tall sharp containers for long sharps to be looked into.
- Performance criteria for conditions of containers to be set, monitored, and regularly checked.
- A needs analysis to be identified through working groups chosen from the hospital staff.
- The inception report to indicate what procedures to be followed in the running of Pilot Projects.

4. GENERAL ITEMS

4.1 STUDY TOUR

A limited study tour to be reviewed in the inception report.

4.2 CAPACITY BUILDING AND AWARENESS (CB&A)

The CTA has had further discussions with the CTA of the ECBU project located at DEAT regarding the funding and carrying out of the CB&A activities.

The CTA suggested that possible ways to include the CB&A activities in the HCWM project be investigated, as it appears likely that the ECBU will not be able to carry out their activity timely due to the current lack of ECBU funds. This activity is likely to be delayed as it is, hence, the CTA suggested that this be funded through the HCWM project via either

1) additional DANCED funds or
2) allocation of part of the contingencies

Dee Fischer suggested that all possibilities, including possible ways of getting ECBU funds be investigated at this stage.

Meeting adjourned at 16:30

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference: SD 01-06-26 Minutes of PMG 005 VER 01
Telephone: (011) 355-1673
Enquiries: Stompie Darmas

MINUTES OF MEETING

Job	1459103
Subject	Project Management Meeting
Date and location	26 June 2001, Dee Fischer's Office, 15th Floor, Glencain
Meeting No.	PMG 005
Taken by	Stompie Darmas
Participants	• Mr Sydney Nkosi – DACEL - SydneyNK@gpg.gov.za • Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - stompied@gpg.gov.za
Absent	None
Copy to	Participants and All PMG Members • Mr Madlala – GALA - Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - Fancis@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	2001-06-31, 09:00

MATTERS ARISING FROM PREVIOUS MINUTES

ACTION

1. PSC MINUTES

Comments to be submitted before the end of the week. **DF**

1.1 Policy Document

To be discussed and finalised. Comments needed on the structure of the Strategy **DF,SN**

1.2 Inception Report

Draft ready for comments. Final version shall be submitted end July. Cost estimates and activities of the Internal workshop to be included in the inception report. **DF, SN,TK**

The project budget to be discussed and indicated in the inception report **DF,TK**

2. Selection of Remaining SA Consultants

Interview appointments to be arranged with the legal specialists. DF and SN to give the CTA suitable dates and times for first week of July. **DF,SN**

The remaining outstanding vacancies will remain pending until August.

3. Internal Workshop

All consultants appointed to attend for input. Workshop date to be finalised with Dr Rama. An amount of R137 000,00 is available from the DACEL budget for workshops. ± 25 people can be invited to attend these workshops. 10 Workshops were anticipated and budgeted for. **DF**

This amount to be used to cater for the food, venue and facilitator. **DF**

4. MEETINGS

- A meeting proposal to be sent to ECBU and DANCED for discussion of funds for capacity building component of the project.
- A meeting to be proposed with the Department of Health for possible discussion on visitation at facilities. **DF**
- A meeting to be set for the discussion of the MOU at Provincial and National level before sending out the document for signature. **SD**

5. OFFICE MATTERS

Unbarring of the CTA's telephone
Matter to be discussed with Sandy

Furniture arrangements
DF to check what furniture arrangement were made for the CTA.

Locking of offices
Current locks not working. SD to arrange with Admin office to check the locks.

The meeting adjourned at 13:30

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference: SD 01-06-03 Minutes of PMG 006 VER 01
Telephone: (011) 355-1673
Enquiries: Stompie Darmas

MINUTES OF MEETING

Job	1459103
Subject	Project Management Meeting
Date and location	03 July 2001, Dee Fischer's Office, 15th Floor, Glencain
Meeting No.	PMG 006
Taken by	Stompie Darmas
Participants	• Mr Sydney Nkosi – DACEL - SydneyNK@gpg.gov.za • Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - stompied@gpg.gov.za
Absent	None
Copy to	Participants and All PMG Members • Mr Madlala – GALA - Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - Fancis@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	2001-07-10, 09:00

MATTERS ARISING FROM PREVIOUS MINUTES

ACTION

1. PSC MINUTES

Minutes finalised and ready for distribution. **Noted**

1.1 Policy Document

The CTA to finalise draft for discussion. **TK**

1.3 Inception Report

DF accountable for the inception report. Inception report to be available for discussion at the Internal workshop. **DF, SN,TK**

2. SELECTION OF REMAINING SA CONSULTANTS

Interview dates and times set for 4 and 5 July 2001. **DF,TK**

The legal specialist to be appointed should be able to:
i. advise on waste imported into Gauteng
ii. finalise the policy document

3. INTERNAL WORKSHOP

It was agreed that the 10th Jul, 13th Jul or 16th July are possible dates and the venue be proposed with Dr Rama for the internal workshop. **DF,SN**

A PMG workshop should follow the internal waste system.

4. MEETINGS

- A meeting proposal to be sent to ECBU and DANCED for discussion of funds for capacity building component of the project. Sidney to draft a memo in this regard.
- A meeting to be proposed with the Department of Health for possible discussion on visitation at facilities. Sidney to draft a letter to the MEC regarding the meeting proposal. **SN**
- DF to contact consultants of phase 1 for proposal of fixing the Health Care Waste Information System **SN**

5. HOSPITAL VISITS

Due to each of institutional arrangements for visiting provisional hospitals the consultants will plan visits to private sector facilities only. The Dacel staff is welcome to participate in the visits when possible, and the CTA will advise DF and SN on hospital visitation plans.

Furniture arrangements
DF to follow up

6. GENERAL ITEMS

Incinerator manual
The current incinerator manual to form part of the recreated manual.

Short term improvements
The following short-term improvements could be looked into:

a) Bacteria monitoring
b) A waste management audit system to be put in place.

The meeting adjourned at 12:00

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference: SD 01-06-10 Minutes of PMG 007 VER 01
Telephone: (011) 355-1673
Enquiries: Stompie Darmas

MINUTES OF MEETING

Job	1459103
Subject	Project Management Meeting
Date and location	10 July 2001, Dee Fischer's Office, 15th Floor, Glencain
Meeting No.	PMG 007
Taken by	Stompie Darmas
Participants	• Mr Sydney Nkosi – DACEL - SydneyNK@gpg.gov.za • Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - Project Secretary - stompied@gpg.gov.za • Kobus Otto - jbotto@global.co.za
Absent	None
Copy to	Participants and All PMG Members • Mr Madlala – GALA -Mathildae@kempton.co.za • Ms Francis Masenya – Health Dept - francism@gpg.gov.za • Mr Albert Marumo – Health Dept - albertm@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za • Dr D Rama - DACEL - dhirajr@gpg.gov.za
Next meeting	2001-07-17, 09:00

MATTERS ARISING FROM PREVIOUS MINUTES

ACTION

1. FUTURE PSC MEETING DATES

It was agreed that dates for 2001 should be proposed now and dates for 2002 should be proposed in late November. Memo sent out to Dr Rama and Joanne Yarwich for approval of dates. **SD**

2. COMMENTS ON DOCUMENTS RECEIVED

The *draft Policy document*, *Strategy document*, *Inception Report*, *Procedures manual*, *Feasibility report* were discussed, and it was agreed that these documents would be commented on by DACEL.

i) Policy document

SN requested to be given time until the 16th of July for his comments on the policy document and DF promised to hand over her comments on the 11th of July. **DF/SN**

It was agreed *that* Focus be put on the policy document because this document will be used throughout the project.

The following points were highlighted :

- DF have prepared some notes for input for the policy document, but would still make comments on document presented
- SN to provide comments by 16th July.

ii) Strategy document

Comments on the format only required at this time.

iii) Inception report

- DF have prepared comments
- SN to provide comments by 16th

Completed DF/SN

iv) Pilot projects

TK raised a concern with respect to the delay on proposing pilot projects.

It was agreed that 2 weeks be given for response to the reminder letter sent to HOD of Health proposing for a representative to assist with visiting institutions.

Pilots to be identified for visits.

The following crematoriums should also be included on the list of facilities to be visited.

TK

a) Mooifontein
b) Germiston
c) Johannesburg

v) Procedures Manual

TK to send draft document to DF. **DF**

vi) Feasibility Report

Comments due by 16th July

3. SELECTION OF REMAINING SA CONSULTANTS

The CTA proposed that an Infection control (nurse) consultant from Denmark be used for the pilot projects guideline development. DF to discuss the CTA's proposal with Dr Rama.

Kobus suggested that students be used in monitoring progress at Pilot Projects as part of their practical studies. **KO**

KO to sent a proposal and follow-up.

4. INTERNAL WORKSHOP **DF**

The 20th of July at 07:30 to be confirmed with Dr Rama for the internal workshop.

The CTA suggested that a venue out of office premises also be discussed with Dr Rama. **SD**

DF suggested the Raandjies conference centre in the Westrand. SD to follow-up

Kobus advised that the internal workshop should be informal so that everybody could be given a chance to contribute.

5. MEETINGS

Sydney to arrange an MEC to MEC meeting with the Department of Health. **SN**

6. HOSPITAL VISITS

The possibility of visiting hospitals despite the missing response from the DoH was discussed. DF informed that the project can visit private health care facilities, crematoriums, treatment plants etc., but must wait with visits to provincial health care facilities until the DoH have participated in arranging such visits. **NOTED**

NOTED

It was agreed that the consultants can have meetings of technical nature only
With other project stakeholders, but meetings of institutional and political nature, must be arranged via the formal structures by DACEL.

7. GENERAL ITEMS

Standards and Guidelines

It was noted that this project does not intend to propose new emission standards, but would

a) require compliance with current requirements

b) Guidelines to be developed for monitoring non-burns.

Un-allocated time

It was agreed that the inception report would propose part of the 4 million DKK could be utilised for funding a HCW composition survey and the capacity building activities that the ECBU cannot deliver.

The meeting adjourned at 12:30

AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

Reference: SD 01-06-17 Minutes of PMG 008 VER 01
Telephone: (011) 355-1673
Enquiries: Stompie Darmas

MINUTES OF MEETING

Job 1459103

Subject Project Management Meeting

Date and location 17 July 2001, Torben Kristiansen's Office, 15th Floor, Glencain

Meeting No. 008

Taken by Stompie Darmas

Participants
- Ms Dee Fisher – DACEL - deef@gpg.gov.za
- Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za
- Stompie Darmas - Project Secretary - stompied@gpg.gov.za

Apologies
- Mr Sydney Nkosi – DACEL - SydneyNK@gpg.gov.za

Copy to Participants and All PMG Members
- Mr Madlala – GALA - Mathildae@kempton.co.za
- Ms Francis Masenya – Health Dept - francism@gpg.gov.za
- Mr Albert Marumo – Health Dept - albertm@gpg.gov.za
- Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za
- Dr D Rama - DACEL - dhirajr@gpg.gov.za
- Kobus Otto - jbotto@global.co.za

Next meeting 2001-07-24, 09:30

MATTERS ARISING FROM PREVIOUS MINUTES

ACTION

1. FUTURE PSC MEETING DATES

New suggested PSC meeting dates routed for approval.

Noted

2. CALL FOR ALL PMG MEMBERS TO ATTEND MEETING

It was agreed that all PMG members be invited to a PMG meeting on 24 July at 09:30.TK to sent out an invitation to all PMG members.

TK

vii) Policy document
Comments received, document to be revised by KO.

Completed

viii) Strategy document
TK to forward the updated document to DF. Comments are awaited on the structure of the document.

TK

ix) Inception report
- TK to send final draft document to Dr R, SN, DF by Thursday.

TK

x) Outline for feasibility report
Document to be further developed based on Dee's comments.

xi) Procedures Manual
TK to send final draft document to DF, Dr R, SN for comment.

3. SELECTION OF SA CONSULTANTS

SA consultants selected and the other two consultants to be selected further into contract period.

Kobus Otto	-	Strategic Planner
Linda Godfrey	-	Local HCWIS specialist
Dave Baldwin	-	Local Waste Handling Specialist
		Local Waste Treatment Specialist
Salim Ibrahim	-	Local Legal Expert
John Clements	-	Local Economist
Vacant	-	Environmental Health Specialist
Vacant	-	Capacity Building Specialist

Completed

4. PILOT PROJECTS

Still awaiting response from DoH.

Noted

5. INTERNAL WORKSHOP

It was agreed that the workshop be held on the 20th of July at 09:00 in boardroom No. 2 at the Diamond Corner. **Pending**

6. GUIDELINES OF NON-BURN TECHNOLOGIES

The drafting of a Terms of reference for the contracting of a specialist to assist with these guidelines. TK to discuss with the new appointed consultant, Dave Baldwin the possibility of moving forward the development of guidelines regarding non-burn technologies. **TK**

7. PROGRESS REPORTS

It was agreed that progress on the running of the HCWM project should be measured and recorded in the PMG weekly minutes. **Noted**

(Progress report attached-Page 47)

8. PMG MINUTES

It was agreed that PMG minutes be sent to all members with a covering letter inviting members to a PMG meeting to be held on 24 July , 09:30 at the Diamond corner, boardroom 3. **Noted**

9. GENERAL ITEMS

a) *Use of Students/Other staff*
KO to investigate

KO

b) *Time sheets for project staff*
Created and available on excel for project staff to update.

c) *ID Cards*
Still waiting for response from communications department.

Completed

d) *Business Cards*
In progress

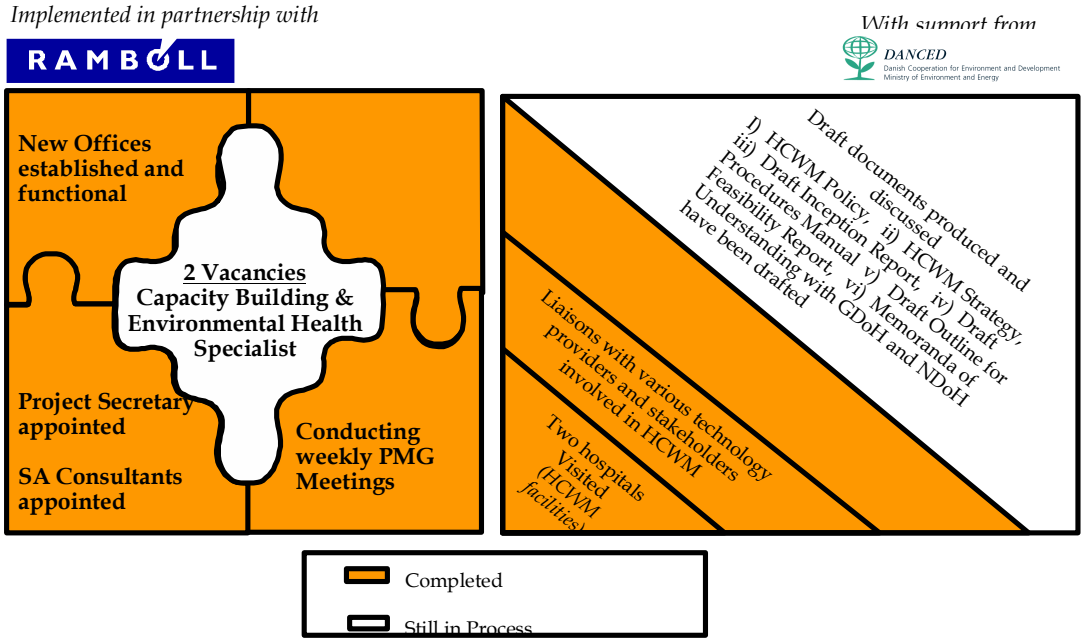
e) Renting and placement of a photocopy machine

The renting of the copier is finalised with Nashua and it will be placed in the Project Secretary's office. **Completed**

The meeting adjourned at 12:00

TASKS IN PROGRESS

Sustainable Health Care Waste Management in Gauteng



AGRICULTURE, CONSERVATION, ENVIRONMENT AND LAND AFFAIRS

15 to 18 Floor – Glencairn Building, 73 Market Street, Johannesburg
P O Box 8769, Johannesburg, 2000

Telephone: (011) 355-1900
Fax: (011) 355-1664
Email: dace@gpg.gov.za

Reference: SD 01-07-27 Minutes of PMG 009 VER 01
Telephone: (011) 355-1673
Enquiries: Stompie Darmas

MINUTES OF MEETING

Job	1459103
Subject	Project Management Meeting
Date and location	24 July 2001, Diamond corner, 2nd floor, Boardroom 3
Meeting No.	PMG 009
Taken by	Stompie Darmas
Participants	• Ms Dee Fisher – DACEL - deef@gpg.gov.za • Mr Torben Kristiansen DACEL (CTA) - torbenK@gpg.gov.za • Stompie Darmas - Project Secretary - stompied@gpg.gov.za • Ms Francis Masenya – Health Dept - francism@gpg.gov.za • Kobus Otto - jbotto@global.co.za • Mr Sydney Nkosi – DACEL - SydneyNK@gpg.gov.za • Mr Eksteen – GPG-TPW - Michiele@gpg.gov.za
Apologies	• Mr Albert Marumo – Health Dept - albertm@gpg.gov.za
Copy to	Participants and All PMG Members • Dr D Rama - DACEL - dhirajr@gpg.gov.za • Councillor Mokone – GALA -
Next meeting	2001-07-31, 09:30

AGENDA

1. WELCOME AND INTRODUCTION TO PMG

i. General introduction and discussion on PMG

2. FINALISATION OF THE INCEPTION REPORT AND THE PROCEDURES MANUAL

I. Agreement on process and date of submission.

3. COMMENTS TO DOCUMENTS RECEIVED

i. Policy Document/Framework Strategy
ii. HCWM Strategy
iii. Daft Inception report
iv. Draft Procedures Manual
v. *Outline for Feasibility Report*

4. WORKSHOPS

i. Setting dates for internal DACEL workshop

5. INSTITUTIONAL ARRANGEMENTS

i. Status of MoU with GDoH
ii. Status of MoU with NDoH
iii. Status of GDoH representative (cf. letter addressed to Dr Rispel)
iv. Visits to Provincial Hospitals

6. PRACTICAL ARRANGEMENTS/FOLLOW-UP

i. Time Sheets for all project staff in excel sheet
ii. ID cards
iii. Business cards.

7. MATTERS ARISING FROM PREVIOUS MEETINGS

i. Pilot projects
ii. Workshops

iii. GENERAL ITEMS

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1. WELCOME AND INTRODUCTION TO PMG

The Chairperson welcomed everybody present, and extended his welcome to Mr Eksteen from the Department of Transport and Public Works together with Mr Masenya from the Department of Health.

The Chairperson also mentioned that all PMG members were welcome to the weekly PMG meetings held at 09:30 in Dee Fischer's office on the 15th floor of the Glencain building.

- The Chairperson explained in detail the current framework strategy formulation,
- Computerised waste management
- Feasibility study on
  - *management scenarios*
  - *legal implications and*
  - *financial implications*
- Integrated strategy development
- Forming pilot projects for testing the guidelines

The chairperson (CTA) explained in detail the different project responsibilities and the time planning schedule and he promised to e-mail a copy of the schedule to all PMG members.

It was also highlighted to the meeting that the ECBU should be carrying out the dissemination of the project and due to lack of funds, DANCED and DACEL were to assist in financing the project.

It was suggested in the Inception Report that contingency funds could be used in financing the capacity building and training activities for the pilot projects.

It was agreed that in addition to the weekly PMG meetings, a General PMG meeting be held once a month on the second Tuesday of every month where all PMG members will be attending. **Noted**

The following dates were agreed upon:

i) 14 August

ii) 11 September

iii) 16 October

iv) 13 November

v) 11 December

It was agreed that the full PMG could meet more frequently if there was a need for such additional PMG meetings.

2. FINALISATION OF THE INCEPTION REPORT AND PROCEDURES MANUAL

ACTION

It was agreed that the CTA would e-mail a copy of the final version inception report and Procedures Manual to all PMG members.

3. COMMENTS TO DOCUMENTS RECEIVED

Procedures Manual/Framework Strategy

Comments on the Procedures manual to be finalised and received back

From the PMG members by 31st July.

4. WORKSHOPS

The CTA explained to the meeting that an internal workshop scheduled for the 20th of July was postponed and that another date would be set soon.

FM suggested that the PMG and the internal workshop be integrated, and DF explained to the meeting that the internal workshop should be held before a possible PMG workshop in order to bring staff aboard, and make sure that everybody had the same vision for the project.

FM suggested that the Department of Labour should also be invited to workshops and be given guidelines and other project documents for information, this was agreed and would be processed/implemented.

DF

5. INSTITUTIONAL ARRANGEMENTS

The CTA also raised a concern about the delay caused by institutional arrangements for the pilot projects to start, and that it was important that the Gauteng Department of Health be fully involved in choosing the pilots.

Status of GDoH Representative

A response was still awaited from Dr Rispel's office for the formally appointed representative. DF to follow up on response from Dr Rispel. DF to request HOD to contact the HOD of health if response is not received by Friday, 27 July.

DF stressed that a fully mandated person was needed to attend the PSC Meetings in order to be able to take decisions.

Visits to Provincial Hospitals **ACTION**

The CTA highlighted that hospital visits were done at two public hospitals only so far. At this stage it appears that it is important that the projects gets official interaction with GDoH in the identification of Health Care Facilities to be visited, especially with a view to identify gaps and possible HCF to be pilot Projects. There was a need for training the trainers, training collectors, upgrading and training the incinerator operators.

KO commented that budget constraints would be the only limiting factor in the training process, and he wanted to know how possible it was to improve the service providers through training.

6. PRACTICAL ARRANGEMENTS

Time Sheets for all project staff in excel sheet **Noted**

TK explained to the meeting that a time sheet was drawn up for all project

Staff including DACEL project staff to record their time. **Noted**

ID and Business Cards

Stompie following up with Communications department.

7. MATTERS ARISING FROM PREVIOUS MEETINGS

7.1 Pilot Projects

It was agreed that it is important to select pilots soon so that guidelines could be developed early next year.

FM suggested that the Pilots selected should be essential for identifying improvements.

It was agreed that before the starting of the pilots, it should be looked into the Existing contracts of the current suppliers in order that the pilot will not impact negatively on the current service providers.

DF enquired whether there was a reporting system for the monitoring of the current HCWM service providers. **FM**

DF suggested that the tendering system for removal of ash should be looked into, and also a check on what is incinerated and what the impact of the incinerated waste is.

8. GENERAL ITEMS

KO requested for a copy of a tender document from FM, because this will be useful in providing input for the future tenders.

KO suggested that all PMG members put forward a list of all issues to be looked into at pilots, and all the problem areas should highlighted and discussed at the next General PMG meeting in August.

It was agreed that FM give a presentation at the next PMG general meeting, on the monitoring undertaken, this could assist with identifying possible short-term improvements.

An Infection Control Nurse or Matron should be involved as a driver for the progress of the pilot.

Working groups should be formed the deal with specific issues.

PMG to identify and discuss what is needed as result of the project.

Mr Eksteen advised that a quality audit be formulated to check that the systems developed comply.

The meeting adjourned at 11:30.