TREATMENT OF HEALTH CARE RISK WASTE GENERATED AT PILOT STUDY HEALTH CARE FACILITIES IN GAUTENG.

October 2002

REQUEST FOR QUOTATION

RAMBØLL

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Sustainable Health Care Waste Management in Gauteng

With support from:

DANCED
Danish Cooperation for Environment and Development
Ministry of Environment and Energy

Implemented in partnership with:

RAMBØLL
P.O. Box 10610
Fourways East
2055

Treatment of Health Care Risk Waste generated at Pilot Study Health Care Facilities in Gauteng.

Invitation to Submit Quotation
Conditions of Quotation
Project Specification
Schedule or Rates and Quantities
Annexures

Quotation submitted by:

……
NAME OF COMPANY

RAMBØLL
P.O. Box 10610
Fourways East
2055

BUHLE WASTE MANAGEMENT
P.O. Box 12662
Katlehong
1432

INVITATION TO SUBMIT QUOTATION

Treatment of Health Care Risk Waste generated at Pilot Study Health Care Facilities in Gauteng.

Quotations are invited from companies with registered / approved Health Care Risk Waste (HCRW) treatment facilities for the treatment and disposal of HCRW generated at two pilot study Health Care Facilities, for the purpose of testing and evaluating new HCRW management equipment and systems. The pilot studies will be undertaken at the Itireleng Clinic in Dobsonville, Soweto and the Leratong Hospital in Krugersdorp. The information gained from the pilot studies will be used in the development of a sustainable HCW management system in Gauteng, a project undertaken by the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (DACEL) in partnership with the Gauteng Department of Health (DoH).

All companies wishing to submit Quotations shall be able to demonstrate experience and knowledge in the handling and treatment of HCRW. They shall further demonstrate their capacity to fully determine, implement and observe the necessary Occupational Health and Safety precautions. Such precautions are to include, but not be limited to, an inoculation programme and anti-retroviral response if required.

Prospective companies wishing to submit Quotations are to provide proof of previous experience in the environmentally sound treatment and disposal of HCRW, and also own regional HCRW treatment facilities that are permitted or registered for use in Gauteng. Furthermore, the regional plants shall be able to empty 660 or 770-litre wheelie bins and reusable 50 and 100-litre plastic box containers using mechanical aids, thus protecting the health and safety of workers. The Quotations will, in addition to the financial implications, also be evaluated on the capability of the prospective companies wishing to submit quotations to deal with HCRW in a responsible manner. It is to be noted that the testing of the various HCRW management systems will require that certain equipment be provided by the owner of the HCRW treatment facility, for which the cost is to be recovered in accordance with the items listed in the Schedule of Rates and Quantities.

The following categories of highly infectious HCRW are to be treated to achieve the required destruction before disposal of the residues on an appropriately permitted and operated waste disposal site:

- General infectious HCRW;
- Infectious sharps;
- Pathological HCRW;
- Pharmaceutical waste (in small and infrequent quantities from Leratong Hospital).

The pilot studies for which the HCRW treatment is to be undertaken, will commence on 20 January 2003 and are expected to run for a period of approximately 180 days, after which this contract for treatment of HCRW from Leratong and Itireleng may be extended for a further period of up to 75 days, depending on the date for commencement of the new Provincial Tenders.

The Employer, the Consultant as well as their representatives expect to take an active role in all aspects of the pilot studies, of which the treatment and disposal of HCRW is considered to form an integral part. The Contractor to be appointed will however be responsible for performing all the activities related to the treatment and disposal of the HCRW and will be the solely responsible party and carry all liability for the efficiency of the treatment and disposal process as well as the health and safety of all persons that may in any way be affected by this process. The Contractor will further be required to perform certain evaluations of the systems proposed to be tested and it is expected that objective evaluations of such operational aspects be made during the pilot studies.

Request for Quotation documents for the treatment of HCRW generated at the pilot institutions are available from the receptionist (Ms. Matsietsi Sibondana) at the DACEL Office on the 15 Floor, Glencairn Building, 73 Market Street, Johannesburg as from **12:00** on **Friday, 1 November 2002.**

The closing time and date for submission of the Quotations is **12:00** on **Friday, 15 November 2002.**

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DEFINITIONS

The following definitions will apply for this Quotation:

Consultant:	RAMBØLL, the consulting company appointed by the DANCED, to undertake the project on sustainable Health Care Waste (HCW) management in Gauteng, represented in South Africa by the Chief Technical Advisor (CTA);
Contractor:	Company submitting a Quotation and that was formally appointed by the Employer and Consultant (for their respective components of the Work) to undertake the environmentally sound treatment and disposal of HCRW generated at the two pilot study health care facilities;
Employer:	BUHLE WASTE MANAGEMENT who will enter into an agreement with the Contractor for the treatment and disposal of all HCRW generated at the Pilot Study health care facilities.
Health Care General Waste (HCGW):	Non-infectious waste (similar to domestic waste) generated in the process of rendering health care services;
Health Care Facilities:	Facilities generating HCW in the process of rendering health care service;
Health Care Risk Waste (HCRW):	Infectious waste (including general infectious waste, sharps, pathological waste, but excluding chemical/pharmaceutical waste in this instance) generated in the process of rendering health care services;
Health Care Waste (HCW):	The combination of HCRW and HCGW generated at health care facilities in the process of rendering health care services;
Pilot Study:	A study executed at selected health care facilities that is aimed at improving the overall state of HCW management in Gauteng;
Project:	Development of "Sustainable Health Care Waste Management for Gauteng", undertaken on behalf of the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (DACEL) and the Gauteng Department of Health;
Company submitting a Quotation:	Any waste management contractor that is experienced in the management of HCRW and that owns a permitted or registered HCRW treatment facility in Gauteng, wishing to submit a Quotation for the Treatment of Health Care Risk Waste generated at Pilot Study Health Care Facilities in Gauteng.

CONDITIONS OF QUOTATION

CQ 1. Background and Purpose of Quotation

During the year 2000, the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (DACEL) undertook a study to determine the status quo of Health Care Waste (HCW) management in Gauteng. After completion of the status quo study, RAMBØLL was appointed by the Danish Cooperation for Environment and Development (DANCED) to undertake a project for the development of "Sustainable Health Care Waste Management for Gauteng" on behalf of DACEL.

As part of the overall project, pilot studies are to be conducted at two provincial health care facilities (Leratong Hospital and Itireleng Clinic) aimed at improving the current HCW management procedures and systems, include piloting of new equipment for containerisation, collection and transportation of Health Care Risk Waste (HCRW). Although alternative HCRW treatment facilities will not as such be tested during the pilot studies, the impact that alternative container systems and transport systems will have on the treatment facilities, will be tested.

CQ 2. Issuing of Documents

Companies that own HCRW treatment facilities permitted or registered for HCRW treatment in Gauteng and that wish to submit Quotations will be issued with one copy of the Quotation Document. No deposit is required.

Quotation documents will be available as from **12:00** on **Friday, 1 November 2002**. Documents can be collected from:

The Receptionist: Ms. Matsietsi Sibondana.
Department of Agriculture, Conservation, Environment and Land Affairs,
15th Floor Glencairn Building,
73 Market Street,
Johannesburg.

CQ 3. Queries and Discrepancies

Companies submitting Quotations must examine the Quotation documents upon receipt to ensure that all pages and all Annexures are included and are to report any missing pages or Annexures, any pages or Annexures that are illegible or indistinct, and errors or ambiguities in the Specifications, Schedule of Rates and Quantities and Annexures or any contradictions between the Specifications, Schedule of Rates and Quantities and Annexures in order to obtain rulings on all such errors, ambiguities or discrepancies.

No claim for extras based on such errors, ambiguities or discrepancies will be considered after the opening of Quotations. Companies submitting Quotations that have any queries relating to discrepancies in or omissions from the Quotation Document shall contact the Consultant at:

Chief Technical Advisor: Torben Kristiansen.
15th Floor Glencairn Building,
73 Market Street,
Johannesburg.

Tel/fax: (011) 355-1664
Fax: (011) 355-1663
E-mail: tok@ramboll.dk

CQ 4. Alterations to Documents

Companies submitting Quotations should not make alterations or erasures to the documents, as these will not be recognised. The use of erasing fluid is not permitted and incorrect figures are to be deleted by crossing out and initialling.

CQ 5. Alternative Quotations

If a Company submitting a Quotation wishes to submit an alternative for any of the items in the Schedules of Rates and Quantities, it shall do so in a covering letter submitted with its Quotation. The letter shall contain details of the alternative together with the relevant amendments to the Specifications or the Schedules of Rates and Quantities.

No alternative Quotation will be considered, unless a Quotation strictly on the basis of these Quotation documents is also submitted.

CQ 6. Companies submitting Quotations to Comply with Documents and Annexures

By submission of a Quotation, the Company submitting a Quotation will be deemed to have acquainted itself fully with the Quotation documents, and all aspects of the work envisaged in the documents, local requirements, laws, by-laws, permits, licences and costs pertaining to the treatment and disposal of HCRW prior to pricing and submission of its Quotation. Any possible conflict with the Employer's operations shall be investigated and allowed for.

Companies submitting Quotations must allow in their Quotations for all labour, materials, plant, equipment and everything necessary for the execution and completion of the Contract in accordance with the Quotation documents, including the Annexures.

All information is furnished in good faith for the guidance of the Company submitting a Quotation, but in no way shall such information relieve it of the responsibility of ascertaining to its own satisfaction the scope and conditions of the Contract. It shall make all investigations necessary to inform itself thoroughly as to the character and extent of the work, capability of its facilities to receive, store and operate the necessary equipment for treating of HCRW, disposal of residues and cleaning, disinfection and drying of reusable containers. No plea of ignorance of conditions that exist or may hereafter exist or ignorance of conditions or difficulties that may be encountered will be accepted as a reason for failure to complete the Contract or as a basis for a claim for additional compensation.

CQ 7. Site Inspection

A Quotation Meeting for Companies potentially submitting Quotations will be held at **12:00** on **Monday, 4 November 2002**. **Companies submitting Quotations are requested to convene at the DACEL Conference Room on the second floor of the Diamond Corner House, Cor. Eloff and Market Street, Johannesburg, where the Quotation Meeting will be conducted**.

Failure to attend such meeting will not absolve the Company submitting a Quotation from any lack of knowledge of the Quotation conditions. Companies submitting Quotations are advised

that they are to return the duly signed Annexure C: "Certificate of Attendance of Quotation Meeting", confirming that they have attended the information meeting.

Attendance of the Quotation Meeting will be at the Company submitting a Quotation's own expense and the Companies submitting Quotations must make their own arrangements in this regard.

Since all HCRW to be treated as part of this Contract is to be delivered to the treatment facility by the Employer, with no direct interfacing required between the generators of the HCRW and the owners of the treatment facility, it is not considered necessary to arrange for a visit to the Leratong Hospital or the Itireleng Clinic. Companies submitting Quotations will further not be allowed access to these pilot study health care facilities for any purpose whatsoever without prior authority from the Consultant.

Attention is drawn to the fact that information given orally at any other time prior to the award of the Contract, will not be regarded as binding on the Employer or the Consultant, and only information given formally in writing to Companies submitting Quotations by the Consultant will be regarded as amending the Quotation documents. See Clause CQ 32 hereof regarding enquiries.

It is to be pointed out that the Employer and Consultant reserves the right to revise the Scope of the Quotation prior to, during, or after the Quotation meeting, but before closure of Quotations. Revisions to the Quotation shall be faxed or E-mailed to all potential respondents that were invited.

CQ 8. Completion of Quotations

A Quotation will not be regarded as bona fide unless it is complete in all respects, comprising the following Quotation documents:

- Priced Schedule of Rates and Quantities;
- Annexures to the Quotation;
- Form of Quotation;
- CV's of Key Supervisory Staff;
- Details of proposed Method Statement.

CQ 9. Compliance with Conditions of Quotation

Any Quotation submitted that does not comply with these Conditions of Quotation will be deemed to be incomplete and will be liable to rejection without further consideration.

CQ 10. Programme, Human Resources, Plant and Cash Flow

The Company submitting a Quotation shall return with its Quotation documents a bar chart copy of its proposed programme for the work to be executed leading up to the time when HCRW can be delivered in reusable containers for treatment, followed by the cleaning, disinfection and drying of such reusable containers. Sufficient details are to be provided to substantiate the contractor's ability to meet the required date on which the pilot studies are to commence and the HCRW is to be treated, clearly indicating the additional human resources and equipment to be provided for the Contract. Annexure F: "Schedule of Labour and Equipment" detailing any additional labour establishment and equipment which the Company submitting a Quotation will provide at the HCRW treatment facility to execute the work detailed under this contract, shall be completed and returned with the Quotation.

CQ 11. Form of Quotation and Board Resolution

The "Form of Quotation" and the "Appendix to Quotation" shall be completed in full and signed by an authorised director of the quoting company. A copy of the relevant Resolution of the Board of Directors, authorising signature, duly signed and dated is to be submitted with the Quotation.

Where Quotations are submitted by Joint Ventures, a copy of the Joint Venture Agreement is to be attached.

CQ 12. Staffing and Curriculum Vitae

Companies submitting Quotations are advised that they are to return the duly completed Annexure I: "Schedule of Supervisory Staff" indicating key personnel that they intend placing on the Contract.

Curriculum Vitae for the key personnel responsible for supervision of the Contract, shall accompany the Quotation.

CQ 13. Sub-Contractors

The use of subcontractors will be permitted, with the understanding that the Contractor will be responsible for the performance as well as the Occupational Health and Safety of all subcontractors. The Contractor is to complete Annexure H: "Schedule of proposed Sub-Contractors" detailing the sub-Contractors which the Company submitting a Quotation intends to employ for the Contract. Even if no Sub-Contractors are to be employed this shall be indicated and the form completed and signed.

CQ 14. Sureties

No Surety Bond will be required.

CQ 15. Indemnity and Insurance

The Contractor shall be solely responsible for the health and safety of workers and members of the public that may be affected by the treatment of HCRW under this Contract, securing of workplaces, suitability of equipment used, as well as compliance with any acts and regulations. The Contractor is to provide adequate insurance, including third party insurance for the activities under this work (See Annexure B for details). **RAMBØLL, BUHLE Waste Management, DACEL, Gauteng DoH and the pilot study health care facilities, or any of their representatives, will not accept any liability or other type of responsibility for illnesses, injuries, loss or damaged suffered during or as a consequence of the onsite storage and treatment of HCRW, disposal of residues or the cleaning, disinfection and drying of reusable containers or any other handling of the HCRW or the containers.**

Companies submitting Quotations are to provide evidence of their ability and commitment to provide the required insurance in accordance with the requirements of Annexure B.

CQ 16. Value Added Tax (VAT)

Companies submitting Quotations are referred to Clause 8 of the Preamble to the Schedule of Rates and Quantities in respect of allowance for VAT.

CQ 17. Submission of Quotation

Quotations must be submitted on the Form of Quotation attached hereto and shall be accompanied by all the documents issued herewith, duly completed.

Three (3) copies of Quotations are to be submitted in sealed envelopes and shall be placed in a Tender Box in the office of the project secretary, Ms. Stompie Darmas, on the 15th Floor, Glencairn Building, 73 Market Street, Johannesburg. Quotations should preferably be printed double-sided and on recycled paper. Quotations will close by **12:00** on **Friday, 15 November 2002**, and will be opened in public immediately thereafter in a venue to be indicated at the close of Quotations.

All Quotations shall be marked:

"Do not open until **12:00** on **15 November 2002**.

Sustainable Health Care Waste Management in Gauteng.
Quotation for Treatment and Disposal of HCRW generated during the Pilot Studies.

Attn.: Chief Technical Advisor: Torben Kristiansen.
Department of Agriculture, Conservation, Environment and Land Affairs,
15th Floor Glencairn Building,
73 Market Street,
Johannesburg."

No late Quotations will be considered.

CQ 18. Telegraphic Quotations

Telegraphic, e-mailed or telefax Quotations will **not** be considered.

CQ 19. Process to be Confidential

Information supplied by Companies submitting Quotations, and any information concerning the examination, clarification, evaluation and adjudication of Quotations and recommendations for the award of a Contract will not be disclosed to Companies submitting Quotations or any other persons not officially concerned with such processes.

If a Quotation contains any information that the Company submitting a Quotation in particular does not wish to be disclosed, for instance to persons involved in the Project, but not necessarily involved with the Quotation process, sheets containing such information must be marked "Confidential" to indicate the specific information to be held confidential. In the event however that a Contract be awarded to any particular Company submitting a Quotation as a result of or in connection with submission of such information, the Consultant shall have the right to duplicate, use, or disclose this information.

For reasons of transparency the Consultant shall have the right to disclose the bid prices of all Quotations received after the award of the contract or after the rejection of all Quotations.

Any effort by a Company submitting a Quotation to influence the persons processing the Quotations or deciding on the award of the Quotation will result in the rejection of its Quotation.

CQ 20. Employer and Consultant not Liable for Company submitting a Quotation's Expenses

The Employer and Consultant will not be held liable for any expense incurred in preparing and submitting Quotations.

CQ 21. Consultant's Right To Adjust Errors

The Consultant reserves the right to adjust arithmetical or other errors in the Quotation in accordance with Clause 11 of the Preamble to the Schedule of Rates and Quantities.

CQ 22. Period of Validity and Escalation

Quotations shall hold good for **60 (Sixty) days** after the closing date for submission. Companies submitting Quotations are to note that the Quotation Rates shall be fixed and firm and therefore no escalation will be payable for the 60 day Quotation validity period or the following 180 days duration of the pilot studies, or for a possible 75 days extended period that may include the period between completion of the pilot studies and the commencement of the new HCRW management contracts for provincial hospitals and clinics in Gauteng, which is expected to be 1 October 2003.

CQ 23. Withdrawal of Quotations

Should a Company submitting a Quotation:

- Withdraw its Quotation during the period of its validity; or
- Give notice of its inability to execute the Contract or fail to execute the Contract; or
- Fail to sign the Contract Agreement or furnish the required surety within the period fixed in the Appendix to the Contract or any extended time agreed to by the Employer;

then it shall be liable for and pay to the Employer:

- All expenses incurred in calling for fresh Quotations, if required;
- The difference between its Quotation and any less favourable Quotation accepted either by calling for new Quotations or by accepting another Quotation from those already received;
- Any escalation of the final Contract Price resulting from any delay caused in calling new Quotations.

Provided always that the Employer and Consultant may exempt a Company submitting a Quotation from the provisions hereof if it is of the opinion that the circumstances justify the exemption.

CQ 24. Repudiation of Quotation or Invalidation of Contract

If the Employer is satisfied that the Company submitting a Quotation or any person being an employee, partner, director or shareholder of the Company submitting a Quotation or a person acting on behalf of or with the knowledge of the Company submitting a Quotation:

(a) Has offered, promised or given a bribe or other gift or remuneration to any person in connection with the obtaining or execution of a Contract;

(b) Has acted in a fraudulent or corrupt manner in obtaining or executing a Contract;

(c) Has approached an officer or employee of the Employer or the Consultant with the object of influencing the award of a Contract in the Company submitting a Quotation's favour;

(d) Has entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company -

  (i) to refrain from Quoting for this Contract;

  (ii) as to the amount of the Quotation to be submitted by either party;

(e) Has disclosed to any other person, firm or company other than the Employer and Consultant, the exact or approximate amount of its proposed Quotation;

the Employer and Consultant may, in addition to using any other legal remedies, repudiate the Quotation or declare the Contract invalid should it have been concluded already.

CQ 25. South African Jurisdiction

The laws of the Republic of South Africa shall apply to each Contract created by the acceptance of a Quotation, and each Company submitting a Quotation shall indicate a place in the Republic and specify it in its Quotation as its domicilium citandi et executandi, where any legal process may be served on it.

CQ 26. Ability to Perform

During the adjudication of the Quotations, due account will be taken of the Company submitting a Quotation's past performance in the execution of similar work of comparable nature and magnitude, and the degree to which its possesses the necessary technical, financial and other resources to enable it to execute the work successfully for the Contract period, whilst meeting the required Environmental as well as the Occupational Health and Safety standards.

CQ 27. Adjudication Method

27.1 Contract Award

Award for the Contract will be made to the Company submitting a Quotation with the highest score based on evaluation criteria and any results of investigation into the Company submitting a Quotation's ability to perform the tasks outlined in these Conditions of Quotation and Quotation Specifications. It is the Consultant’s intention

to select the Quotation that is most advantageous based on the knowledge by the Company submitting a Quotation as to proper methods to execute the duties and responsibilities described in this document in the most effective manner.

The Consultant does however reserve the right to reject any or all Quotations if such rejection would be considered to be desirable for the project. The Consultant also reserves the right to negotiate with the selected Contractor on any changes in the Scope of Work such as duration over which the pilot studies are to run or changes in the amount of HCRW to be treated, in accordance with the Conditions of Quotation and Schedule of Rates and Quantities.

27.2 Evaluation Criteria

Certain items will be evaluated as "pass/fail" criteria and could cause Quotations to be rejected if the required information is not supplied. These include the Items referred to in Paragraph CQ 8 of these Conditions of Quotation.

Quotations will each be scored on a 100-point scale based on the following criteria:

1. *Method Statement indicating the methodology to be used for the unloading of HCRW from reusable containers, as well as the cleansing, disinfection and drying of reusable HCRW containers (20 points);*

    a. Demonstration of understanding of the project objectives and responsiveness of the Quotation to the project objectives;

    b. Clear detailing of the project work plan;

    c. Appropriateness of the protocol to be used for unloading of HCRW, as well as the emphasis placed on the health and safety of all parties concerned;

    d. Effectiveness of the protocol to be used for timely cleaning, disinfection and drying of reusable HCRW containers, as well as the emphasis placed on the health and safety of all parties concerned;

    e. Cleanliness of the areas proposed to be used for storage of disinfected and dried containers;

    f. Appropriateness and sufficiency of steps to be taken to assure the occupational health and safety of those working on the project, as well as those affected by the project.

2. *Qualifications, experience and ability to undertake the project (15 points);*

    a. Demonstration of commitment by the Company submitting a Quotation to the HCRW treatment and disposal process during the pilot studies as well as to assign experienced personnel to the process;

    b. Demonstration of sufficient qualifications, knowledge and experience of HCRW management issues applicable to the indicated process;

    c. Demonstration of successful work record of the firm and the key personnel assigned to the project.

3. *Evaluation and reporting on effectiveness of HCRW management systems and equipment being used (10 points);*

a. Development of appropriate evaluation criteria for use during the execution of the pilot studies on new HCRW management systems and equipment;

b. Collection of data, capturing format and reporting structure;

c. Previous experience with work of a similar nature.

4. *Cost (55 points);*

a. Overall cost of making available all infrastructure required for the execution of the project as well as the maintenance thereof for the full duration of the proposed project;

b. Itemised cost for treatment and disposal of HCRW generated at the pilot study health care facilities to be expressed in a fixed fee in Rand per kilogram of HCRW received excluding supply of reusable containers, but including the cost of cleansing, disinfection and drying of various reusable containers.

c. Appropriateness of in-kind services required and acquisition/disposition of capital equipment (Companies submitting Quotations having excessive requirements for in-kind services will have their score lowered in this category to make them comparable to other Quotations);

d. Appropriateness of the budget expenses.

27.3 Role of Evaluation Committee

An Evaluation Committee consisting of at least three, but up to five persons, including at least one representative from the Consultant, will review all Quotations submitted. The following process will be used:

a. Quotations will be evaluated for completeness and compliance with the requirements of this Quotation. Incomplete Quotations may be rejected. If a portion of a Quotation is unclear, the respondent may be asked to provide written clarification;

b. Members of the Evaluation Committee will score Quotations according to the criteria set out above. If the total scores for the highest scoring Quotations are close, or if the Evaluation Committee feels that it needs more information, top-scoring respondents may be asked to attend interviews or alternatively allow members of the Evaluation Committee access to their premises to demonstrate the way in which it is proposed for the project objectives to be met;

c. On completion of interviews and site visits, if any, the Evaluation Committee will review the results of their evaluation of finalists, and will forward their recommendation to the Chief Technical Advisor of the Project, who will then review the recommendation and approve the selection. Should the CTA be of a different opinion, he will enter into discussion with the Evaluation Committee until consensus is reached;

d. All competing Companies submitting Quotations shall be notified in writing of the selection of the successful Company submitting a Quotation.

27.4 Outcome of Evaluation Process

Based on the Quotations received and the scores determined by the Evaluation Committee, the Consultant may take any of the following actions:

a. Accept a Quotation and enter into a Contact based on the Quotation to carry out the Scope of Work as detailed in this document;

b. Negotiate a revised Scope of Work and accordingly revised remuneration with the Company submitting a Quotation whom in the Consultant's opinion will be best equipped to meet the needs for the successful execution of the project, and that falls within the Consultant's budgetary constraints; or

c. Reject all Quotations.

CQ 28. No Quotation returned

All Quotations become the property of the Consultant, and will not be returned to the Companies submitting Quotations.

CQ 29. Acceptance of Offer

The Employer or Consultant does not bind itself to accept the lowest or any Quotation.

CQ 30. Contract Formulation

The Consultant reserves the right to negotiate possible amendment to any of the terms of the Contract at any time prior to the termination date, including, but not limited to time extensions and funding changes necessary for the execution of any program. All amendments or extensions to the Contract will require the prior written approval and agreement by the Employer, the Consultant and the Contractor.

CQ 31. Terms of Payment

Companies submitting Quotations shall submit a detailed Quotation that includes the actions required to carry out all of the various components of the project, including cleaning, disinfection and drying of reusable containers. For ease of evaluation as well as to allow for possible changes in the Scope of Work due to variances in the available time, Companies submitting Quotations will be required to complete the condensed Schedule of Rates and Quantities. Considering the possibility of changes in the Scope of Work, Companies submitting Quotations are advised to submit balanced Quotations, that will allow for all fixed and variable costs as envisaged. It is further pointed out to Companies submitting Quotations that the tendered rates are to be fixed and firm and no escalation will apply to the quoted rates for the duration of the pilot studies.

In completing the Schedule of Rates and Quantities, Companies submitting Quotations shall submit:

Fixed Preliminary and General Costs:

a. Unit rates for supply, establishment and removal (if required) of the infrastructure and equipment required for the unloading of HCRW from the various types of reusable HCRW containers;

b. Unit rates for supply, establishment and removal (if required) of the infrastructure and equipment required for the cleaning, disinfection and drying of the various types of reusable HCRW containers;

The terms of payment for the fixed costs by RAMBØLL will be as follows:

20% - 30 days after signing of contract;
70% - At start of Pilot Project (20 January 2003) provided that all equipment required is in place an in working order;
10% - On completion of the pilot projects or on 1 July 2002 whichever comes first.

Variable Costs:

a. Unit rates for HCRW treatment and disposal of residues, including:

- The cost for cleaning, disinfection and drying of reusable containers, as well as;
- The cost of maintenance of equipment referred to under items (a) and (b) above

The terms of payment for the variable costs is to be agreed with the employer, Buhle Waste Management.

The Contractor shall carry out any additional work that may be required by the Employer with compensation being based on the rates submitted. Should for some or other reason agreement on the price of any additional work not be reached before the work is to be carried out, the Contractor shall continue the work and the disagreement shall be resolved subsequently.

CQ 32. Enquiries

Commercial and technical enquiries may be directed to Mr. T. Kristiansen, Chief Technical Advisor representing RAMBØLL, at e-mail: tok@ramboll.dk or Tel/fax: (011) 355-1664, Fax: (011) 355-1663

All enquiries are to be submitted in writing. Enquiries forwarded to RAMBØLL will be answered, summarised and distributed to all Companies submitting Quotations two (2) working days before the close of Quotations.

PROJECT SPECIFICATION

SCOPE

This Project Specification covers the requirements for the treatment of Health Care Risk Waste (HCRW) generated at two (2) selected health care facilities during the execution of Pilot Studies, aimed at improving the overall state of HCW management at these facilities, as well as the cleaning and disinfection of reusable containers. The Pilot Studies are due to be undertaken at the Itireleng Clinic in Dobsonville, Soweto and the Leratong Hospital in Krugersdorp.

PS 1. Read in conjunction

This specification is to be read in conjunction with:

- The South African Occupational Health and Safety Act (Act No. 85 of 1993);
- Addressing the Health Care Waste Problem in Gauteng. A Policy for Environmentally Sustainable HCW Management in Gauteng Province (November 2001);
- Gauteng Health Care Waste Information Framework Document (January 2002);
- Guidelines on Sustainable Health Care Waste Management in Gauteng (September 2002).

PS 2. General Description of Scope of the HCRW Treatment Contract

It is envisaged that the treatment and disposal of HCRW generated at the two pilot institutions will entail the following:

- Receipt and recording of HCRW delivered to the treatment facility by others in:
  - Reusable 660-litre or 770-litre wheelie bins;
  - Reusable 50-litre and 100-litre plastic box containers;
  - Disposable 20-litre specicans.
    (All disposable sharps and to some extent the specican containers will be contained within the larger reusable containers)

- Environmentally sound treatment of HCRW generated at the pilot health care facilities, at a registered HCRW treatment plant located within Gauteng and by using appropriate treatment technologies for the respective HCRW streams. All HCRW delivered to the treatment facility is to be treated at intervals that will enable the cleaning and disinfection of reusable HCRW containers in accordance with the requirements stipulated in Bullet 4 of this Clause. A mechanical loading mechanism for 660-litre or 770-litre reusable wheelie bins is to be provided by the contractor and recovery of expenses incurred for this is to be allowed for as indicated in the Schedule of Rates and Quantities;

- Transport of treated HCRW residues from the treatment facility for disposal on an appropriately permitted and operated waste disposal facility;

- Emptying, cleaning and disinfection of all reusable containers allowed for in the Request for a Quotation within a period of 24-hours from time and date when it was delivered at the HCRW treatment facility. Cleansing and disinfection equipment is to be provided by the contractor and the cost thereof is to be included in the overall treatment fee as indicated in the Schedule of Rates and Quantities;

- Separate storage of disinfected reusable containers in an area where such containers will not be at risk of becoming contaminated through wind, rain or in any other way, for collection by Buhle Waste.

The Scope of Work for the HCRW treatment will include the activities to be undertaken on a daily basis over a period of 180 days, with a possible extension of 75 days to cover the bridging period until the next Gauteng DoH Provincial Tender for HCRW collection and treatment is implemented by 1 October 2003.

PS 3. Description of HCRW stream and types of containers to be used.

As some modifications to existing HCRW treatment facilities may be required in order to be able to accommodate the various reusable and some disposable containers that will be tested during the Pilot Studies, the Companies submitting Quotations will be required to make provision for this in their respective Quotations. Except for lifting tailgates that will be provided on the HCRW collection vehicles, all other equipment and facilities required for the treatment and disposal of the HCRW, as well as the cleaning and disinfection of both 660 or 770-litre wheelie bins as well as 50 and 100-litre plastic boxes, is to be provided by the Treatment Company submitting a Quotation.

The types of HCRW generated at the Leratong hospital and the Itireleng Clinic that will require treatment includes the following:

- General infectious waste (typical items: used disposable bandages, swabs, masks, surgical gloves, surgery gowns, etc. that contain pathogenic microorganisms.);
- Infectious sharps (typical items: used syringes with needles, scalpels, etc.);
- Pathological waste (typical items: body tissue, blood, etc.);
- Pharmaceutical waste (in small and infrequent quantities from Leratong Hospital).

HCRW will be delivered to the treatment facility in either reusable 660-litre or 770-litre wheelie bins, as well as in 50-litre and 100-litre reusable plastic box containers having 'clip-on' lids. Except for 10-litre or 20-litre specicans with pathological (anatomical) waste that may be delivered separately, all other disposable containers (for example sharps containers) will be contained within the reusable containers and will therefore not require separate handling when delivered to the treatment facility.

Drawings detailing the dimensions of the reusable box containers will be presented to Companies submitting Quotations during the Quotation meeting to be held on Monday, 4 November 2002.

Any requirements by the contractor for special identification of any particular HCRW containers (for instance the marking of pathological waste containers), is to be indicated by the Company submitting the Quotation, and where their particular treatment processes do not make allowance for the treatment of such HCRW, the strategy for treatment and disposal thereof is to be described in the Method Statement. It will however be required from all Companies submitting Quotations to demonstrate their ability to directly or indirectly treat all of the HCRW categories listed above in an environmentally sound and safe manner.

Although provision is made in the Schedule of Rates and Quantities for HCRW treatment to be recorded and remunerated in accordance with the *mass* delivered based on the unit rates submitted in the Quotation, the estimated average HCRW mass to be treated per month is as follows:

Itireleng Clinic - 0.8 tonne per month;
Leratong Hospital - 12 tonne per month.

It is however to be noted that the amount of HCRW indicated in the Schedule of Rates and Quantities is estimated and may vary. The above information should therefore only be used as a guide.

PS 4. Project Programme

Companies submitting Quotations are required to evaluate the proposed key dates provided below on which the pilot projects are due to start and end and submit a preliminary programme with their Quotations, which shall include an indication of the contractor's ability to provide the required equipment and infrastructure on time. The preliminary programme will be taken into consideration in the adjudication of the Quotations and will become part of the Contract document.

The Pilot Projects at the Itireleng Clinic and Leratong Hospital is expected to start on 20 January 2003 and shall be completed after approximately 180 days unless terminated at an earlier date or amended in accordance with Contract provisions. The possibility does however exist for a further extension of 75 days, as a bridging period between the pilot studies and implementation of the new Provincial tenders. The proposed programme must clearly indicate how soon after appointment the contractor will be in a position to render the service in accordance with these specifications.

In order for Companies submitting Quotations to be able to effectively recover any fixed and variable costs that will be incurred (for example in the purchase of equipment like bin lifters or bin washers), allowance is made for this under the Preliminary and General section in the Schedule of Rates and Quantities. Companies submitting Quotations are however to note that depending on the outcome of the Pilot Projects, there is a possibility that either of the two container systems tested in the Pilot Studies, may be prescribed as the required system for use under the next HCRW management Tender for Provincial Clinics and Hospitals in Gauteng, that is due to commence on 1 October 2003.

The Contractor shall liase with the Consultant in the drawing up of a detailed programme of work, based on the preliminary programme, within 14 days of the date of award of the Contract. The work programme shall be presented in detail before implementation to allow for the timely incorporation of any comments or concerns that may be expressed by the Employer, the Consultant, the management of the health care facilities, the DoH or any of their elected specialist advisors.

The last phase of a HCRW composition study will be conducted for a period of two weeks towards the end of the pilot period. During this time HCRW samples will be taken at Leratong Hospital to be sorted, treated and disposed of by Millennium Waste, who was awarded the contract to undertake the HCRW composition study.

PS 5. Interfacing

5.1 Interfacing with HCRW collection and transport contractor:

Buhle Waste is the contractor that will, in terms of the existing Gauteng HCRW management contract for that particular Region, be responsible for the collection and transport of HCRW from the Pilot Study health care facilities to the appointed treatment facility. The main area of interface for the HCRW treatment contractor will therefore be with the HCRW collection and transport contractor, as the party responsible for transport and disposal of treated HCRW residues will be considered to be a subcontractor to the appointed HCRW treatment contractor.

It will be expected of HCRW treatment facility operators to cooperate and provide any assistance required when HCRW from the Pilot Study health care facilities is delivered for treatment. Although it will not be expected that preferential treatment be given to such vehicles (as the pilot study is aimed at providing results from tests undertaken under realistic operational conditions), these vehicles should not be delayed in any way. Access to the cleaned and disinfected containers should also be readily available to the waste collection contractor, and vehicle access for the waste collection contractor is to be provided within 30-m from the clean container storage area.

All HCRW mass recordings are to be done in accordance with the stipulations of the Gauteng Health Care Waste Information Framework Document (January 2002), and details thereof are to be reported to the relevant authorities.

Even though the HCRW treatment contractor will be allowed to liase directly with the HCRW collection and transport contractor in order to streamline the required interface, the Consultant should be kept informed and written copies of all communication are to be forwarded to the Consultant.

Any problems in terms of the way in which HCRW is transported or delivered that could influence the durability of the containers or the effectiveness of the treatment process, are to be recorded and the information made available to the project consultant on request. Feedback is also to be provided on the efficiency with which reusable HCRW containers are disinfected and the effectiveness of keeping such bins disinfected during storage and transport thereof.

5.2 Interfacing with Pilot Study health care facilities.

No direct interfacing with the Pilot Study health care facilities will be permitted, and all communications with such institutions shall be relayed through the Consultant. Any problems in terms of the way in which HCRW is segregated or containerised that could impact on the effectiveness of the treatment process, are to be recorded and the information made available to the Consultant on request.

Companies submitting Quotations should not communicate or deal with the Pilot Study Health Care Institutions directly in order to prepare their respective Quotations, but are encouraged to contact the Consultant if any further information is required.

PS 6. HCRW Treatment Facilities

6.1 Lifting mechanism for emptying of reusable containers at HCRW treatment plant.

The contractor will be responsible to provide his/her own equipment capable of handling either 660-litre or 770-litre wheelie bins. No manual or unsafe lifting of wheelie bins will be permitted and all equipment should meet the safety standards required by the Occupational Health and Safety Act. For example, the tare (empty) mass of a 770-litre wheelie-bin is approximately 50 kilograms, while the gross mass of a 770-litre wheelie-bin containing HCRW is expected to average approximately 120 kilograms. No worker should be allowed to lift units weighing in excess of 15 kg.

The HCRW unloading system should further allow for the use of reusable plastic boxes with capacities of 50-litre and 100-litre respectively. Although mechanical handling of such reusable containers would be the preferred option, manual handling of plastic boxes

of that capacity will be permitted, provided that such activities would not create unsafe working conditions or result in the spillage of HCRW. The tare mass of the 50 and 100-litre capacity boxes is approximately 4 and 6 kilograms respectively; the gross mass is expected to average 12 and 15 kilograms, respectively.

Should 660-litre wheelie bins be used, it will be sourced from Otto Industries SA, whereas if 770-litre wheelie bins are used, it will be sourced from Plastic Omnium. Drawings detailing the dimensions of the 50-litre and 100-litre plastic box containers will be made available to companies submitting quotations.

The contractor will take full ownership of the aforesaid equipment and it should therefore be compatible with the HCRW treatment facility that is to be used.

6.2 Bin cleaning, disinfection and inspection.

The relatively short duration of the contract will not make it justifiable for the Companies submitting Quotations to provide fully mechanised equipment that is capable of washing and disinfecting all types of reusable containers proposed to be tested during the Pilot Studies. Manual handling of reusable bins will therefore be permitted during the cleaning and disinfection process, provided that the system proposed is such that workers will be fully protected from any contact with the used or unused wash water or disinfection water during the cleaning and disinfection process. Workers should further be protected against any injuries that could occur during the manual handling of the reusable bins, and the maximum allowable lifting mass of 15-kg will once again apply.

The cleaning and disinfections process must be carried out in accordance with the specifications outlined in Annexure P: 'Cleansing, disinfection and inspection of reusable health care risk waste containers'.

A suitable runoff collection system should also be provided that diverts all polluted water to a sewer system that would prevent any release of contaminants into the environment. The runoff collection system is to be equipped with a grid that will prevent any particles in excess of 10-mm diameter from entering the sewer. The aforesaid grid is to be maintained and cleaned at regular intervals as required to prevent any blockage. Solids retained by the grid are to be handled, treated and disposed of with the same precautions and in the same manner as for HCRW sharps.

Once cleaned, all reusable HCRW containers shall be thoroughly dried in a manner that will not be to the detriment of the disinfection, after which it will be inspected by a component person to ensure that the cleaning, disinfection and drying was done in an effective manner.

Contractors are, as part of the Method Statement, to indicate the procedure for and frequency at which spore testing will be done to ensure that the disinfection process meet the required standards.

6.3 Reusable container storage facilities.

Storage facilities are to be provided for the separate storage of contaminated and disinfected reusable HCRW containers. It is to be ensured that the storage areas will not allow for the disinfected containers to become contaminated in any way between the time of disinfection and the time of collection for transport to the respective Pilot Study health care facilities. The storage facilities should further be well secured with suitable access control, to prevent any theft or damage to the containers.

Responsibility for protecting and safeguarding of containers will be transferred from the transport contactor to the HCRW treatment contractor at the time that the full HRW containers are delivered to the treatment facility, with the responsibility being transport back to the transport contractor at the time that the clean and disinfected containers are collected.

During the time that the reusable containers are at the HCRW treatment facility, the HCRW treatment contactor will be responsible to replace any containers that were damaged or stolen between the time that the containers were delivered to the treatment facility and the time that it was collected by the HCRW transport contractor.

6.4 Site Instruction book

A triplicate book for operational instructions, provided by the Contractor for the Pilot Study facilities, shall at all times be kept on the HCRW treatment facility at a location agreed upon with the Employer and the Consultant. All instructions by the Employer or Consultant will be recorded in this instruction book for the full duration of the Pilot Studies.

6.5 Site Diary

A diary is to be provided by the Contractor for recording of any incidents or accidents directly related to the use of the reusable containers tested as part of the Pilot Studies, and the consultant shall at all times have access to this information.

6.6 Refuse

Any material that may spill from HCRW containers during the handling thereof, is to be collected in an appropriately safe manner and re-containerised for environmentally sound treatment and disposal thereof.

PS 7. Method Statement

Companies submitting Quotations are to provide a concise Method Statement in narrative form outlining the manner and timeframe within which the ***non-standard*** requirements (i.e. handling of the various types of reusable containers as well as the cleaning and disinfection thereof) of the Contract will be accomplished. This will be used during the evaluation of Quotations in determining the Company's ability to deal with the particular HCRW stream that is to be managed. This Method Statement should be based on the Scope of Work and Project Specification as well as all other requirements outlined in this Request for a Quotation. The Method Statement may include comments or suggestions for improvements to the proposed work, but where such suggestions will have a significant impact on the outcome or extent of the overall Quotation, it is to be submitted as an Alternative Quotation.

Notwithstanding the above, Companies submitting Quotations are to ensure that their Method Statements meet all appropriate legal requirements. Compliance with the Project Specification, will not indemnify Contractors from any legal requirements that may have to be adhered to, and in particular the Occupational Health and Safety Act requirements.

The following items are inter alia to be included as part of the Method Statement:

a. A description of the equipment to be used and techniques to be applied for unloading of HCRW from reusable 660-litre or 770-litre wheelie bins, as well as 50-litre and 100-litre plastic box containers into the loading bay of the HCRW treatment facility;

b. A description of the equipment to be used and techniques to be applied for cleaning, disinfection and drying of reusable 660-litre or 770-litre wheelie bins, as well as 50-litre and 100-litre plastic box containers;

c. A description of the facilities and systems to be used for the onsite storage of full as well as empty (disinfected) reusable HCRW containers.

Companies submitting Quotations are further invited to provide any additional information that would help the Consultant to have a better understanding of and evaluate the particular Quotation in terms of any other matters that may not exactly fit within any of the above categories.

PS 8. Key Personnel

Companies submitting Quotations are to provide a list of proposed key project personnel listed by name, title, duties for which they will be responsible as well as relevant experience in the form of CV's. Although more than one function listed may be performed by any individual, personnel to be listed should include at least the following:

a) The overall coordinator for the HCRW treatment component of the Pilot Studies;

b) The person(s) responsible for carrying out the receiving, data capturing and recording of all incoming HCRW from the Pilot Study health care facilities;

c) The person(s) responsible for the onsite handling, cleaning, disinfection and drying of reusable containers;

d) The person(s) responsible for onsite storage and dispatching of reusable containers.

If Companies submitting Quotations expect to recruit new or additional personnel to fill any of these positions, they should describe the minimum qualifications and experience that will be required for the various positions.

Companies submitting Quotations are also to provide a concise description of the experience of the firm and each of the key personnel that is relevant to this part of the Pilot Studies.

Finally, if possible, Companies submitting Quotations are to provide the names, addresses, and phone numbers of at least two references from each of two or more projects that are similar to the Scope of Work, with similar complexity and nature of work.

The Companies submitting Quotations shall furnish the Employer and the Consultant with a list of addresses and telephone numbers of key personnel in the Contractor's organisation who may be contacted in the event of an emergency related to the project both during and outside office working hours.

PS 9. Contractor's personnel and equipment

If during the course of the Contract the Consultant considers that any personnel or item/s of equipment are in any way inefficient or inadequate to undertake the HCRW treatment and reusable bin cleaning, disinfection and drying according to the Contract requirements, he/she shall have the right to call on the Contractor to either:

- Provide additional training for the personnel, or
- Remove such incompetent personnel and replace them with competent personnel, or

- Put the equipment in order, or
- Remove such equipment and replace it with other efficient equipment, or
- Provide additional personnel or equipment.

No additional payment shall be made to the Contractor for expenses incurred in complying with any or all of the above, the cost being deemed to be included in the Contractor's Quoted rates.

PS 10. Orders

On acceptance of this Quotation the Contractor is to ascertain if all equipment and material to be supplied by him/her can be obtained in South Africa, and if not, steps are to be taken to import the same so that the Pilot Study is not delayed. Delay in the Pilot Study owing to late or non-delivery of equipment or materials proposed in accordance with the Quotation programme, could result in the contractor being penalised.

PS 11. Handling of HCRW

The need for manual handling of HCRW containers both during emptying for treatment as well as during cleaning and disinfection shall, wherever practical, be reduced to the minimum. In particular, the work must be arranged to ensure:

- Availability of washing facilities, soap, hand-disinfectant, clean work clothes, first aid kit, separate dining facilities, etc.;
- Availability of spill kits, inter alia including disinfectant to be used in the event of spills, etc.;
- Availability of appropriate gloves and other Personal Protective Equipment (PPE);
- That cleaning, disinfection and drying of containers is carried out in a well-ventilated area that is protected from the elements, with good lighting;
- That a competent supervisor is present at all times of work;
- That all HCRW be regarded as potentially infectious waste that may also contain infected sharps;
- That the work area be kept clean and that any spillage be cleared immediately.

PS 12. Personnel training

All of the Contractor's personnel must receive sufficient technical as well as Occupational Health and Safety training before handling HCRW generated at the Pilot Institutions. This training is vital for ensuring worker health and safety during the treatment of HCRW as well as during cleaning, disinfection and drying of reusable containers. All of or selected personnel involved in the handling of HCRW must be trained and be familiar with the contractor's health and safety plan, as well as any emergency procedures that may be required.

PS 13. Security and safety regulations

The Contractor is to familiarise himself and comply with all safety regulations, statutes and regulations governing HCW management activities. The safety of all personnel at the HCRW treatment facility shall be the sole responsibility of the Contractor. Although only serving as background information, Contractors are referred to an extract from the ***Guidelines for Occupational Exposure to Bloodborne Pathogens, 2001*** (ICASA Working Group: Roberts S; Van Wyk A; Pearse J) presented in Annexure M.

As part of the Method Statement to be provided by Companies submitting Quotations, the Contractor is to submit copies of its health and safety plan that is to be used to ensure the safety of the persons being involved in or affected by the treatment of HCRW as well as the cleaning, disinfection and drying of reusable HCRW containers. This health and safety plan should fully conform to the requirements of the South African Occupational Health and Safety (OHS) Act, and the successful Contractor is to ensure that all workers adhere to the requirements stipulated in the plan. A description is to be provided of amongst others all equipment, procedures, training, and other measures that will be taken to ensure the health and safety of all personnel working on the project.

Quotations submitted should outline all aspects that are to be included in the health and safety plan. The Contractor is to indicate for instance the vaccination programme that is implemented for all workers, and what retroviral will be available to workers in the event of needle stick injuries. A daily record of each person working on any aspect of this component of the Pilot Studies should be kept and each person shall state on that record any occupational health and safety incidents that may have been experienced during the day, particularly including any needle stick injuries or other abrasions of the skin, feet and hands.

All personnel employed (whether permanent or temporary) shall be adequately insured and no untrained persons shall be allowed to carry out any work under this agreement.

PS 14. Sub-Contractors (Nominated or approved)

The Contractor shall be responsible for work carried out by both nominated and approved sub-contractors on his/her behalf. Neither the Employer, nor the Consultant will liase directly with any sub-contractors. Problems related to payments, programming, materials, equipment, quality of work, etc, shall be the concern of the Contractor and the sub-contractor, and the Employer and Consultant will not become involved.

Contractors will be held responsible for the Occupational Health and Safety of all nominated or approved subcontractors (including temporary staff employed for the duration of the Pilot Study), and are therefore inter alia to ensure that the required Occupational Health and Safety training, as well as the necessary Personal Protective Equipment (PPE), be provided and implemented/utilised.

PS 15. Standing Time

No payment will be made for standing time.

Standing time will also not be considered when work is suspended as a result of default on the part of the Contractor, particularly when the Contractor is at default with the implementation of the Occupational Health and Safety Act requirements.

PS 16. Project Meetings

The Consultant shall hold regular site meetings and keep and circulate minutes, as the HCRW treatment forms an integral part of the overall HCRW Pilot Studies. The Contractor **shall be** represented by a person with sufficient delegated powers to act on behalf of the Contractor and **shall further ensure** that all sub-contractors are represented.

The Consultant will provide a venue for the meetings, which is likely to be at either of the Pilot Study institutions or alternatively at the DACEL office in Johannesburg.

PS 17. Site maintenance

During progress of the work and upon completion, the HCRW treatment facility and container storage areas shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the site free from debris and obstructions.

PS 18. Access to properties

The Consultant, including his/her representative, will at all times have unobstructed access to the HCRW treatment facility as well as the container cleaning and storage areas, after he/she has reported to the supervisor. Access to areas considered to be unsafe is to be pointed out and the Consultant, including his/her representative, undertakes to adhere to any such warnings.

PS 19. Restricted Areas

Any restrictions placed on the movement of the HCRW collection and transport contractor is to be communicated in advance with the transport contractor as well as the Consultant, and such restrictions shall not in any way hamper the efficiency with which HCRW can be offloaded at or empty containers collected from the HCRW treatment facility.

PS 20. In-kind Services and Equipment Expectations

Companies submitting Quotations are to provide a list of in-kind services or equipment that may be required from the Employer, the Consultant, the Pilot Study Institutions or others. Should such in-kind services or equipment be a condition of the Quotation, Companies submitting Quotations are to list such items in Annexure E, Amendments or Qualifications by the Company submitting a Quotation.

PS 21. Publications and Advertising

The Contractor shall not publish, or cause to be published any papers, articles or information relating to the Pilot Study nor permit any advertising mentioning the subject of this contract and he shall not display or allow his Sub-Contractors to display any advertisements at the Pilot Study health care facilities or elsewhere in connection with the Pilot Study without the prior permission in writing of the Consultant.

PS 22. Applicable Standardised Regulations and Legislation

For the purpose of this Contract, the following standardised Regulations and Legislation, together with all sub-sections thereof shall inter alia apply:

- Occupational Health and Safety Act (Act 85 of 1993)
- Addressing the Health Care Waste Problem in Gauteng. A Policy for Environmentally Sustainable HCW Management in Gauteng Province (November 2001);

SCHEDULE OF RATES AND QUANTITIES

Preamble

General Note: Contractors are to take cognisance of the fact that the Consultant, RAMBØLL, will be liable for payment of any items listed under Section A: Preliminary and General, whereas the Employer: Buhle Waste Management, will be liable for payment of any items listed under Section B: Health Care Risk Waste Treatment and Disposal.

The aforesaid parties will not in any way become liable for any payment, other than what is referred to above and there will not be any shared liabilities during the execution of this contract.

1. The Schedule of Rates and Quantities must be read in conjunction with the Conditions of Quotation, the Project Specifications and Annexures and all other data included in these documents for the full intent and meaning of each clause or item.

2. Companies submitting Quotations are advised to check the number of pages and, should any be found to be missing or in duplicate or the figures or writing indistinct or this Schedule of Rates and Quantities contains any obvious errors, the Companies submitting Quotations must inform the Consultant at once and have it rectified. No liability whatsoever will be admitted in respect of errors due to the foregoing.

   Should there be any doubt or obscurity as to the meaning of any particular item, the Company submitting the Quotation must obtain an explanation of it, in writing, from the Consultant. No claims for extras arising from any such doubt or obscurity will be admitted after submission of the Quotation.

3. Companies submitting Quotations are advised to read carefully the Specifications in so far as they apply to items in the Schedule of Rates and Quantities. Descriptions of activities described in the Schedule of Rates and Quantities are abbreviated.

   No claim whatsoever will be allowed in respect of errors in pricing due to abbreviation of the description of items which are fully described when read in conjunction with the relevant specification.

4. Companies submitting Quotations is hereby advised that the quantities provided in the Rates and Quantities are preliminary estimates, and any errors (whether in excess or short of the actual quantity, or insufficiently or incorrectly described) will be adjusted on completion of the contract by the Consultant. For this purpose, the whole of the contents of the Schedule of Rates and Quantities are to be considered as provisional and therefore subject to re-measurement and adjustment in part or as a whole. All such adjustments will be based on, or pro-rata to, the schedule unit prices submitted by the Contractor.

5. It is deemed that provision for head office overheads, consumable stores, profit, etc., as well as all labour, material and equipment costs, is made in the priced items of the measured schedule following the preliminary and general schedule and that any increases and decreases in the measured quantities will correspondingly adjust for these charges.

6. Companies submitting Quotations are referred to the Project Specification in which further information in respect of certain scheduled items can be obtained. This is meant as an aid to Companies submitting Quotations but does not imply that the Specifications or clauses referred to are the only sources of information in respect of these items and further information and explanations may be found elsewhere in the Quotation documents and in the Annexures.

7. The sum and unit prices to be inserted in the Schedule of Rates and Quantities are to be the fully inclusive value of the work described under the several items, including all costs and expenses which may be required in and for the execution of the work described, together with all general risks, liabilities and obligations set forth or implied in the documents on which the Quotation is based.

8. All unit prices shall be quoted nett and be exclusive of Value Added Tax (VAT). Provision is made in the summary page for the addition of Value Added Tax to the total of the various Sections comprising the Schedule of Rates and Quantities.

9. All unit prices, extensions and totals must be entered in the Schedule in BLACK INK.

   A sum or unit price is to be entered against each item in the Schedule of Rates and Quantities, whether quantities are stated or not. Items against which no price is entered will be considered as covered by other prices or rates in the schedule.

   The Companies submitting Quotations is at liberty to insert a rate of his own choosing for each item in the schedules and his attention is drawn to the fact that the Contractor has the right, under various circumstances to payment for additional works carried out, and that the Consultant is obliged to base his assessment of the rates to be paid for such additional work on the rates inserted in the schedule by the Contractor.

   In cases where schedule rates are considered to be too high, such rates may be of sufficient importance to warrant rejection of a Quotation.

10. All prices shall be quoted in the currency of the Republic of South Africa and will be held to be firm without any escalation over the period required for the execution of the overall Pilot Study as allowed for in the programme.

11. Where any discrepancy exists between the unit price and the extended total against any item, the discrepancy will be adjusted by altering the total amount filled in against such item and, consequently, the total Quotation sum.

SCHEDULE OF RATES AND QUANTITIES

Section A: Preliminary and General.

The Consultant will be liable for any payment due in Section A.

Item No	Item Description	Unit	Quantity	Rate (Rand)	Amount (Rand)
A1	Supply, fit (and remove if required) bin lifter capable of handling 660-litre or 770-litre reusable wheelie bins or any other mechanism that safely can feed HCRW from the wheelie bin into the treatment plant without requiring manual lifts in excess of 15 kg or any other unacceptable adverse occupational, safety or health impacts.	Sum	1		
A2	Supply, fit (and remove if required) equipment required for loading of both 50-litre and 100-litre reusable plastic box containers.	Sum	1		
A3	Supply, fit (and remove if required) bin washing, disinfecting and drying equipment capable of handling 660-litre or 770-litre reusable wheelie bins as well as 50-litre and 100-litre reusable plastic box containers.	Sum	1		
				Total Estimated Cost for Section A (VAT Excluded):	
				VAT @ 14%:	
				Total Estimated Cost for Section A (VAT Included):	

Section B: HCRW Treatment and Disposal.

The Employer will be liable for any payment due in Section B.

Item No	Item Description	Unit	Quantity	Rate (Rand/kg)	Amount (Rand)
B1	Treatment and disposal of HCRW delivered in disposable specicans, 50-litre and 100-litre reusable plastic box containers as well as in 660-litre or 770-litre reusable wheelie bins, over the full duration of the pilot studies as well as the period leading up to the implementation of the new Provincial Quotations, including: • Cleaning, disinfection and storage of all reusable containers, with a turnaround time of less than 24 hours from date and time of delivery to HCRW treatment plant; • Maintenance of equipment required for loading and emptying of all reusable containers, including all consumables; • Maintenance of bin washing, disinfecting and drying equipment capable of handling all reusable containers, including all consumables. (The mass of reusable containers is to be excluded from this).	kg	108 800 (12 800 kg p/m over 8,5 months)	.	
Total Estimated Cost for Section B (VAT Excluded):					
VAT @ 14%:					
Total Estimated Cost for Section B (VAT Included)					

Summary to Schedule of Rates and Quantities

Section A:	Preliminary and General (VAT Excluded)	R……
Section B:	HCRW Treatment and Disposal (VAT Excluded)	R……
	Sub Total (Excluding VAT)	R……
	VAT @ 14%	R……
	Total Amount of Quotation	R……

LIST OF ANNEXURES

Annexure No.	Description	Page No.
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A1. Form of Quotation for "Section A: Preliminary and General" of the Schedule of Rates and Quantities.

(Note: The forms to be completed by the Companies submitting Quotations form part of the Contract document)

RAMBØLL
P.O. Box 10610
Fourways East
2055

Sir/Madam,

Having examined the complete Quotation enquiry, we offer to provide all equipment required for the treatment and disposal of all Health Care Risk Waste (HCRW) generated at selected health care facilities used for the execution of pilot studies over the proposed period of 180 days (plus a possible further 75 days), as detailed herein and in conformity with all specified requirements as well as the duly completed Appendix, Schedules and Forms (all attached hereto) for the sum of

R ……………………………………………… (in words) ………………………………………………………………………

……(VAT Excluded and in accordance with **Section A of the Schedule of Rates and Quantities**) or such other sum as may be ascertained in accordance with the Contract.

In the event of there being any errors of extension or addition in the priced Schedules of Rates and Quantities, we agree to it being corrected, the rates being taken as correct.

Unless and until a formal Agreement is proposed and issued, this Quotation, together with written acceptance thereof by yourselves, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any offer you may receive and that no reason for the acceptance or rejection of an offer will be given.

This offer shall remain valid for **sixty (60) days** from closing date for the submission of offers.

Signed on behalf of contractor ……………………………………………………………………………

Name of Signatory: ……………………………………………………………………………

Name of Contractor (Firm): ……………………………………………………………………………

We choose domicilium citandi et executandi in South Africa at:

Physical Address: ……………………………………………………………………………

……………………………………………………………………………

……………………………………………………………………………

.....

Postal Address: .....

.....

.....

.....

Telephone Number: .....

Fax Number: .....

E-mail Address: .....

Date: .....

Witnesses: 1. .....

2. .....

A2. Form of Quotation for "Section B: Health Care Risk Waste Treatment and Disposal" of the Schedule of Rates and Quantities.

(Note: The forms to be completed by the Companies submitting Quotations form part of the Contract document)

BUHLE WASTE MANAGEMENT
P.O. Box 12662
Katlehong.
1432

Sir/Madam,

Having examined the complete Quotation enquiry, we offer to treat and dispose of all Health Care Risk Waste (HCRW) generated at selected health care facilities used for the execution of pilot studies over the proposed period of 180 days (plus a possible further 75 days), as detailed herein and in conformity with all specified requirements as well as the duly completed Appendix, Schedules and Forms (all attached hereto) for the sum of

R .... (in words) ....

....(VAT Excluded and in accordance with **Section B of the Schedule of Rates and Quantities**) or such other sum as may be ascertained in accordance with the Contract.

In the event of there being any errors of extension or addition in the priced Schedules of Rates and Quantities, we agree to it being corrected, the rates being taken as correct.

Unless and until a formal Agreement is proposed and issued, this Quotation, together with written acceptance thereof by yourselves, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any offer you may receive and that no reason for the acceptance or rejection of an offer will be given.

This offer shall remain valid for **sixty (60) days** from closing date for the submission of offers.

Signed on behalf of contractor ....

Name of Signatory: ....

Name of Contractor (Firm): ....

We choose domicilium citandi et executandi in South Africa at:

Physical Address: ....

....

....

....

Postal Address: .....

.....

.....

.....

Telephone Number: .....

Fax Number: .....

E-mail Address: .....

Date: .....

Witnesses: 1. .....

2. .....

B. Appendix to Quotation

Address and contact details of Employer:	BUHLE WASTE MANAGEMENT P.O. Box 12662 Katlehong. 1432 Tel: (011) 866-2316 Fax: (011) 866-2321 E-mail: ibuhle@iafrica.com
Address and contact details of Consultant:	RAMBØLL P O Box 10610 Fourways East 2055 Tel: (011) 355-1664 Fax: (011) 355-1663 E-mail: tok@ramboll.dk
Address and contact details of Contractor:	Name: …… Address …… …… …… Tel: …… Fax: …… E-mail: ……
Amount of Surety:	Not Required.
Date on which HCRW treatment for pilot studies expected to Commence:	20 January 2003
Special Risks insurance to be arranged by:	Contractor.
Amount of Special Risks Insurance:	R 500 000-00
Liability insurance to be arranged by:	Contractor.
Minimum amount of Liability Insurance:	R 3 000 000-00
Special Non-working Days:	None.
Time for Completion of pilot studies:	180 days (plus a possible further 75 days) from date for commencement of pilot studies.
Amount of Penalty for delay:	Not Applicable.

Percentage advance on project:	0 %
Percentage Retention:	0 %
Delivery of Contractors final Statement:	Within 60 days after certified date of completion of pilot studies (or of completion of the possible 75 day extension to the Contract).
Defects Liability Period:	Not Applicable.
Settlements of disputes to be by reference to:	Mediation or, if failing to resolve the dispute, Arbitration
Escalation:	**Fixed Price - No escalation.**
Period of validity of Quotation:	**Sixty (60) days** from closing date for submission of Quotations.

…… ……..…..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION:

DATE:

C. Certificate of Attendance of Quotation Meeting

This is to certify that I, ……..…….. as authorised representative of

…… have attended the Quotation meeting on ……..……..

2002 and satisfied myself as regards all conditions and other factors which may affect our Quotation.

……..	……..
Signature of Company submitting Quotation's Representative	Signature of Consultant
……..	……..
Signature of Company submitting Quotations	Date

D. Authority for Signatory

Signatories for closed corporations and companies shall confirm their authority by attaching to this form a duly signed and dated copy of the relevant resolution of their members or the board of directors, as the case may be.

An example of a resolution for a company is shown below:

By resolution of the board of directors taken on ……2002

Mr/Ms ……..….. was duly authorised to sign all documents in connection with the Quotation for the treatment and disposal of Health Care Risk Waste generated from selected health care facilities used in the pilot studies and any contract that may arise there from on behalf of

……
(Block Capitals)

……..…..
SIGNED ON BEHALF OF THE COMPANY/CLOSED CORPORATION

IN HIS CAPACITY AS: ……..….

DATE: ……..….

SIGNATURE OF SIGNATORY: ……..….

E. Amendments or Qualifications by the Company submitting the Quotation

Should the prospective Contractor desire to make any departures from or modifications to the Conditions of Quotation, Specifications, Schedule of Quantities or Annexures, or to qualify his/her Quotation in any way, he/she shall set out his proposals clearly hereunder or alternatively state them in a covering letter attached to his/her Quotation and referred to hereunder, failing which the Quotation will be deemed to be unqualified.

If no departures or modifications are desired, the Schedule hereunder is to be marked NIL and signed by the Company submitting a Quotation.

PAGE	CLAUSE OR ITEM	DESCRIPTION

…… ……..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION: DATE:

F. Schedule of Labour and Equipment

The Contractor shall list the additional labour and equipment establishment in detail, which he/she intends to provide for the execution of the project for treatment of HCRW generated during the Pilot Studies.

The Contractor guarantees all the items of major equipment listed will be provided at the HCRW treatment facility in perfect working order. The list of items of equipment shall provide the Contractor's warranty of ownership of such equipment unless specifically endorsed in this Annexure to the contrary as "hired" or "hire purchase equipment".

NOTES:

1. The rates in the Schedule of Rates and Quantities shall include all profit, overheads, operating costs including wages of operators and attendants, transport to and from site etc.

2. This schedule must be accurately completed. Phrases such as "adequate equipment will be provided" will not be accepted.

Acceptance of the Quotation does not imply acceptance by the Consultant of the labour establishment and equipment proposed herein.

ADDITIONAL LABOUR ESTABLISHMENT

CATEGORY OF EMPLOYEE	NUMBER EMPLOYED	
	Minimum	Maximum

ADDITIONAL EQUIPMENT

MAKE and MODEL	Size or capacity	Owned / hired	Capital Value

…… ……..…….

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION:

DATE:

G. Schedule of Similar Work Carried out by the Company submitting Quotation

The Company submitting the Quotation must insert in the spaces provided below a complete list of similar Contracts awarded to him. This information shall be deemed to be material to the award of the Contract.

EMPLOYER (Name, tel. no. and fax no.)	CONSULTANT. (Name, tel. no. and fax no.)	NATURE AND LOCATION OF WORK AND YEAR COMPLETED.	VALUE OF WORK.

…… ……..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION: DATE:

H. Schedule of Sub-Contractors

The Company submitting the Quotation is to complete the schedule below specifying all Sub-Contractors he intends using on the Contract. Detailed references, examples and magnitude of work undertaken by such sub-contractors shall be submitted to the Consultant for consideration prior to commencement of the portion of the Study that the Contractor intends to sublet.

Acceptance of a Quotation does not imply acceptance by the Consultant of the Sub-Contractors proposed herein, and the Contractor is deemed to be responsible for carrying out all of this work himself should agreement to the proposed sub-contractor(s) not be reached.

If no sub-contractors are proposed, the schedule hereunder is to be marked NIL and signed by the Company submitting the Quotation.

NAME OF SUB-CONTRACTOR	SECTION OF THE WORK	TOTAL VALUE OF ITEMS COVERED BY SUB-CONTRACT

…… ……..…..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION: DATE:

I. Supervisory Staff

The Company submitting the Quotation is to complete the schedule below specifying all supervisory staff he intends placing on the contract full-time. The CV's of the supervisory staff are to be attached.

Acceptance of a Quotation does not imply acceptance by the Consultant of the staff proposed herein.

STAFF MEMBER	DESIGNATION	YEAR'S SERVICE WITH COMPANY SUBMITTING THE QUOTATION	SECTION OF CONTRACT TO BE SUPERVISED

These staff members or any subsequent replacement thereof shall be designated "key personnel" and shall not be removed from the HCRW treatment project without the prior written consent of the Consultant.

…… ……..…..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION: DATE:

J. Programme of Work Leading up to Commencement and after Completion of Pilot Studies

ACTIVITY	**WEEK**															
	Pre Pilot Study Activities								Pilot Studies & period up to Provincial Tender	Post Pilot Study Activities						
Week No. → Activity Description↓	1	2	3	4	5	6	7	8	Approximately 8,5 months	1	2	3	4	5	6	7	8
1.																	
2.																	
2.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	
11.																	
12.																	
13.																	
14.																	
15.																	

…… ……..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION:

DATE:

K. Estimated Weekly Expenditure leading up to and including the first 10 weeks of the Pilot Projects.

The Company submitting the Quotation shall state the estimated value of work to be completed every week based on the assumption that the HCRW generation is evenly spread over the Pilot Study period, based on his preliminary programme and his Quoted unit rates, in the table below.

WEEK	PRELIMINARY & GENERAL (CAPITAL) COSTS FOR THE CONSULTANT'S ACCOUNT.	HCRW TREATMENT AND DISPOSAL (OPERATIONAL) COSTS FOR THE EMPLOYER'S ACCOUNT.
1		
2		
3		
4		
5		
7		
8		
9		
10		
11 (pilot project)		
12 (pilot project)		
13 (pilot project)		
14 (pilot project)		
15 (pilot project)		
16 (pilot project)		
17 (pilot project)		
18 (pilot project)		
19 (pilot project)		
20 (pilot project)		
TOTAL		

…… ……..…..……..

SIGNED ON BEHALF OF COMPANY SUBMITTING THE QUOTATION: DATE:

L1. Form of Agreement for "Section A: Preliminary and General" of the Schedule of Rates and Quantities.

This agreement is made between RAMBØLL (hereinafter called "the Consultant") of the one part,

and ……..

of ……..

(hereinafter called "the Contractor") of the other part, herein represented by

…….

in his/her capacity as ……..

Whereas the Consultant is desirous that certain equipment be provided that is required for the treatment and disposal of certain Health Care Risk Waste Generated at Pilot Study Health Care Facilities in Gauteng, and has accepted a Quotation by the Contractor for the execution, of such works;

Now therefore this agreement witness as follows:

1. In this agreement words and expressions shall have the same respective meanings as are assigned to them in the Conditions of Quotation hereinafter referred to.

2. The following documents shall be deemed to form and be read and construed as part of this agreement, viz:

   i) The Conditions of Quotation;
   ii) The Specifications;
   iii) The priced Schedule of Rates and Quantities and Preamble thereto;
   iv) The said Form of Quotation and forms to be completed by the Company submitting the Quotation;
   v) The Annexures;
   vi) The Notices, if any, issued to the Company submitting the Quotation between the first issue of Quotation Documents and the submission of Quotations;
   vii) The correspondence, if any, between the Company submitting the Quotation and the Consultant with and after submission of the Quotations;
   viii) The Letter of Acceptance.

3. In consideration of the payments to be made by the Consultant to the Contractor as hereinafter mentioned, the Contractor undertakes to the Consultant to provide all of the equipment required for the treatment of HCRW generated at the Pilot Study Facilities so as to conform in all respects with the provisions of the Contract.

4. The Consultant hereby undertakes to pay the Contractor in consideration of the execution of the Study, the Contract Price for "Section A: Preliminary and General" of the Schedule of Rates and Quantities at times and in the manner prescribed by the Contract.

Signed in the presence of the subscribing witnesses, at …….. for and

on behalf of the CONSULTANT on this …….. day of …….. 2002

……..
SIGNATURE:

……..
CAPACITY:

AS WITNESS: 1. ……..

2. ……..

Signed in the presence of the subscribing witnesses, at …….. for and

on behalf of the CONTRACTOR on this ……. day of ……... 2002

……..
SIGNATURE:

……..
CAPACITY:

AS WITNESS: 1. ……..

2. ……..

Affix the appropriate revenue stamp and cancel with signature and date

L2. Form of Agreement for "Section B: HCRW Treatment and Disposal" of the Schedule of Rates and Quantities.

This agreement is made between BUHLE Waste Management (hereinafter called "the Employer") of the one part,

and ……..

of ……..

(hereinafter called "the Contractor") of the other part, herein represented by

……..

in his/her capacity as ……..

Whereas the Employer is desirous that certain Health Care Risk Waste Generated at Pilot Study Health Care Facilities in Gauteng be treated and disposed of, and has accepted a Quotation by the Contractor for the execution, of such works;

Now therefore this agreement witness as follows:

1. In this agreement words and expressions shall have the same respective meanings as are assigned to them in the Conditions of Quotation hereinafter referred to.

2. The following documents shall be deemed to form and be read and construed as part of this agreement, viz:

   i) The Conditions of Quotation;
   ii) The Specifications;
   iii) The priced Schedule of Rates and Quantities and Preamble thereto;
   iv) The said Form of Quotation and forms to be completed by the Company submitting the Quotation;
   v) The Annexures;
   vi) The Notices, if any, issued to the Company submitting the Quotation between the first issue of Quotation Documents and the submission of Quotations;
   vii) The correspondence, if any, between the Company submitting the Quotation and the Consultant with and after submission of the Quotations;
   viii) The Letter of Acceptance.

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor undertakes to the Employer to undertake all of the required treatment of HCRW generated at the Pilot Study Facilities so as to conform in all respects with the provisions of the Contract.

4. The Employer hereby undertakes to pay the Contractor in consideration of the execution of the Study, the Contract Price for "Section B: Health Care Risk Waste Treatment and Disposal" of the Schedule of Rates and Quantities at times and in the manner prescribed by the Contract.

Signed in the presence of the subscribing witnesses, at …….. for and

on behalf of the EMPLOYER on this …….. day of …….. 2002

……..
SIGNATURE:

……..
CAPACITY:

AS WITNESS: 1. ……

2. ……

Signed in the presence of the subscribing witnesses, at …….. for and

on behalf of the CONTRACTOR on this …….. day of ……... 2002

……
SIGNATURE:

……
CAPACITY:

AS WITNESS: 1. ……

2. ……

Affix the appropriate revenue stamp and cancel with signature and date

M. Guidelines for Occupational Exposure to Bloodborne Pathogens

WORKING GROUP

Roberts S: Unit Manager Infection Control & HIV Clinic co-ordinator, Helen Joseph Hospital.

Van Wyk A: Unit Manager Infection Control Arwyp

Pearse J: Private Infection Control Nurse Consultant

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1. Introduction.
2. Definitions.
3. Summary of Recommendations.
   (a) Preventative measures.
      (i) Protective Clothing.
      (ii) Decontamination of clinical waste.
      (iii) Handling Sharps.
      (iv) Other measures.
   (b) Measures to be taken after exposure.
      (i) First Aid.
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      (iii) Baseline testing.
      (iv) Risk assessment.
      (v) Medical examination.
      (vi) Post Exposure Prophylaxis (PEP).
      (vii) Follow up testing.
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   (c) Management of sero-conversion.
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4. Discussion.
5. Acknowledgements.
6. References.

INTRODUCTION

Guidelines to for the management of Health Care Workers (HCW) after accidental exposures to blood or body fluids which may contain Hazardous Biological Agents e.g. HIV, Hepatitis B. This document is a response to recently enacted South African legislation:

Occupational Health and Safety Act No. 85 0f 1993 (OH&S Act)
The Compensation for Occupational Injury and Diseases Act no 61 of 1997 (COID)
The Draft Hazardous Biological Agents Regulations No.R.1248
The Employment Equity Act No. 55 of 1998
The Basic Conditions of Employment Act No 75 of 1997.

The document includes:

- Preventative and protective measures for exposures to potentially harmful blood and body fluids in the Health Care Setting.
- Measures to take after exposures have occurred.
- Measures to take in the event of an infection arising from an exposure.

The document only includes bloodborne pathogens and excludes other infectious agents transmitted by other routes.

DEFINITIONS

Blood borne pathogens - Any micro-organism, carried in the blood, which is capable of causing disease.

Body fluids, which should be handled with the same precautions as blood, include:

- cerebrospinal fluid,
- peritoneal fluid,
- pleural fluid,
- pericardial fluid,
- synovial fluid,
- amniotic fluid,
- semen,
- vaginal secretions and
- breast milk,
- Any other body fluid containing visible blood, including saliva in association with dentistry and any unfixed tissues and organs.

Exposure - an exposure that may place a HCW at risk is defined as:

- a percutaneous injury (e.g. a needle stick or cut with a sharp object),
- contact of mucous membrane or non intact skin(e.g. when exposed skin is chapped, abraded, or afflicted with dermatitis), or
- contact with intact skin, with blood, tissue, or other body fluids when the duration of contact is prolonged and involves an extensive area[, with blood, tissue, or other body fluids].

Hazardous Biological Agents - Any microorganism, cell culture or human endoparasite, which may cause any infection, allergy, toxicity or otherwise create a hazard to human health.

Health Care Workers (HCW) – All personnel (both professional and non professional) working in health care settings whose activities involve contact with patients or who handle blood products and body fluids.

Standard Precautions - are applied at all times to all patients irrespective of their diagnosis. All body fluid (except sweat) are regarded as potentially infectious (see discussion)

Sharps are needles, sharp edged instruments, broken glassware or any other item which may be contaminated in use by blood or body fluids and which may cause laceration or puncture wounds. Sharp tissues such as spicules of bone or teeth may also pose a risk of injury.[1]

3. SUMMARY OF RECOMMENDATIONS

a) **Preventative measures** (Precautions)
HCW's carrying out clinical procedures should at all times observe written policies produced by their employing authority, which in turn should observe the OH&S Act and it's accompanying regulations. The regulations require employers to carry out an assessment of the work to be done and of current procedures in order to be able to prevent or control exposures to substances hazardous to health.

(i) Protective clothing:

- Gloves should be worn when there is contact with blood or body fluids. This includes venupunctures and the insertion of Intravenous lines. Gloves cannot prevent percutaneous injury but they may reduce the risk of acquiring a blood borne pathogen. Although punctured gloves allow blood to contaminate the hand, the wiping effect can reduce the amount of blood to which the worker's hand is exposed and in turn the volume of inoculated in the even of percutaneous injury.[2]
  The employer should provide latex free gloves for those members of staff experiencing problems with latex sensitivity. Junior members of staff should be taught to do these procedures using gloves from the start of their training.
- Visors/eye protection – protect the mucous membranes of the eyes with protective eyewear eyewash should be available accidental exposure. Contact lenses must be removed prior to eye washing.
- Masks protect the mucous membranes of the mouth. The type of eye and mouth protection will be guided by the amount of splashes anticipated from a procedure.
- Gowns/ plastic aprons are worn when splashing is anticipated to protect clothing and skin.

(ii) Decontamination and disposal of clinical waste:

- All clinical waste should be safely disposed of in a manner that ensures that no persons are exposed to harmful substances such as blood or body fluids once the waste has been disposed of. In urban areas these services are usually contracted out to an accredited provider of services. The waste remains the responsibility of the generator of the waste and therefore the generator must ensure that waste is disposed of in accordance with the relevant legislation.

(iii) Safe Handling and disposal of Sharps:

- Place all disposable sharps in sharps containers immediately after use. The containers should be placed out of reach of children as near as practicable to sites of use and be puncture resistant. Sharps containers must never be overfilled and disposed of as clinical waste after closing securely and be replaced promptly.
- Disposable syringes and needles, should, where possible, be disposed of as a single unit into the appropriated sharps containers.
- If the needle needs to be disposed of separately e.g. transferring blood to a container, use the needle remover on the lid of the sharps container, or if this is not available, a pair of forceps.

[1] UK Health Departments: Guidance for clinical workers; Protection against infection with Blood borne viruses - Recommendations of the expert advisory group on AIDS and the advisory Group on Hepatitis
[2] As 1.

- Avoid resheathing needles manually. If unavoidable use the single handed scoop method. When the needle tip is covered clip the sheath into position using the same hand.
- Intravascular guide wires and glass slides must be disposed of as sharps.
- During surgery use receivers to transfer sharp instruments between members of the operating team. Consideration should be given to wearing double gloves for prolonged procedures, as there is an increase on perforations, which may not be noticed, and latex gloves become porous over time due to the hydration of the latex. Double gloving does not "prevent" sharps injury, but has been shown to effect up to a six-fold decrease in inner glove puncture.
- HCW's should be encouraged to follow good practice methods. HCW's and their employers should keep themselves informed of safer methods of working. Employers should consider the benefits of introducing new safety devices such as needleless intravenous systems or safety syringes.

.

(iv) Other measures to prevent Blood borne Virus transmission:

- Hepatitis B vaccination - All Health Care Workers, who have direct contact with patient's blood and other potentially infectious body fluids or tissues should be immunised against Hepatitis B.
- Statistics on the number and possible causes of exposures must be collected and analysed to facilitate updating of policies to reduce the risk of future exposure. Policies must be regularly reviewed.

a) Measures to take after an exposure has occurred

(i) First Aid.

Immediately after any exposure, the site of exposure i.e. wound or non intact skin, should be liberally washed with soap and water. Free bleeding should be gently encouraged but the wound should not be sucked. Exposed mucous membranes including conjunctivae should be irrigated copiously with water, after first removing contact lenses.

(ii) Reporting.

HCW's who sustain an occupational exposure should report the exposure promptly and seek urgent advice on further management.

- Baseline testing. The Health Care worker should be tested for Hep BsAg, HCV and HIV to establish their status at the time incident or within a few days of the incident. Testing must always follow proper pre-test counselling.
- If possible a history of the source patient should be available, including risk factors and results of previous tests for HIV, HBV and HCV. Consent should be obtained from the source patient for these tests to be taken.

(iii) Baseline testing:

Baseline tests are taken on the HCW as soon after injury as possible. Full pre-test counselling must be given before drawing blood for HIV. Bloods taken include HIV, Hep BsAb, Hep C and syphilis. The HCW must be given an appointment to get the results from a named person so that there is follow-up.

(iv) Risk assessment.

The risk of Occupational transmission of HIV to HCW's after a percutaneous exposure to HIV infected blood is approximately 0.3% and after a mucous membrane exposure is 0.09%.
Although episodes of transmission after skin exposure have been documented the risk of transmission by this route has not been precisely quantified because no HCW's enrolled in prospective studies have sero-converted after an isolated skin exposure. The risk of transmission has been estimated to be less than the risk for mucous membrane exposure. The

risk for transmission after exposure to fluids or tissues other than HIV infected blood has also not been quantified.[3]
The risk of HIV transmission following human bites is not clear. Epidemiological studies of non sexual household contacts of HIV - infected patients, including several small series in which HIV transmission failed to occur after bites or after percutaneous inoculation or contamination of cuts and open wounds with saliva from HIV infected patients, suggests that the transmission for salivary transmission of HIV is remote[4]
The risk of transmission to a HCW has been shown to be around 1 in 3 when the source patient is infected with Hepatitis B Virus (HBV) and is "e" antigen positive[5]
The risk of infection with Hepatitis C (HCV) is estimated to be 1 in 30 when the patient is infected with HCV.

Other HBA's such as Malaria may be transmitted through exposure to Blood and it is important to establish the diagnosis of the source patient in order to take these risks into consideration.

(iv) Medical examination.

A baseline medical examination should be conducted and the exposure documented. The injury should be reported before the end of the shift in order to comply with the Occupational Health and Safety Act. Baseline tests should include HIV, Hepatitis BsAg, WR and HCV

(v) Post Exposure Prophylaxis (PEP).

1. HIV PEP is recommended for any high-risk exposure. See table.

PERCTANEOUS INJURY	RISK OF EXPOSURE	RECOMMENDATIONS FOR PEP
Superficial injury, solid needle	Some risk	Consider basic regimen
Skin puncture, visible blood on the needle, hollow needle	High risk	Recommend basic regimen
Needle used in vein or artery	Highest risk	Recommend basic regimen, Consider expanded regimen
Deep intra-muscular injury or injection into the body	Highest risk	Recommend basic regimen, Consider expanded regimen
MUCOSAL AND SKIN CONTACT	**RISK OF EXPOSURE**	**RECOMMENDATION FOR PEP**
Unbroken healthy skin	Low risk	Not recommended
Compromised skin, large volume and/or prolonged contact	Low risk	Consider basic regimen
Compromised skin, large volume and/or prolonged contact	Increased risk	Recommend basic regimen
HIV STATUS OF SOURCE	**RISK OF EXPOSURE**	**RECOMMENDATION FOR PEP**
Negative	Very low	Not recommended
Positive, Clinical AIDS and/or low	Low for small volumes of	Consider basic regimen

[3] MMWR May 15, 1998/ 47(RR-7); 1-28
[4] Guidelines for Prevention of transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health Care and Public Safety Workers. U.S. Department of Health and Human Services.
[5]

CD4 cell count and/or high viral load	blood or short duration or intact skin	
HIV Positive, Clinical AIDS and/or a low CD4 count and/or a high viral load	High risk for percutaneous injuries	Recommend basic or expanded regimen depending on the severity of the injury.
Unknown		Consider PEP on a case by case basis

Recommended PEP Drug Regimens

Drug	Dose	Frequency
Zidovudine(AZT) Lamivudine(3TC)	200mg 150mg	8 hourly 12hourly
For very high risk exposures add Indinivir	800mg	8 hourly

Hepatitis B

	Significant exposure			Non- significant exposure	
HBV status of person exposed	HbsAg Positive source	Unknown source	HbsAg Negative source	Continued risk	No further risk
≤ 1 dose HB vaccine pre exposure	Accelerated course of HB vaccine* HBIGx1	Accelerated course of HB vaccine HBIGx1	Initiate course of HB vaccine	Initiate course of HB vaccine	No HBV prophylaxis Reassure
? 2 doses HB vaccine pre-exposure (anti HBs not known)	One dose HB vaccine followed by 2nd dose one month later	One dose HB vaccine	Finnish course of HB vaccine	Finnish course of HB vaccine	No HBV prophylaxis Reassure
Known responder to HB vaccine (anti HBs ? 10 miU/ml)	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	No HBV prophylaxis Reassure
Known non responder to HB vaccine (anti HBs< 10miu/ml 2-4 months post vaccination	HBIG x 1Consider booster dose of HB vaccine	HBIG x 1Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No HBV prophylaxis Reassure

Note: An accelerated course of Hepatitis B (HBV) vaccine consists of 3 doses spaced at 0,1 and 2 months. A booster dose may be given at 12 months to those at continuing risk of exposure to HBV[6]

Hepatitis C
There is no post- exposure prophylaxis at present for Hepatitis C.

(vii) Follow up testing.

- HIV test is repeated at 6 weeks 12 weeks and 6 months. In rare instances sero-conversion can take place over a period longer than 6 months.
- If serious side effects to HIV prophylaxis are noted the baseline tests will need to be repeated.

[6] Source PHLS Hepatitis Subcommittee. CDR Review 1992:2 R97-r101.

- If Hepatitis B Immunisation is undertaken Hepatitis BsAb should be done after the course has been completed to determine the immune status of the staff member.

(viii) Post injury education.

- A full investigation into the cause of the exposure should be undertaken as laid down in the occupational health and safety act.
- Education should be given to the staff involved in order to prevent further exposures.
- Adherence to standard precautions should limit the number of exposures in a Health Care Setting.

c) Management of sero-conversion.

(i) HIV.

- The HCW *must* be referred to a practitioner experienced in treating HIV positive patients.
- Occupationally acquired HIV from an injury in the workplace is a compensatable injury.
- It is the duty of the employer to provide for the necessary procedures and costs for the management of occupationally acquired HIV exposure in the pre sero-conversion phase. This may include the HIV tests, the medical consultations, other laboratory tests, post exposure prophylaxis, and counselling.
- The Compensation Commissioner (CC) will consider compensation only from the time of sero-conversion. (this may include the test which documented the sero-conversion)
- For compensation purposes the employee must prove a link between the injury on duty and the HIV infection. For this reason it is important to document the HIV status of the employee and the source patient. Knowledge of the source patient's status will strengthen the claim. To support an application for compensation for an occupationally acquired HIV infection the employee must demonstrate an HIV negative status at the time of the injury and the source patient should have a documented HIV positive test result.
- In the absence of the source patient's HIV status, the employer must be able to demonstrate that every effort was taken to assess the HIV status of the source patient and that this was refused by the source patient. Other relevant clinical information on the source patient must also be documented for the claim. A sero-conversion within 3 months is considered reasonable evidence that the sero-conversion was the result of the injury, provided all other necessary information is provided. If the source patient or the employee is considered to be in the window period then PCR testing should be considered.
- Each claim will be assessed on it's merits. Employees and employers must ensure that documentation of occupational exposures is kept on record and that claims are submitted within 11 months from the time of the injury. The CC will provide compensation for reasonable care at reasonable cost for a successful claimant, and any claims for disability will be assessed in the usual manner.
- The CC will not provide compensation for treatment to reduce mother to child transmission in cases of occupationally acquired HIV infection in the mother.

(ii) Hepatitis B & C

Exposures and resultant sero-conversions must be documented in the same way as HIV sero-conversion.

(iii) Other.

Other pathogens may be spread through occupational exposures to blood or body fluids. These include:

- Malaria and
- Viral Haemorrhagic Fevers.

It is important to have information on the possible source patient. For Malaria the HCW should be educated on the signs and symptoms of Malaria and encouraged to report any flu- like symptoms promptly so that these may be investigated. Any contact with a patient with Viral Haemorrhagic Fever will be followed up closely with BD temperatures being taken and recorded.

4. Discussion.

Standard Precautions - are applied at all times to all patients irrespective of their diagnosis. All body fluid (except sweat) are regarded as potentially infectious.

- Wash hands before and after contact with each patient, and before putting on and after removing gloves;
- Change gloves between patients;
- Cover existing wounds, skin lesions and breaks in exposed skin with waterproof dressings. Wear gloves if hands are extensively affected;
- Wear gloves where contact with blood can be anticipated; Wear gloves when cleaning equipment prior to sterilisation or disinfection, and when cleaning up spillages
- Avoid sharps usage wherever possible, and where sharps usage is essential, exercise particular care in handling and disposal;
- Avoid wearing open footwear in situations where blood may be spilt, or where sharp instruments or needles are handled;
- Clear up spillage of blood promptly and disinfect surfaces;
- Follow safe procedures for disposal of contaminated waste. All waste contaminated with blood or body fluids are considered contaminated. The same protective clothing used for contact with fluids is used.

Post Exposure Prophylaxis (PEP)

Zidovudine AZT, Retonivir in combination with Lamivudine (3TC) is recommended for high-risk exposures.
Single therapy with ZVD may be effective and is preferable to no therapy but is likely to be less effective than therapy with more than one drug. Single ZVD therapy is not recommended by any recognised international authority.
Indinavir can be added for very high-risk exposures. Very high-risk exposures include 1) Large volume of blood; 2) deep injury and 3) if the patient has been on ZVD for more than 6 months.

PEP should be initiated promptly, preferably within 1 -2 hours after the exposure. The interval after which there is no benefit from using PEP is not yet defined, however most experts recommend PEP within 24 hours after exposure. Some experts may still consider PEP 7-14 days after exposure in cases where there is highest risk exposure. To avoid delays in starting PEP, starter packs of recommended drugs should be available in all health care settings.
PEP should be continued for 4 weeks. PEP should be discontinued if there are serious toxicities and should be continued even in the presence of mild side effects.

PEP is recommended if:

1) The source patient is HIV positive,
2) the rapid HIV test is positive ; or,
3) or if there is a high index of suspicion that the source patient is HIV positive.

Supportive counselling should be available to the HCW.
The HCW should consider using a barrier method for safer sex and pregnancy should be avoided until sero-conversion is excluded. Pregnancy in HCW's should not preclude the use of PEP.

Toxicity of Antiretroviral drugs The toxicity of antiretroviral drugs (other than ZVD) in persons not infected with HIV has not been well documented.
In HIV positive persons the following side effects of ante retroviral drugs have been noted:

- ZVD: Headache, gastro-intestinal symptoms (nausea, vomiting, diarrhoea, indigestion). More serious side effects such as marrow suppression with resultant anaemia or pancytopaenia are extremely rare in a healthy individual.
- Lamivudine: Gastro-intestinal symptoms and rarely pancreatitis
- Indinavir: Gastro-intestinal symptoms and rarely may cause renal stones.

Monitoring for side effects:

- If PEP is initiated, the HCW should be monitored for toxic drug side effects by a clinician that ideally has experience in HIV care.
- Baseline studies should include an FBC, Platelets, Renal and Hepatic function tests, urea, electrolytes, creatinine and liver function tests.
- These studies should be repeated if there are any side effects.
- Muscle enzymes and a serum amylase should also be considered.
- If toxicity is noted, dose reduction or drug substitution with other appropriate agents should be considered.
- Mild side effects such as headache, and nausea, are often experienced in the first few days after commencing PEP. Serious side effects usually occur after prolonged use and rarely occur within the first 4 weeks of therapy.[7]

5. Acknowledgements.

CDC Guidelines
Guidance for Clinical Health Care Workers Protection against infection with blood borne viruses – UK Health Departments

6. References

a. MMWR May 15 1998/47 Public Health Service Guidelines for the management of Health Care Worker Exposures to HIV and Recommendations for Post Exposure Prophylaxis.
b. Guidelines for Prevention of Transmission of Human Immuno deficiecy Virus and Hepatitis B Virus to Health Care and Public Safety workers U.S. Department of Health and Human Services.
c. UK Health Departments: Guidelines for Clinical Workers: Protection against infection with Blood borne viruses - Recommendations of the expert advisory group on AIDS and the advisory group on Hepatitis
d. Management of occupational exposure to HIV: HIV/AIDS Policy guideline: Department of Health

[7] HIV AIDS Policy Guideline – Dept Health

N. Cleansing, disinfection, drying and inspection of reusable Health Care Risk Waste Containers

As the reusable HCRW containers will be returned to the health care facilities, where it will be used for round collection of HCRW from within the facilities and placed inside the wards, it is very important that such bins be cleaned, disinfected and dried to the level where it will not create any risk of infection to patients, health care staff or HCW management staff.

For the sake of the Pilot Studies, the Company submitting a Quotation will be require to provide specific details as part of the Method Statement on the system to be implemented for the effective cleaning, disinfection and drying of all reusable containers, irrespective of whether it being wheelie bins or plastic boxes.

The interior and exterior cleaning, disinfection and drying process for reusable containers should at least include the following steps:

- Thoroughly cleaning the bins using warm water in combination of anti-microbial soap;
- Rinsing with warm water;
- Applying a suitable disinfectant with a chlorine-releasing agent on all interior as well as exterior surfaces in accordance with the manufacturer's instructions;
- Thoroughly drying the containers;
- Implementing an inspection routine to identify any damaged containers that are unfit for further use;
- Implementing of appropriate Quality Assurance measures that will ensure effective cleaning and disinfection of both containers and lids;
- Storage of bins in an appropriate location that will prevent it from becoming re-contaminated.