Partners for Water and Sanitation

Note on project reports

The following report has been prepared by Partners for Water and Sanitation in response to a project Terms of Reference.

The content of the report is based on the opinion of the author(s) and does not necessarily represent the opinions of the wider PfWS partnership, or the project funders.

Report for Joint PAWS Workshop for

W.W.D.S.E. and W.W.C.E.

Held in Addis Ababa, Ethiopia

27 February – 28 February 2007

David Rathmell BEng, CEng, MICE, FCIWEM
Independent Consultant

Anna Tompkins
Project Planner
Laing 0'Rourke Utilities

Contents Page

Appendices

1. Pre Start Meeting Standard Agenda
2. Request for Information (RFI)
3. NEC3 Information Pack containing:

- NEC3 Consultancy
- NEC3 Contracts
- NEC3 Manuals
- NEC3 Training
- NEC EEC Guidance Notes
- NEC Users Group
- What is the NEC

4. Primavera Project Planner

5 North Coast Baseline Programme

List of Attendees

PAWS

David Rathmell – Independent Consultant

Anna Tompkins – Project Planner, Laing O'Rourke Utilities

MoWR

Martha Solomon – Policy and Technical Adviser Department Head

WWDSE

Negash Gemtessa – General Manager

Tesfaye Kidane – Deputy General Manager Market Promotion and Resource Management

Tesfaye Zeleke - Deputy General Manager

Russom G/Egziabher Quality Control Department Head

WWCE

Bekele Gadissa – General Manager

Kiros Desta – Department General Manager Major Construction Management

Zemdu Getachew – Contract Administration Manager

Yiliker Worko – Operational Services Manager

DFID

Mark Harvey – Water and Sanitation Policy Adviser

WWDES/WWCE Workshop

Agenda

Tuesday 27 February 2007

9.00 Welcome and introductions from David Rathmell

9.30 Key note message from Martha Solomon

10.00 Review of Paws Visit Report for WWDSE, July 2006 by Negash Gemtessa

10.45 Coffee/Tea Break

11.00 Review of PAWS Visit Report for WWCE, August 2006 by Bekele Gadissa

12.30 Lunch

13.30 Review of common workshop objectives by David Rathmell

14.00 Design workshop

15.00 Coffee/Tea Break

15.15 Design Workshop cont.

17.30 Close

Wednesday 28 February 2007

9.00 Review of Day 1

9.30 Communications workshop

10.45 Coffee

11.00 Programme workshop

12, 30 Lunch

13.30 Programme workshop cont.

15.00 Coffee/Tea Break

15.15 Programme workshop cont.

16.30 Forward Plan for Joint working group and next steps

17.30 Close

1.0 Welcome and Introduction by David Rathmell

David welcomed everyone on behalf of PAWS and said he was pleased that the workshop had been arranged. He appreciated the readiness of the senior management of the Design and Construction Enterprises to take time out from their busy schedules. He gave a warm welcome to Martha Solomon from the Ministry of Water Resources and to Mark Harvey from DFID.

He referred to the two previous visits by himself and Stuart Campbell in July and August last year and said that much valuable ground work had been done in the initial assessment of the Enterprises capability and current practices. He believed that the workshop offered a unique opportunity for the two Enterprises to jointly discuss their common objectives and identify areas for improvement.

He expressed the hope that this would signal the start of much closer working relations between the Enterprises and a willingness to work together for better working practices which would benefit each other.

2.0 Key note message from Martha Solomon

Martha said on behalf of the Ministry of Water Resources that she was very pleased the workshop had been made possible and that she fully supported the aims and objectives of the PAWS initiative in seeking to promote better working practices. She thanked PAWS for their ongoing commitment to the Twinning Project with the Design and Construction Enterprises.

She outlined the Ethiopian Government's water strategy for the next three years and said that the workshop was most timely against a background of needed improved efficiency and increased output if targets were to be met.

3.0 Feedback on the PAWS Visit Report for WWDSE, July 2006 from Negash Gemtessa, General Manager.

Negash reported to the assembled workshop that there had been a number of developments following the visit from David Rathmell in July 2006. The following points are a summary of his remarks.

3.1 The Visit report by David Rathmell following his visit 17 – 21 July 2006 has become a WWDSE reference document.

3.2 As part of organisational restructuring the opportunity has been taken to set up a Quality Control Department to monitor technical output.

3.3 A Business Process Reengineering (BPR) Committee was established comprising three members of the Management Team and six specialists from different departments. Their initial task was to process map the "AS-IS" situation of all core and support functions. This task has now been completed and draft documents for review have been issued. The process of challenging non values added processes will shortly commence to derive the "TO-BE" situation.

The following consultation documents have been produced:

AS – IS Process Mapping Core Processes December 2006
AS – IS Process Mapping Support processes January 2007

3.4 There is a dilemma between the demands of meeting the requirements of a Total Quality Management System and Business Process Reengineering.

3.5 Four representatives of WWDSE attended the five day Lead Auditor course in Addis Ababa hosted by ISO QAR, Manchester, UK from 19 – 23 February. Results of the examination at the end of the week are awaited.

3.6 It is anticipated that a Management Representative will be appointed shortly to undertake the duties of a Quality Manager as required by the ISO 9001:2000 standard “Quality Management Systems – Requirements”.

4.0 Feedback on the PAWS Visit Report for WWCE, August 2006 from Bekele Gadissa, General Manager

Bekele reported to the assembled workshop that further to the visit of Stuart Campbell of North Midland Construction from 7 to 11 August 2006 the situation was as follows:

4.1 WWCE does not have adequate plant labour and material resources required to undertake all construction activities expected of the company

4.2 Do not know how to use available resources most effectively in cost critical areas

4.3 Current practice is to use Excel spreadsheets for unit costing and scheduling

4.4 Intend to provide Primavera awareness training over the next three to four months to all Project Managers and site technicians. The services of a local consultant will be used based on 3 hours per week up to a maximum of 45 hours.

4.5 There is an urgent need to improve communication skills with both local and foreign consultants due to difficulties in communication particularly at site level.

4.6 No decision has been made about which planning software to adopt. Primavera or MS Project

4.7 Key issues for WWCE are:

- How to control costs on site and which are the key areas to address
- How to improve communication
- WWCE expectations of PAWS input
- How to align these issues with the BPR process
- Understanding Construction Management best practice

5.0 Benefits of TEAM Working - David Rathmell

5.1 David described current UK Practice in the Construction Industry which has evolved over the last 10 – 20 years in adopting a collaborative partnering approach between Consultants and Contractors. The benefits are:

5.2 UK Customers prefer to work with one company alone who can deliver all their requirements. However no single company can offer all the services required. Therefore Consultants and Contractors have partnered to create frameworks which provide a strong collaborative basis for meeting customer needs.

5.3 The traditional confrontational approach in the UK construction Industry 30 years ago lead to a claim environment with frequent recourse to arbitration. This could not be solved by traditional Forms of Contract Conditions. New Forms of Contract Conditions have been developed to foster partnering relationships. These are reviewed in Section 5 under Communications.

5.4 Closer working relationships between all stakeholders' customer, consultant, contractor and the supply chain create a win/win situation for all involved.

5.5 Constructability issue are taken into consideration at the design stage

5.6 There is a much better understanding of customer requirements by all parties involved.

5.7 There is a willingness on all sides to make a success of the project

5.8 This may be summarised by the acronym **TEAM**

Together **E**ach **A**chieves **M**ore.

Or as stated by Charles Darwin (1809 – 1882) eminent Victorian Naturalist who propounded Evolutionary Theory

"In the long history of humankind those who learned to collaborate effectively have prevailed"

6.0 Delegate Objectives

After morning coffee some time was spent establishing what each member of the workshop wished to get out of the workshop. The following summary confirms the findings from the PAWS Visit Reports (reviewed in Sections 1.0 and 2.0) that three key areas of improvement need to be addressed – Communications, Programming and Design

6.1 Communication

How to improve the relationship between the Design and Construction Enterprises.

Means of effective communication between all parties involved in the construction cycle.

Hw to manage the customer's expectations with respect to cost and labour resourcing in the present climate of a rapidly increasing programme of major water investment from the Government over the next three years.

6.2 Design

Understanding more fully the role of technical quality control of design output and the documentation required

6.3 Programming

How to improve Construction Planning, Resource Management and capacity enhancement

Best practice tools for programming and controlling outputs and continuous output reporting for labour plant and materials

Benefits of different types of software

Identifying resourcing requirements and the allocation of resources

6.4 PAWS Involvement

Improving the work that has begun with PAWS

What are the next steps after these two days to ensure continuous improvement?

7.0 Session 1 Communications

7.1 Ethiopian Practice

The existing practice of WWDSE is to use FIDIC Conditions of Contract and follow the formal notification requirements of FIDIC.

Weekly site meetings are held between the Contractors senior site staff and the Consultant's Resident Engineer.

Head Office staff only visit sites when the need arises to resolve disputes or advise on design and construction issues.

7.2 UK Practice

UK practice has developed over the last 20 years from adopting traditional Forms of Contract Conditions e.g. FIDIC and the ICE 6th edition (published by the Institution of Civil Engineers) to more collaborative methods of working. The FIDIC and ICE Conditions in themselves tend to lead towards a confrontational style of contract management and invariably rely on lawyers to resolve their differences.

It used to be Confrontation rather than Consultation.
Now it is Consultation rather than Confrontation.

Long established practice in the UK has been for the Consultant to hold regular progress meetings with the Contractor at Head Office level. These are usually monthly and are held on site to allow HO representatives to see actual progress for themselves and discuss issues with their counterpart from the contractor. The Consultant's Project Manager is responsible for arranging and taking minutes at these meetings

A contract start up "Pre Start Meeting" is usually held at the Consultants offices. A standard Agenda FM-CON-011 is included in Appendix 1.0. This demonstrates the items which must be discussed at every new contract start up before construction commences. The pre start meeting is initiated by the Consultant and the contractor is required to attend.

Monthly progress meetings then follow at site level as stated above. A standard agenda is used and all meetings are minuted by the Consultant. Customers are invited to participate in monthly progress meetings. Clearly the Consultant must be seen to act impartially in all matters affecting both the Contractor and the Customer.

Benefits of this collaborative approach are:

- The pre start meeting provides a face to face opportunity to brief the Contractor and for him to ask questions.
- There is a greater sense of ownership and understanding of each others concerns by all parties
- Engenders TEAM working

- All stakeholders are kept informed by distribution of the minutes

- Minutes of Monthly meetings are contractual and provide a means of recording progress e.g. design information outstanding is recorded and checked each month. Alternatively information outstanding from the customer is minuted and may be used subsequently to support applications for additional time.

7.3 New Engineering Contract

NEC is a family of standard contracts, each of which has these characteristics:

- Its use stimulates good management of the relationship between the two parties to the contract and, hence, of the work included in the contract

- It can be used in a wide variety of commercial situations for a wide variety of types of work and in any location.

- It is a clear and simple document using language and a structure which are straightforward and easily understood.

The following statements are extracts from "The Engineering and Construction Contract" - An NEC document Guidance Notes published by Thomas Telford on behalf of the Institution of Civil Engineers. These help to describe the background to the New Engineering Contract its key objectives and its main benefits.

7.3.1 Foreword

The first edition of the New Engineering Contract was published in March 1993.

In July 1994 Sir Michael Latham produced his report "Constructing The Team". This report recommended that the New Engineering Contract should be adopted by clients in both the private and public sectors and suggested that it should become a national standard across the whole of engineering and construction work generally.

One of the recommendations of the Latham Report was that the name of the document should be changed. This is why in the second edition the name of the main contract has been changed to Engineering and Construction Contract. This now forms part of the NEC family of contacts which includes the Professional Services Contract, the Engineering and Construction Subcontract and the Adjudicator's Contract.

7.3.2 Objectives

The objectives for the design of the NEC contracts were to make improvements under three main headings. The ECC is intended to be used for engineering and construction work containing any or all of the traditional disciplines such as civil, electrical, mechanical and building work.

- To be used whether the contractor has some design responsibility, full design responsibility or no design responsibility.

- To provide all the normal current options for types of contracts such as competitive tender, (where the contractor is committed to offered prices), target contracts, cost reimbursable contracts and management contracts.

- To be used in the united Kingdom and other countries.

7.3.3 Stimulus to Good Management

This is perhaps the most important characteristic of the ECC. Every procedure has been designed so that its implementation should contribute to rather than detract from the effectiveness of management of the work. This aspect of ECC is founded upon the proposition that foresighted, co-operative management of the interactions between the parties can shrink the risks inherent ion construction work. Development in project management techniques and their implementation over the past 20 years have moved faster than the evolution of forma=s of contract. With the ECC, it is now possible to build arrangements for the different parties to contribute to the management of a project upon improved practices and to motivate all parties, by means of the contract, to apply such practices to their work.

In total, the ECC is intended to provide a modern method for employers, designers, contractors and project managers to work collaboratively. It also enables them to achieve their own objectives more consistently than has been possible using older forms of contract. Use of the ECC is intended to lead to am much reduced risk to the Employer of cost and time overruns and of poor performance of the completed projects. It should also lead to a much increased likelihood of achieving a profit for the contractor, subcontractor and suppliers.

The two principles on which the ECC is based and which impact upon the objective of stimulating good management are:

- foresight applied collaboratively mitigates problems and shrinks risks, and
- clear vision of function and responsibility helps accountability and motivates people to play their part.

A secondary but important theme is that people will be motivated to play their part in collaborative management if it is in their commercial and professional interest to do so. Reliance need not be placed upon exhortation either within the contact or outside it.

Uncertainty about what is to be done and about how the unexpected arising in the course of construction will affect what has to be done are inevitable in construction projects. The ECC allocates clearly the risks arising in these ways between the parties. However it s main task is to reduce the incidence of those risks by application of collaborative foresight. In this way, it aims to improve the outcome of projects generally for parties whose interests might seem to be opposed.

The procedures in the ECC are designed to stimulate good management. Prominent examples of these are the early warning procedure and the way in which compensation events are dealt with. Compensation events are events which may lead to the payment to the Contractor being changed or the Completion Date being delayed.

A principle of the ECC is that the Project Manager, acting on behalf of the Employer and in communication with him, should be presented with options for dealing with the problem from which he can choose, directed by the interests of the Employer. The Contractor should be

unaffected by the choice made. To achieve this, the valuation of compensation events is based upon a forecast of the impact which the change or problem will have upon the cost to the Contractor of carrying out the work – as forecast by him at the time the event is assessed. Where, as is often the case, alternative ways of dealing with the problem are possible, the Contractor prepares quotations for different ways of tackling the problem. The Project Manager selects one on the basis of which will best serve the interests of the Employer. In some cases this will the lowest cost option, in others it might be the least delay option.

The change to the Prices for the work is based upon the quotation. The Contractor carries the risk if his forecast of cost impact turns out to be wrong, but the Employer has a fir commitment. The risk to the Contractor of this method pricing is conceptually similar to the risk he takes when pricing work at tender. It is a lesser risk because he is able to forecast costs much more accurately at the time that the problem is identified than he would have been able to at the tender stage.
This arrangement is intended to stimulate foresight, to enable the Employer to \make rational decisions about changes to the work with reasonable certainty of their cost and time implications, and to put a risk on the Contractor which is tolerable and which motivates him to manage the new situation efficiently. An important by-product is that few issues relating to valuation of work or extensions of time are left to be settled after the event.

This approach has pervaded the drafting of the ECC and is the basis for most of the procedures which it contains. In designing the ECC, the motivation of each party in each action he is to take has been considered against good management criteria. Because this is motivation-driven, it does not appear in the words of the ECC itself but is intended to result directly from the way in which the procedures are operated.

A typical aspect of this characteristic is the way in which the ECC makes use of the programme for design, construction and installation. Many of the detailed procedures rely upon the fact that an up-to-date and realistic programme maintained by the Contractor is used in joint decision making between him and the Project Manager. The use of the programme (which includes method and resource statements) is defined in some detail and in such a way that, again, the Contractor is motivated to keep it up-to-date and realistic. He is simply not exhorted to do so.

7.3.4 Subcontracts

The ECC has been designed on the assumption that work may be subcontracted. A standard form of subcontract called the NEC Engineering and Construction Subcontract (ECS) has been published. This is very similar to the ECC but uses appropriate manes for parties and has a small number of additional provisions appropriate to a subcontract.

Use of the same text in the main contract and the subcontract provides certain back-to-back protection for main contactors using the ECS. It also has the convenience that Contractors and Subcontractors staff do not have to become familiar with two different sets of text and procedure. There is nothing to prevent a subcontract using a different option form that used in the main contract. An obvious example of this is where the main contract uses the management contract option but the subcontract uses on e of the more conventional options. Option F (Management Contract) has not been included in ECS

7.3.5 Some Other Changes

Two specific changes from conventional construction practice deserve mention. Firstly, subcontractors cannot be nominated. This change is made in order to simplify contract arrangements and to eliminate the clouding of responsibilities which nomination causes. Elimination of this clouding should not only reduce disputes but strengthen the motivation of the parties to manage their activities. An Employer who has reasons for a Particular contractor for part of the works can use the ECC for a direct contract alongside other contractors.

Secondly, the financial control document the ECC can be either a traditional bill of quantities or an activity schedule. The activity schedule is a list items with lump sum prices. The total price for the work to be done is divided between each of the items. This is a simpler document to prepare and use than the traditional bill. Neither document is used in the ECC for any purpose other than assessing payments due to the contractor.

Further information on the NEC documents is contained in Appendix 3. This is the NEC Information Pack containing:

- NEC3 Consultancy
- NEC3 Contracts
- NEC3 Manuals
- NEC3 Training
- NEC EEC Guidance Notes
- NEC Users Group
- What is the NEC

Information and help can also be obtained from their web site

http://www.neccontract.com/events/index.asp

For general enquiries relating to the NEC please contact

NEC Manager
NEC
1 Heron Quay
London
E14 4JD

Tel: +44 0(20) 7665 2446
Fax: +44 0(20) 7538 2847
Email: info@neccontract.com

8.0 **Session 2 - Communicating Design to Site**

8.1 Current practice in line with FIDIC Contract Conditions is for WWDSE to issue documents and drawings under cover of a written letter. WWCE then issue drawings to site. Subsequent drawing issues can be made by the Resident Engineer to the Site Construction Manager. The Resident Engineer would either collect drawings from Head Office or they may occasionally be sent by courier to the site.

Note. It is normal UK practice to issue drawings and other documents at the monthly progress meeting. A confirmation letter is sent afterwards.

8.2 If design queries arise on site these are communicated to HO in one of the following ways.

- Telephone or radio.
- RE Visits HO when major design changes are concerned
- Design Engineers from HO visit site on demand. They have access to laptops and printers.

There is no formal record of design queries such as the TQ Technical Query or RFI Request for Information used in the UK. It is good practise to formally record the design query and the response so that no misunderstanding may arise in interpreting the information required or the answer given. It also serves as a valuable reminder when AS Built record drawings are compiled at the end of the contract. An example of an RFI standard Form FM-CON-026 is included in Appendix 2.

8.3 WWDSE Resident Engineers are not allowed to make measured changes affecting design. They must seek HO endorsement before authorising any design changes affecting the measure. They are only allowed to make design changes which do not affect the measure.

Design Engineers are empowered to make design changes within the limits of their own competence. Specialist advice must be sought if the design engineer is unsure of the technical issues concerned.

UK construction practice has found that the regular attendance on site by Design Engineers has proved to be one of the keys to reducing delays and keeping costly changes to a minimum. If visiting on a regular basis the design engineer may often anticipate future problems rather than reacting to a situation which is more difficult to recover afterwards.

9.0 Session 3 – Programming

Anna presented an overview of Primavera Project Planner (P3) and how it could be used to give both Designers and Construction engineers better control of their projects. Primavera utilises activity coding to enable individual tasks to be managed according to user defined attributes, such as project manager, responsibility, location, type of work, phasing etc. Tasks may be organized and reorganized to view the project from any perspective.

Activities may be updated on a regular basis typically monthly and compared with the original base line programme to see whether time has been saved or slippage has occurred.

Primavera ensures that critical tasks get the attention they deserve in multiproject, multiyear environments by calculating the float within each project or phase. Activities are also linked where there is interdependency so that if activities are rescheduled then the effect upon related activities may be quickly identified.

Activities used in building a Primavera P3 Programme for a particular project should be based on a Work Breakdown Structure (WBS) which may be understood by the following explanation.

“A Work Breakdown Structure is a results-oriented family tree that captures all the work of a project in an organized way.

Large, complex projects are organized and comprehended by breaking them into progressively smaller pieces until they are a collection of defined "work packages" that may include a number of tasks. A $1,000,000,000 project is simply a lot of $50,000 projects joined together. The Work Breakdown Structure (WBS) is used to provide the framework for organizing and managing the work.

In planning a project, it is normal to find oneself momentarily overwhelmed and confused, when one begins to grasp the details and scope of even a modest size project. This results from one person trying to understand the details of work that will be performed by a number of people over a period of time. The way to get beyond being overwhelmed and confused is to break the project into pieces, organize the pieces in a logical way using a WBS, and then get help from the rest of your project team.

The psychologists say our brains can normally comprehend around 7-9 items simultaneously. A project with thousands or even dozens of tasks goes way over our ability to grasp all at once. The solution is to divide and conquer. The WBS helps break thousands of tasks into chunks that we can understand and assimilate. Preparing and understanding a WBS for your project is a big step towards managing and mastering its inherent complexity.

The WBS is commonly used at the beginning of a project for defining project scope, organizing Gantt schedules and estimating costs. It lives on, throughout the project, in the project schedule and often is the main path for reporting project costs. On larger projects, the WBS may be used throughout the project to identify and track work packages, to organize data for Earned Value Management (EVM) reporting, for tracking deliverables, etc.”

Primavera also affords precise cost control by resource loading the programme and calculating unit cost activities. Resource loading problems can be identified and resolved using P3’s resource leveling capability. When slippage occurs then the most efficient use can be made of

limited resources as P3 will show the effect of relocating labour and plant elsewhere on the project. P3 allows management to establish budgets and forecast estimates to complete for each cost account level.

P3 provides unlimited target planning for proactive what-if-analysis. Past period performance is stored for historical reporting and analysis of resource assignments, cost and earned value. By comparing actual performance to original plans it is possible to improve planned processes and increase the accuracy of future estimates.

A detailed list of the features of P3 is included in Appendix 4 at the end of the article titled **Primavera Project Planner**.

Further information may be obtained from the web site **www.primavera.com**

Schedule of Next Steps

10.1 Programming

Local Consultant is to provide awareness training on Primavera P3 Software to WWCE

Consideration should be given to on the job training in the UK for one person from each of the Enterprises who could then train up staff locally.

10.2 Consultant/Contractor Relationships

WWDSE and WWCE to implement a Pre Start meeting on all new projects.

WWDSE and WWCE to implement regular joint progress meetings convened either at site or Head Office in Addis Ababa. Frequency of meetings to be mutually agreed owing to logistics of long distances to remote sites. Should be trialled initially on one project to work out the most appropriate arrangements.

The Bill of Quantities used by WWDSE for Estimating purposes should be based upon the same Work Breakdown Structure as the Contractor will use for cost recovery purposes. This should be fully compatible with the resource loaded programme used for monitoring progress to date and unit costs

PAWS to obtain and forward details and working copy of EEC Form of Contract to WWDSE. Courses are held in the UK on the implementation and interpretation of NEC Forms of Contract. PAWS to make enquiries re availability of course material.

Clarity to be sought on the future relationship with PAWS and its commitment to provide support

10.3 Quality Management Systems

WWDSE will shortly appoint a Management Representative to undertake the duties of a Quality Manager

The local consultant who assisted ISO QAR with the Lead Auditor Training course should be invited by WWDSE to carry out a Gap Analysis of their management systems. Failing his suitability an approach could be made to QSAE (Quality Standards Authority of Ethiopia).

The newly appointed Quality Manager should then schedule out a revised timetable for ISO 9001 certification.

The BPR Process will shortly commence its Challenge for Value of all the processes now flowcharted. This may continue in parallel with seeking QMS certification and will not of itself be a hindrance to obtaining ISO 9001 certification. It will simply confirm that a continuous improvement methodology is being used as required by the ISO Standard.

PAWS to review a typical flowchart for the core design processes and comment on the AS-IS. The idealistic TO – BE should seek to eliminate any non value-added processes. When challenging an activity for value added three questions should be asked

- Is the Activity essential to deliver Customer Requirements?
- Is the Activity a value adding internal activity and should therefore be retained?
- Is the Activity a non value adding internal activity and should therefore be discarded?

Appendix 1.0

Pre Start Meeting Agenda

E	**Meeting Agenda - Pre site establishment** Date of meeting dd/mm/yy Time of meeting 00:00 hours Location and duration of meeting	Reference:	**FM-CON-011**
		Published Date:	**13/03/06**
		Revised Date:	

Meeting called by:	Project Team	Minutes issued by	Project Engineer
Facilitator:	Not required	Note taker:	rotation

Attendees: Mandatory	Project Manager, Project Engineer, Site Manager, Construction Manager Lead Engineers, Commercial, Planning, procurement, and SHE representatives
Attendees: Optional	Customer ECC PM
Meeting objective	For the Project Team to brief the Construction Team and to handover relevant documentation.
Please bring:	

----- Agenda Topics -----

Agenda to be sent to invitees prior to the meeting date and information provider

item	Description	Info provider
1.0	**Review Brief/Contract**	
1.1	Contract Status	
1.2	Status of core design	
1.3	Project Plan and Risk log, location and allocation of site risks	
1.4	Project database and “R” drive access	
2.0	**Personnel**	
2.1	Project /Customer	
2.2	Design Team	
2.3	Construction Team appointments	
2.4	SHE advisor	
2.5	Contact list	
2.6	Training required	
3.0	**Design**	
3.1	Co ordination of design and buildability	
3.2	Further alternative designs and innovation	
3.3	Programme to complete design	
3.4	Temporary works designs and approval process	
3.5	Design phase test and inspection plan	
4.0	**Planning**	
4.1	Contract programme and method statements	
4.2	Subcontract construction programmes	
4.3	Construction Plan	

4.4	Service Drawings/site marked out	
4.5	Construction phase test and inspection plans	
4.6	Commissioning plan	
4.7	O and M manuals	
5.0	**Safety, Environment and Third party issues**	
5.1	Customer specific hazards	
5.2	HAZID status	
5.3	CDM health and safety plan	
5.4	Security clearance	
5.5	F10 status	
5.6	Environmental requirements PMP, audit frequency	
5.7	Waste disposal strategy	
5.8	Third party notifications	
5.9	Pre start visits	
5.10	Company image, training required	
5.11	Emergency Callout	
6.0	**Procurement**	
6.1	Procurement strategy	
6.2	Sub contractor procured items	
6.3	Materials testing procedures	
6.4	Site compound services	
6.5	Direct labour requirements	
6.6	Plant required	
7.0	**Site Establishment**	
7.1	Contract documents	
7.2	Accommodation and parking requirements	
7.3	Additional insurance /security	
7.4	Pre – start photographs and records	
7.5	Project team meetings	
8.0	**Financial**	
8.1	As sold budget	
8.2	Site allocated budgets	
8.3	Cash flow	
8.4	Measurement arrangements CEs VOs etc	
9.0	**Site Operations Brief**	
10.0	**Any other business**	
11.0	**Date of next meeting**	

EarthTech A Tyco International Ltd. Company	**Site Operations – Pre site establishment meeting record** Date of meeting dd/mm/yy Time of meeting 00:00 hours Location and duration of meeting

Meeting called by:	Project Manager	Type of meeting:	Liaison
Facilitator:		Note taker:	

Attendees:	
Circulation:	
Meeting Summary:	

Pre site establishment meeting **Meeting minutes record**				
1.0	**Review brief, Solution and Project plan**	Project Manager	Action required	
	Discussion record:		Person responsible	Deadline
1.1	Contract Status			
1.2	Status of core design			
1.3	Project Plan and Risk log, location and allocation of site risks			
1.4	Project database and “R” drive access			
2.0	**Personnel**	Project Manager	Action required	
	Discussion record:		Person responsible	Deadline
2.1	Project /Customer			
2.2	Design Team			
2.3	Construction Team appointments			
2.4	SHE advisor			
2.5	Contact list			
2.6	Training required			
3.0	**Design**	Project Engineer	Action required	
	Discussion record:		Person responsible	Deadline
3.1	Co ordination of design and buildability			
3.2	Further alternative designs and innovation			
3.3	Programme to complete design			
3.4	Temporary works designs and approval process			
3.5	Design phase test and inspection plan			
4.0	**Planning**	Project Planner	Action required	
	Discussion record:		Person responsible	Deadline
4.1	Contract programme and method statements			

4.2	Subcontract construction programmes			
4.3	Construction Plan			
4.4	Service Drawings/site marked out			
4.5	Construction phase test and inspection plans			
4.6	Commissioning plan			
4.7	O and M manuals			
5.0	**Safety Environmental and third party issues**	Project Manager	Action required	
	Discussion record:		Person responsible	Deadline
5.1	Customer specific hazards			
5.2	HAZID status			
5.3	CDM health and safety plan			
5.4	Security clearance			
5.5	F10 status			
5.6	Environmental requirements PMP, audit frequency			
5.7	Waste disposal strategy			
5.8	Third party notifications			
5.9	Pre start visits			
5.10	Company image, training required			
5.11	Emergency Callout			
6.0	**Procurement**	Project Manager	Action required	
	Discussion record:		Person responsible	Deadline
6.1	Procurement strategy			
6.2	Sub contractor procured items			
6.3	Materials testing procedures			
6.4	Site compound services			
6.5	Direct labour requirements			
6.6	Plant required			
7.0	**Site establishment**	Project Engineer	Action required	
	Discussion record:		Person responsible	Deadline
7.1	Contract documents			
7.2	Accommodation and parking requirements			
7.3	Additional insurance /security			
7.4	Pre – start photographs and records			
7.5	Project team meetings			
8.0	**Financial**	Project Manager	Action required	
	Discussion record:		Person responsible	Deadline
8.1	As sold budget			
8.2	Site allocated budgets			
8.3	Cash flow			
8.4	Measurement arrangements CEs VOs etc			

9.0	**Site operations Brief**	All	Action required	
	Discussion record:		Person responsible	Deadline
9.1				
9.2				
9.3				
10.0	**Any other business**	Site Manager	Action required	
	Discussion record:		Person responsible	Deadline
10.1				
11.0	**Next meeting**	Site Manager	Action required	
	Discussion record:		Person responsible	Deadline
11.1				

Appendix 2.0

Request For Information

Appendix 3.0

NEC3 Information Pack containing:

NEC3 Consultancy
NEC3 Contracts
NEC3 Manuals
NEC3 Training
NEC EEC Guidance Notes
NEC Users Group
What is the NEC

Appendix 4.0

Primavera Project Planner

Appendix 5.0

North Coast Baseline Programme

(Example using Primavera P3)