APPENDICES

APPENDIX A

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APPENDIX B

Summary framework of issues and constraints that hinder service to LIGs.

APPENDIX B1 Legal, Regulatory and Policy Issues

Main issues identified	Proposed solutions & comments
Lack of disconnection policy & payment enforcement mechanism. Removing the right to disconnection removes the obligation for payment of services.	Legalise and advertise disconnection policy. Differentiate "no payment culture" and "culture on non-payment". Community liaison and customer education on payment/disconnection; provide alternative payment mechanisms, adapt services to abilities.
Illegal areas are not included in legal framework for service provision. LIGs simply not recognised.	Change in the law to address all citizens, with particular reference to LIGs and right of access to public services (with conditions).
Legal requirements prevent operator from developing infrastructure in illegal/informal areas (land tenure, planning permission…).	A range of intermediate forms of land tenure exist with different implications for operator. Government can regularise informal areas and protect operator from high migrant uncertainty. Private operator can improve application process. Government can grant land titles and place requirement for expansion.
Legal system (such as "universality of service levels" and "standards of workmanship") can prevent innovative methods to be used: prevents operator from being innovative.	Need to be prepared to change policies and technical solutions. Check that unique service level does not prevent poor households from getting a service. Standards to be revisited.
Ensure fair competition: collusion between alternative service providers and main operator may result in high tariffs.	Competition laws or contractual clauses to be set up.
Beneficiaries not part of the Contract, hence are not able to seek redress for sub-standard work. Accountability is lost through commercial/contractual agreement.	
New regulator focuses on controlling contractual targets rather than providing enabling environment for flexibility and innovation. Regulators often focus on overall costs.	Regulation changed to partnership rather than command & control type. Improvement and expansion of services to be regulated differently (performance indicators different).
Regulator does not know what to monitor in the Contract: input standards, output standards, work processes…? Also unaware of poor issues because lack of information.	Best to monitor output standards because it leaves flexibility to the operator. If monitoring narrows down the technical / process choice made by the operator, then the strengths of PSP are lost.
Social issues often overlooked by regulatory institutions.	Regulator needs to have the capacity to deal with poverty.

APPENDIX B2 Economical and Financial Issues

Main issues identified	Proposed solution & comment
Infrastructure charge for new connections too high - customers cannot or refuse to pay it. No cost recovery	No single solution given.
Financing infrastructure for the poor costs comparatively more. Forecast instruments not adapted to a wide variety of service levels/customer types, demand, ATP, WTP.	Public water companies have traditionally sought softer loans for service expansion to poor areas. Could this be possible under PSP contracts? Tariff basket calculation can accommodate weighing factors for expenditure expressly benefiting the poor.
Financing infrastructure is difficult and expensive. Resource cost are high.	Various forms output based aid schemes target expansion, upgrading, subsidies. Use labour intensive projects where customers pay in kind to build network. Welfare connections paid by municipality.
Poor are perceived to be high risk low return customers. Subsidies can be a disincentive to operator (for low service low consumption levels).	Reduce risk by adapting service level (network and customer management) to abilities.
Delays in payment from government bodies still one of the main issues in the sector.	Enforce disconnection procedure even to government.
Tariff structure does not address present and future requirements, and needs to be renegotiable. Can be skewed against new connections, creating problems in expanding the service.	Sector reform before PSP. (political) Protection of the tariff structure gives incentive to operator.
Subsidies not targeted correctly - need correct eligibility criteria.	Examine different ways for subsidising infrastructure expansion, consumption of water, connection…
The payment collection rate in poor communities is traditionally low.	Establishment of office for extreme social cases, to assess ability to pay for people in difficulty.
Tariffs for poor households are often set below the cost recovering level, hence do not give sufficient incentives to poor households.	This is not true if price is subsidised, if operator is paid a fee on a customers volumetric basis

APPENDIX B3 Technical and Service Level Issues

Main issues identified	Proposed solutions & comments
Inappropriate technical and service standards result in inappropriate systems that poor households cannot and do not use. Household demand can also vary widely.	Offer choice to consumer (both for technology and level of service, and supplier): if new service is not perceived to be better (noticeably more convenient), cost recovery will not be increased. Community participation, workshops, door-to-door visits. Need flexibility.
Impossibility to draw customer profile/file due to lack of customer information data (names of household head; address; ID number)	Socio-economic, customer information, meter verification, and community surveys needed. Also need education. Involve community.
Many households have no connection to municipal water system) or share connections (increasing block tariffs). However they are more convenient at the start of the PSP contract. Could be phased out or integrated later. High technical standards for the poor go against the objectives of connection.	Promote sharing connections between households. Accurate and timely information needed for correct / appropriate billing. More flexibility is needed in terms of quality or service levels. Recognise alternative service provision: delegated management to standpipe operator; wholesale contract/SSSP, home delivery via tankers. Promote competition for market.
Universality of service levels (technical standards, O&M) not able to be implemented immediately at the start of the concession contract.	Service level determined per area (keep incentive) and made to expand over contract life. Potential to provide other services to the non-connected households in the meantime.
Billing and payment collection difficult to carry out in informal communities (no street name/numbers)	collection of bills through a member of community (however illegal settlement dwellers often do not pay). Alternative methods of involving the community work.

APPENDIX B4 Transaction & Bidding Process, and Contract Award

Main issues identified	Proposed solution & comments
Competitive tendering does not allow sufficient time to explore new solutions. Information also rare and of bad quality. Inaccurate bidding information results in greater investment needed than anticipated. Also leads to unrealistic objectives.	Increase time allocated to bid preparation. Revise procedures. Adequate tender information/databases needed before bidding.
Original conditions of municipality (PSP entry conditions) is often reflects political interference; below cost recovering levels; overstaffing. Expansion of services often not possible.	Reform water sector prior to PSP - adjust HR policy and reform utility; set cost recovering levels.
Poverty reduction is not given enough weight in the negotiations, nor in Contract. Pro-poor clauses are not enforceable. Seen as distracting other issues like UFW, performance targets, service levels and financial forecasts. Transaction advisers not poverty reduction experts.	Review bid evaluation/negotiation procedure. Commensurate with political commitment and capacity to contract private sector. If not possible start at lower PSP engagement.
Exclusivity does not promote innovative approaches to pro-poor services delivery. It also condemns LIGs to be connected when main operator decides to do so. It also limits competition for the market. Operators will not bid without exclusivity.	Divide contract into supply zones. Possibility to grant exclusivity when operator decides to enter area, therefore allowing alternative service providers in the area for a limited time (till infrastructure costs can be subsidised with income high consumption areas)
Governments often rely on PSP for increased cash flow (& regularly takes on highest offer of infrastructure buy-out) regardless of the bidders case to serve the poor.	Responsibility of advisers to be revised; improve management of bid and contract award.
Low number of tenderers limits negotiations - price, expansion mandates, service levels, disputes, fees. It also limits regulator leverage in tariff structure (re)-negotiation. Cannot threaten to retender if not many bids were handed in initially.	Start with a low involvement, low risk PSP partnership, usually a Management Contract as a good entry point. Further risk can be taken as more information becomes available to the operator
SSSPs seldom included in the bid stage (quasi-legal at best): clash with main operator interest. Not feasible for operator to scan all SSSPs before submitting bid. Sometimes the whole SSSP issue is blocked.	Perhaps not possible to consider but option should be kept open
Lack of good quality information (baseline data) makes objectives / planning often unrealistic and improvements are often difficult to monitor effectively.	Customer and socio-economic surveys to be done. Up front studies needed to gain insight into existing situation and social structures. Ideally to be carried out by municipal departments.
Focus of tender on tariff level rather than affordability of new access, therefore benefiting the already connected households. The poor are not connected by operator.	Give operator incentives to expand services; acknowledge it will take time: mandate low at first, and increases after the fist 3-5 years.
Ambitious expansion mandates can deter bidders. Some clauses stipulate high service expansion mandates which can exceed customers' willingness to pay (access to other service possible for instance).	Reduce expansion mandate to feasible level - customers will get drawn forward at a later stage. Service area divided into small supply areas. Service output can be specified in terms of pressure, hours/day available; distance to houses…This leaves room for innovation and flexibility.
Roles and responsibilities often not adequately specified in contracts (renegotiation, tariff increases, disputes…): can lead to large number of terminations following failed renegotiation.	Clear roles and responsibilities. Uncertainty and risk could be transferred into incentives for the operator.

APPENDIX B5 Community Liaison and Customer Education

Main issues identified	Proposed solution & comments
No sufficient effort has been made to understand the specific situation of the poor	Socio-economic surveys
No direct links between consumer and operator other than via regulator (and contractual relationship impossible).	Clear links to be established with communities. Improved lines and quality of communication.
Lack of customer management strategy directly impacts level of payment for services.	Customer services centres (outreach posts), close payment points and liaison/education campaigns.
Consumers unwilling to pay more for the same service.	Tariffs to be increased to cost recovering levels before PSP unless complete refurbishment of services is expected.
Payment levels low, community dissatisfied, service does not correspond to their needs…lack of community involvement in planning.	Community participation paramount in planning
Social mobilisation and participation take time and money, and are avoided	Essential components must factored in project design, and made explicit obligations in contracts.
Level of income of population is an important barrier to revenue collection	Other factors like history of (non-)payment, proximity of payment points and communication with provider are significantly more important.

APPENDIX C

Copy of Questionnaire

APPENDIX C – COPY OF THE QUESTIONNAIRE

Getting the Incentives Right:

Incorporating Strategies for Improving Services to Low-Income Consumers within PSP Water Sector Contracts

Consultation Process

1. Introduction

Thank you for agreeing to take part in this consultation exercise. On behalf of DFID, WS Atkins and Stone & Webster are working together to investigate ways to integrate pro-poor provisions into contract documents for private sector participation in the water sector. We are currently carrying out an inception project, examining the main issues and constraints that prevent Low Income Groups (LIGs) being served under PSP frameworks.

The key questions we wish to examine are:

- How can the poor benefit from private sector participation?
- What are the experiences so far in serving low income households under PSP processes?
- What are the real reasons that PSP may have failed to work for low income households?
- What are the critical success factors in serving LIGs?

2. Consultation Process

The main issues facing low income groups in urban areas in relation to water services are:

- Appropriate access options and cost of access
- Appropriate levels of service and cost of those services

These main issues arise from a combination of different factors which are discussed on the following pages. We have provided some initial points for consideration, but we welcome input on any additional points.

We recognize that this survey, in its entirety, would take some time to complete. Please feel free to select any of the sections, subsections or individual questions listed below that you consider to be most important. We very much welcome a detailed description of your experience of these issues, particularly regarding the successful resolution of the constraints that LIGs face.

3. Transaction Process and Contract

Constraints that negatively affect LIGs include:

- Municipalities and local government have unclear pro-poor development objectives and/or are reluctant to incur the cost of serving these populations
- Data on LIGs is of such low quality that it is difficult to set targets or the proposed targets are unrealistic
- Improvement in service cannot be monitored
- Pro-poor issues are not reflected in the transaction advisors' TORs
- Pro-poor issues are not given sufficient weight in evaluation and contract award stages
- For reasons of quality or contract exclusivity, there is reluctance to incorporate alternative providers as part of the service provision process
- Bidders are not given sufficient time to investigate issues relating to LIGs before submitting a bid

What is your experience with the issues above? Can you give any examples of when these issues have impeded service to LIGs? Or been successfully overcome? Are there other major issues to consider in regard to the Bid development?

Related Issues for Consideration

1. *How can the transaction process involve representatives of LIGs – do they have the capacity to be involved? At what level?*

2. *Should the PSP process start with developing the required skills and understanding about key issues affecting poor communities? How can this be done ?*

3. *How can pro-poor policies be integrated at the bidding and negotiation stages? What weighting, for example, should/can be given to pro-poor issues in relation to more general financial and technical issues?*

4. *To what degree do Bidders seek exclusivity commitments? Under which conditions are they open to sharing service provision?*

5. *To what extent is there an actual information gap in many PSP contracts? Do all the stakeholders have the necessary information to determine sensible solutions?*

6. *What are the constraints in regard to measuring and monitoring pro-poor PSP contract results? How can it be improved?*

4. Legal, regulatory and policy issues

Examples of legal, regulatory and policy constraints include:

- Many legal requirements (e.g. land tenure, credit history, planning permission) prevent the expansion of services in informal areas
- Lack of payment enforcement mechanisms, disconnection policy, and weak judicial systems make services to LIGs a higher risk for private operator
- The regulatory environment is not inherently pro-poor, making it difficult to manage any pro-poor issues in a contract
- Regulatory bodies lack the capacity to arbitrate and enforce contracts in an economic, financial and socially inclusive way.

What is your experience with the issues above? Can you give any examples of when these issues have impeded service to LIGs? Or been successfully overcome? Are there other major issues to consider in regard to the legal, regulatory and policy development environment?

Related Issues for Consideration

1. *Is increased regulatory capacity essential for effective pro poor PSP operations? Should the regulator be responsible for LIGs or if not, how should represent the interests of the poor? How can social regulation be combined with economic and financial regulatory decision making?*

2. *How can social responsibilities be incorporated into contact provisions in addition to performance objectives? Should they be included?*

3. *How can Government, the regulator and the developers of the transaction agree on the LIG policy goals to be embedded in the transaction*

4. *What legal underpinnings are important to creating a pro-poor regime? For example, should a law include a human right to access to water (as compared to a universal service)? In this case, what can be achieved? How can it be enforced?*

5. *If alternative service providers are involved, is there a need to monitor and regulate their charges?*

5. Economic, Financial and Commercial issues

Examples of economic, financial and commercial constraints include:

- High connection costs
- Tariff structures (such as increasing block tariffs) create a disincentive to serving LIGs
- Subsidies do not reach identified LIGs
- LIGs have less access to credit and a limited cash flow
- Costs of extending the system to reach LIGs cannot be recovered through tariffs

What is your experience with the issues above? Can you give any examples of when these issues have impeded service to LIGs? Or been successfully overcome? Are there other major issues to consider in regard to the economic and financing regimes?

Related Issues for Consideration:

1. *What role can be played by community representatives and individual members in order to reduce construction and management costs?*

2. *How can expansion of services be subsidised?*

3. *To what extent can connection charges be financed under microfinance loans? Or through phasing or subsidies?*

4. *What tariff structures work best for LIGs?*

5. *Would promoting different methods of billing and payment for LIGs (e.g. availability of nearby bill payment points, pre-payment systems) encourage timely payment for water services.*

6. *Should industrial consumers be able to opt out of the formal network services and seek their own water supply? While this may imply cheaper and better services for industrial consumers it may reduce the potential for cross subsidies.*

6. Technical, Operational and Service Issues

Examples of such issues include:

- High technical (and legal) standards increase the cost of service beyond what LIGs desire/require
- LIGs requirement that service choices should relate to affordability levels are often not considered
- Physical location of LIGs makes it difficult to provide service, meter and maintain installations
- Lack of customer information makes standard billing and collection regimes difficult
- The need to incorporate hygiene and sanitation education with improved water supply is often overlooked.

What is your experience with the issues above? Can you give any examples of when these issues have impeded service to LIGs? Or been successfully overcome? Are there other major issues to consider in regard to operations and service?

Issues for Discussion

1. *How can differing levels of service and related tariff levels be incorporated into PSP contracts?*

2. *How can independent service providers be brought in? Do they offer an appropriate, long-term service option?*

3. *Can, and should, communities be expected to choose between different technologies or operators ?*

4. *To what extent will municipalities accept a private operator selling bulk water to vendors and to LIGs. How can the relationship be regulated to ensure a level playing field between private operator and vendors?*

7. Community liaison and customer education

Issues related to the relationship between customer and service provider include:

- A lack of communication and shared objectives between the conceding authority and LIGs
- LIGs lack a formal voice in the PSP process and there may be less accountability to them as consumers;
- Lack of community liaison and customer education on realistic water pricing leads to low payment levels or reluctance to pay cost of service;
- LIGs have expectation that PSP will have negative consequences and private operators mistrust LIGs.

What is your experience with the issues above? Can you give any examples of when these issues have impeded service to LIGs? Or been successfully overcome? Are there other major issues to consider in regard to communication and education?

Related Issues for Consideration

1. *How can the operator work more effectively with community based organisations (CBOs)? Is there a role for strengthening CBOs as part of the PSP process?*

2. *What are the most important points of a customer management strategy?*

3. *Who should be responsible for customer liaison and education; who should fund it?*

4. *To what extent does greater community liaison benefit LIGs and lead to increased customer satisfaction and increased levels of payment from LIGs? Should customer satisfaction be part of the obligations (and performance indicators) of the operator?*

5. *What could be short and medium term indicators of customer management (includes education and liaison)*

APPENDIX D

Tables of Possible Supply Options and Considerations under PSP Contracts

APPENDIX D1 - Possible approaches to provision of services to low income groups

NOTE: Ref. with a number (e.g. B1, H1) are thought unlikely to be relevant to PSP contracts, but are included here for completeness

(Adapted from work originally developed for the Ghana PSP process, with some additional information from South Africa)

Ref	Intervention	Community/ Private Operator responsibility	Possible Payment Arrangement	Notes / points to check
RETICULATED SYSTEMS				
A	**Standpipes** • **metered and invoiced** • possibly a number of standpipes in one community's system • operator installs • community responsible for maintenance downstream of the operator's bulk meter.	Community-run arrangements downstream of the operator's bulk meter. Operators Responsibility install only, OR O&M also	• Individual consumers pay the community organisation. • The community organisation pays the bulk metered amount to the operator. • Potential options for payment by the community: o operator sends standard monthly invoices to the community organisation o community pays at short intervals (via a local bank?) o community has a "bulk" prepayment meter.	• Community responsible for defining the arrangements for managing the process, eg o lockable standpipe with community monitor when unlocked o collective distribution posts (with individual locked taps). • Would the community be entitled to a lifeline block tariff? • Would land or water rights be an issue? • Must the community organisation be a legal entity?
B	**Standpipes** • **prepayment meters** • operator installs • operator responsible for all maintenance, or community responsible for maintenance downstream of the operator's bulk meter.	Operators Responsibility install only, OR O&M also	• (Probably) each individual consumer uses pre-paid electronic charge cards for drawing water: operator receives the pre-payments direct. • Convenient arrangements needed for consumers to make pre-payments.	• Cost of providing the special meters:- o borne by the community? o subsidised by others? o covered by a special tariff rate? • Cost of maintaining the meters by the operator borne by the users through the tariff. • Would the community be entitled to a lifeline block tariff? • Would land or water rights be an issue?
B1	Standpipes • free water supply to users (unlikely to be an option anywhere)	Check O&M responsibility	• None	• No cost recovery • No incentive for conservation of water • No "ownership" giving incentive for preserving the infrastructure • No incentives for operator • No control over consumption by users coming in from outside the area.

Ref	Intervention	Community/ Private Operator responsibility	Possible Payment Arrangement	Notes / points to check
C	**Formal vending kiosks** • **operated by vendor under sub-contract from the operator** • kiosk probably needs a tank as well as direct connection (for interruptions in supply).	Very little community responsibility, but community needs to prevent vandalism etc. Installed by operator?	• Individual consumers pay the vendor direct when taking water. • Potential options for payment by the sub-contracted vendor to the operator: o operator sends standard monthly invoices to the vendor o vendor pays at short intervals (via a local bank?) o vendor has a "bulk" prepayment meter o vendor might be required to make an advance to the operator.	• How is vendors price determined - lifeline tariffs? • Operator installs and maintains the tank and tap (to promote good quality of water supplied) • Does sub-contract defines operational standards for the kiosk? (and minimum standards for any construction by the vendor?) • Is retail price fixed? • Land rights may be problem. Government would be responsible for resolving the problem?
D	**Yard tap vendors and other individual vendors** • **vendors to be registered as such to benefit from the arrangements proposed** • registration process might be run by the operator or by the government • if vendor thinks a tank is necessary he may install his own tank.	Very little, or no, community responsibility for operation. Vendor responsible for arranging management of the supply point.	• Consumers (other than the tap owner) pay the tap owner for water taken. • Tap owner pays the operator according to metered consumption. • Potential options for payment by the individual vendor to the operator: o operator sends standard monthly invoices to the vendor o vendor pays at short intervals (via a local bank?) o vendor has a "bulk" prepayment meter o vendor might be required to make an advance to the operator.	• Vendor allowed a larger than normal volume at the lifeline block tariff (needs regulator approval). Probably a much smaller volume than for C. • How are the conditions (eg resale price? regular cleaning of tanks? tank construction standards?) regulated. • Monitoring? - through inspections by whoever is responsible for registering vendors. • Land rights unlikely to be a problem.
E	**"Condominium" approach** • **community pays for, and operates and maintains, the new reticulation system and connections** • assumed that the community would be invoiced in bulk for the supplies.	Strong community organisation needed for both implementation and O&M.	• Individual consumers pay the community organisation. • The community organisation pays the bulk metered amount to the operator. • Potential options for payment by the community: o operator sends standard monthly invoices to the community organisation	• Who controls quality? - If the operator does not have control over the quality of the installation work, there may be major problems in due course • May be an option which is more accessible to the less poor communities. • Would the community need to be an entity? • Would land or water rights be an issue?

Ref	Intervention	Community/ Private Operator responsibility	Possible Payment Arrangement	Notes / points to check
			o community pays at short intervals (via a local bank?) o community has a "bulk" prepayment meter o community might be required to make an advance to the operator. o	
F	**Roof tank water supply (semi-pressure)** • Needs proper brick house; perhaps via subsidised housing (formalisation) project. • Operator supervises installation, does O&M; customer pays only "ownership" fee. • Consumption metered and billed. • Possibility to install a flow limiter device (restricts use to <6m3/month, Durban). •	Housing subsidy covers all expenses but customer pays ownership fee.	• Individual Consumers pay the operator directly. • Installation of flow limiter for free provided no outstanding debt. Removal cost paid by customer. • Informal community (formalised though) far away from town centre: needs decentralised customer management centre + billing system ICT.	• Since installation follows housing construction strong liaison required with housing department (risk of being slow). • Formalisation of community requires new customer information database, meter and property numbers, • Education very important (big jump in service level). • Meters to be checked regularly to prevent (check) illegal connection (removal of flow limiter for eg). • **Service level includes flush toilets and connection to sewers**.
G	**Ground tank limited supply (low pressure)** • Storage tank on plinth outside house: water cannot be accumulated. • Shallow, low cost network installed by operator.	Customer pays for network and connection	• Individual Consumers pay the operator directly. • No payment, free water policy (South Africa)	• Shallow network is removable: particularly suitable for dense informal communities (no trunk mains below roads). • **Problem due to disposal of grey water** – service level to include grey water infiltration pit, reuse of grey water. • Can be combined with option E (condominium system).

Ref	Intervention	Community/ Private Operator responsibility	Possible Payment Arrangement	Notes / points to check
NON-RETICULATED SYSTEMS				
H	Road Tankers Operator provide supply to formal filling stations	A range of possible operator responsibilities (see Table B below) from simply supply water, to construct new stations and regulate tankers	Bulk supply to station OR Prepayment meters?	See table of separate operator responsibilities below
Other options that may be considered in some places				
I1	Vending kiosks selling water from tanks supplied by road tankers			• Typically outside the operator's area of responsibility and not an option for the operator. May nevertheless be an appropriate means of supply
J1	Private Tractor/donkey/hand cart distribution			• Typically outside the operator's area of responsibility and not an option for the operator. May nevertheless be an appropriate means of supply
K1	Boreholes for housing clusters: • community operation and maintenance			Likely to be outside PSP contract - but is any allowance made for this type of supply?
L1	Boreholes for housing clusters: • utility operation and maintenance			Likely to be outside PSP contract - but is any allowance made for this type of supply?
M1	Hand dug wells			Likely to be outside PSP contract - but is any allowance made for this type of supply?
N1	Private supplies to individuals or communities (reticulated or otherwise)			Likely to be outside PSP contract - but is any allowance made for this type of supply?
O1	Rainwater harvesting.			Likely to be outside PSP contract - but is any allowance made for this type of supply?

APPENDIX D2 - Range of Private operators possible responsibility regarding utilisation of road tankers to serve LIGs

Note: Some of these points are equally valid for other types of private vendors.
(Adapted from work originally developed for the Ghana PSP process)

	Main issue	Possible arrangements	Notes
	Probable obligations on the operator		
A	Provision and location of filling stations	• In large urban areas:- locate new filling stations near areas which are not yet reticulated • In smaller urban areas:- ensure there is a filling station (or stations) suitable for good access to areas which are not yet reticulated • In each case the requirement refers to unreticulated areas which are in, or adjacent to, urban areas allocated to the operator.	• The number of filling stations to be provided is likely to depend on government's policy on any priority to be given to sharing of resources between reticulated areas and areas supplied by tankers. If priority is given mainly to supplies to reticulated systems, there may be no point in providing many tanker filling stations. • Thus the government policy on sharing resources is likely to be a governing factor (see below).
B	Design and construction of filling stations	• Complies with specification for new tanker filling stations, eg: o good hard access for tankers o short access routes from public roads o parking space for queuing tankers o connection designed to allow rapid filling o well drained area o admin structure? (see column 3) • Should operator upgrade existing filling stations to comply with the specification for the new filling stations?	• See comments in lines D and E re existence of tanker owner associations: • In areas where all supplies are through a tanker association, o tanker association builds its own admin structure? o if more than one tanker owner association has rights for supply in an area, each should have its own filling station and admin structure? • In any other areas, the operator presumably builds the admin structure.
C	Manning and operation of filling stations	• Main manning and operation of the station done by tanker owner associations, where they exist. • In any other areas, manning and operation by the operator.	• See comments in lines D and E re existence of tanker owner associations.

	Main issue	Possible arrangements	Notes
D	Relationship with existing tanker owner associations	• Operator accepts assignment by the government of the existing tanker owner association contracts with the government. • Should the operator be instructed that, where a tanker owner association exists, he must not supply tankers which are not in the association (i.e. he should only provide tanker filling points for tanker associations)?	• Operator would have the opportunity to negotiate improved contracts? • Regulator may have responsibility for fixing the tariff for sales from operator to tanker associations (or direct sales to tankers, if any).
E	Establish new tanker owner associations	• A number of requirements need to be clarified, for example: o in larger urban areas should the government encourage establishment of multiple tanker associations? o in areas where there is no tanker association must the operator encourage the formation of an association: in the meantime may he supply individual tankers until there is an association? (as long as those individual tankers are registered?) o in the smaller urban areas which could be too small for a tanker association, all supplies should be by individual registered tankers? • Should the contract stipulate the requirements to be included in tanker association contracts? • Should the contract stipulate the requirements for registering individual tankers? • Alternatively should some or all the above be left to the operator's choice? • Would formal registration of a new association be with operator or with government (or regulator)?	• Again the government policy on sharing of resources between reticulated areas and areas supplied by tanker could be a governing factor. It would be difficult to make a requirement for smaller towns that a tanker association must be formed unless owners can expect to have access to enough water to make the business effective. • Regulator may have responsibility for fixing the tariff for sales from operator to tanker associations (or direct sales to tankers, if any). • Tanker owner association contracts would presumably be incorporated into Customer Service Agreements.
	Possible obligations on the operator		
F	Provide credit for new tankers	• Should the operator be required to provide such credit? • If so, should such credit be limited to members of tanker owner associations?	• Such a requirement is unlikely to be attractive to operators. • If credit arrangements should be considered, it may be preferable for government to promote other small scale credit arrangements.

	Main issue	Possible arrangements	Notes
G	Monitoring tanker owner and driver compliance with performance requirements	• Operator should only be expected to undertake practicable levels of monitoring. • Suggest operator should be required to check compliance in relation to all activities at the filling station, but not after the tanker leaves the filling station. (This could include occasional inspection of vehicles at the filling station.) • Other monitoring would be by others (see below).	• The position partly depends on whether operator may only provide water to tankers which are in tanker owner associations. If it may supply other tankers, performance requirements would presumably be established through a registration process?
H	Operator's own tankers	• Operator can presumably choose to run some of his own tankers if he wishes to do so. • In that case should the contract include stipulations regarding them?	• It is assumed that there is no need to require the operator to provide any tankers himself. • Operator obligations to maintain supplies during unplanned interruptions may mean that the operator does need his own tankers. • If the operator runs his own tanker supplies, but sub-contracts the task to a local operator, there could be a hybrid between operator tankers and registered independent tankers: would this be acceptable?
	Possible responsibilities of other organisations		
I	Policy on whether priority should always given to supplies to reticulated areas, or whether there should be some level of sharing (to be defined) of resources between reticulated areas and areas supplied by tankers.	• This is a government policy issue.	• As noted above, this is likely to be an important factor governing the whole area of tanker supplies.
J	Decision is needed whether there should be any regulation of tanker delivery price	• If extensive tanker arrangements are provided, could possibly be left to the market. • If tanker arrangements are constrained (eg because priority allocation of resources is to reticulated systems) price regulation may have to be considered.	• Not practicable to ask operator to regulate prices charged on tanker delivery? • Tanker delivery prices would probably vary from town to town. In large towns or cities, the prices could vary between different

	Main issue	Possible arrangements	Notes
			delivery points within them. Thus effective price regulation could be complex to implement.
K	Monitoring tanker owner and driver compliance with performance requirements	• It is assumed that a number of monitoring tasks cannot practicably be allocated to the operator (responsibility for direct monitoring by the operator would end when a tanker leaves the filling point?) • Suggest that a possible approach could include: o give wide publicity to key features of the requirements on tanker owners and drivers o publicise the need for instances of non-compliance to be reported to the relevant body (possibly in some cases the government, in other cases the regulator?) • Whichever of the government or operator is responsible for registering associations and (if relevant) individual tankers should take action in the event of non-compliance. (Relevant provisions needed in the agreements?)	• Tanker owner associations presumably need to be entities if the associations' agreements are to be effective. • Items which could be publicised, with request for report of non-compliance, could include: o tanker delivery price to be displayed (possibly, but not necessarily, depends on whether regulation of resale price) o tanker owner association registration number to be displayed o capacity to be displayed o vehicles to be clean and roadworthy o permitted area of supply (if limits apply)? • Operator will require clear statements in the contract regarding his limits of responsibility.
L	Monitoring of water quality as delivered by tankers.	• Should any spot checks be made on the water quality in tankers? • Possible spot checks by the operator at the tanker filling station? • Who would have what responsibility thereafter?	• Checks on quality at filling station would indicate whether the tanker has been kept clean. • Later checks would indicate whether the tanker has been filled with properly treated water, as well as whether the tanker has been kept clean.
M	Licensing/registering tanker owners and/or individual tankers	• If parties other than the operator are to be entitled to take action in the case of non-compliance by tanker owners or operators, there could be the need for a licensing or registering arrangement with, for example, the government (or regulator?).	