



Azerbaijan Strategic Performance Unit

Waste Management Strategy for Azerbaijan, Georgia and Turkey

AZSPU-HSSE-DOC-00068-2

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AzSPU-HSSE-DOC-00253-2 – AzSPU Waste Management RASCI chart

AZSPU-HSSE-DOC-00254-2 – AzSPU Integrated Waste Strategy Milestone Plan

AZSPU-HSSE-DOC-00084-2 – AzSPU Waste Streams Register

AZSPU-HSSE-DOC-00126-2 - AzSPU Waste Management Instructions

AzSPU-HSSE-DOC-00069-2 – AzSPU Approved Waste Management Contractors

BP Environmental Performance Requirements 11 – Waste Management (EPR-11)

1. Introduction

1.1 Purpose

On behalf of its partners, BP Exploration (Caspian Sea) Ltd. (BP) is developing and operating exploration, production and export facilities for oil and gas in the region (Azerbaijan, Georgia & Turkey). These activities generate construction and operational non-hazardous and hazardous wastes that require appropriate management.

The purpose of this document is:

- To describe the overall BP Azerbaijan Strategic Performance Unit (**AzSPU**) waste strategy for Azerbaijan, Georgia and Turkey setting out governing principles and policies;
- To describe AzSPU roles and responsibilities for waste management;
- To describe existing operations and key milestones 2008-2010.

1.2 Scope

This strategy covers waste management relating to AzSPU operations and project sites in Azerbaijan, Georgia and Turkey. It can also be used, if relevant, to support other BP business in the region as it was for Black Sea Exploration in 2006.

This revision includes specific strategic milestones 2006-2008.

2. Policies and Practices

EPR-11.3

Provision for waste management shall be made in all Contracts and Agreements (Production Sharing Agreement, Host Government Agreement and Inter-Governmental Agreements)

2.1 PSAs, HGAs and IGA

BP is the Operator under the Azeri Chirag Gunashli (**ACG**), Shah Deniz (**SD**), and other Production Sharing Agreements (**PSAs**) as well as the Western Route Export Pipeline (**WREP**). BP AzSPU operates the Baku-Tblisi-Ceyhan pipeline (**BTC**) and the South Caucasus Pipeline (**SCP**) in accordance with the provisions of the corresponding Host Government Agreements (**HGAs**) and the Intergovernmental Agreement (**IGA**). BP conducts its offshore and onshore business in line with these Agreements together with the requirement of the applicable Country legal requirements.

In Azerbaijan, the PSAs require that national laws are adhered to with respect to HSE to the extent where these laws are not more stringent than current international Petroleum industry standards and practices (ACG) or Environmental Protection Standards (SD)

Under the 5 HGAs, the BTC/SCP/WREP pipelines are subject to standards and practices prevailing in the international petroleum pipeline industry for comparable projects taking into account standards and practices required by national laws. HGA specific requirements include: UK Health & Safety standards (SCP Az); UK & World Bank Environmental standards (SCP Ge); Dutch & Austrian Environmental standards (BTC Ge); Pipeline Construction and Operating Agreement (WREP Ge). The BTC IGA provides further requirements for adoption of standards and practices within the petroleum pipeline industry no less stringent than those applied within member states of the European Union. The most stringent standards of the National Law, EU directives and World Bank Guidelines apply to BTC.

In Azerbaijan there are Agreements on the Disposal of Surplus Assets which allows for the transfer of obsolete and surplus material, equipment or facilities to SOFAZ. This route is used to minimize

waste production. Under the Agreements, BP notifies SOFAZ and informs SOCAR. SOFAZ can elect to determine where the material goes. If they elect to leave the material with BP then BP can dispose of the material as scrap or waste.

2.2 HSSE Policy

AzSPUs' mission is to ensure BPs' reputation as a "Distinctive Operator" is maintained through efficient waste management operations and close coordination with stakeholders and concerned state organizations

The company's goal is based on the conduct of operations in a safe and environmentally responsible manner:

"No accidents, no harm to people and no damage to the environment."

BP's AzSPU operations are ISO 14001 certified.

2.3 Group Practise

BP has a Group wide practice Environmental Requirements for New Projects (**ERNP**) and a set of Environmental Performance Requirements (**EPRs**) including an EPR for Waste Management. Other EPRs such as Water Management and Drilling, Completions & Workover Wastes and Discharges for example are relevant to Waste Management activities.

BP Environmental Performance Requirements - 11 Waste Management

Provides:

- ***Design criteria for new projects and Major Modifications, and,***
- ***Direction and Guidance for continual improvement in existing facilities***

Intent:

- ***To manage waste so that it will not pose harmful risk to the workforce, local communities or the environment.***
- ***To ensure a Duty of Care for managing waste in a manner that will not pose harmful risk to the workforce, local communities or the environment. To apply an approach supported by the waste management hierarchy from project design through to decommissioning.***

EPR-11.7

Cross border export of waste shall be governed by international conventions (where applicable) and national legislation and minimized in favour of an in-country solution. Any cross border export of waste should be justified using a BPEO approach.

EPR-11.13

Requirements for specific waste disposal processes shall be followed:

Incineration: Incineration standards should be risk assessed and should implement recognized international practice to minimize atmospheric pollution. Waste to energy plant should be considered as far as practicable.

Subsurface disposal: Where appropriate downhole stratigraphy is present and wastes can be properly isolated and contained in appropriate underground zones, underground injection should be evaluated to determine if it is feasible and economically achievable to eliminate surface and ocean discharge of wastes (particularly hazardous wastes).

Landfill: Disposal to landfill should be minimized as far as possible. Where landfill is required it will be designed and operated according to recognized international practices specific to the waste type. Landfills should contain and control the generation of leachates and landfill gases to prevent migration and potential contamination. Wastes being disposed to landfill should be pre-treated where appropriate in order to minimize their hazardous

nature. Liquid waste should not be disposed to landfill without prior treatment. Hazardous and non-hazardous wastes should not be co-mingled in landfills.

BP directly applies its HSSE and waste management policies and practises to those operations under its control. BP also strives to raise the standards of operations not under its control through influencing and sharing of best practise.

The purchase and use of hazardous materials will be avoided wherever practicable. Examples of hazardous materials which will be avoided altogether include: those containing PCBs (Poly Chlorinated Biphenyls); and ozone depleting substances (e.g. Chlorofluorocarbons; halogenated solvents, halons).

2.4 AzSPU Commitments

EPR-11.4

A transparent and auditable waste management plan that complies with ISO 14001:2004 shall be established, implemented and maintained.

EPR-11.1

In the absence of local/national applicable standards or regulations, the adoption of specific good practice standards shall be proposed and justified on a case-by-case basis using the US and EU references as guidance and supported by a BPEO Assessment process.

BP will manage hazardous, non-hazardous and inert wastes to internationally accepted standards in line with Asset commitments and Best Practicable Environmental Options. BP Operated waste management sites will be ISO 14001 certified. BP aspires in the longer term to comply with EU standards. Some Assets within the AzSPU business have clear commitments to European or other standards. It is, however, recognised that the availability of waste management infrastructure compliant with European (EU) standards is at an early stage of development in Azerbaijan and Georgia and open to further development in Turkey.

Waste management is a significant environmental aspect as described in the AzSPU HSSE&S MS. It is the responsibility of each Performance Unit (PU) to regularly update the HSSE&S MS Aspects and Impacts registers regarding waste management issues in order to maintain ISO14001 certification.

EPR-11.12

Handling and transportation of wastes shall be minimized.

This policy is translated into practice via the adoption of internationally recognized waste management principles and hierarchy, as follows:

Waste management hierarchy

BP's aspiration for the management of waste is to apply an approach supported by the waste management hierarchy from project design through to decommissioning considering the following key principles.

- ***Avoid/Eliminate is a core primary objective using life-cycle analyses.***
- ***Minimize:***
 - ***The consumption of resources.***
 - ***Waste generation through effective reuse and recycling procedures and policies.***
- ***Treat and discharge and dispose are at the base of the hierarchy. BP will aim to reduce its reliance on these as far as practicable.***
- ***If disposal is required, a process will be selected that minimizes the risk of damage to the environment.***

EPR-11.2

Avoidance and minimization measures shall be implemented at an early stage through designing out and consequent contract management (and operations)

EPR-11.8

Emergency Response Plans shall consider and provide for the management of potential waste streams resulting from the incident or incident response, e.g. soiled oil spill absorbent material.

BP ensures that where the generation of waste is unavoidable, waste minimization techniques will be followed which may include a focus on reducing waste at the source, wherever possible, and waste reuse and recycling i.e. resource management. Minimization methods also considered include:

- Selection of engineering designs and construction practices should consider waste avoidance and minimisation and this should be a significant aspect of each capital value process project stage;
- Ordering only necessary quantities of materials keeping only practical quantities onsite, and using all products until empty (aerosol cans, paint, chemicals) – simple business efficiency;
- In Azerbaijan, where possible, returning unused materials to the vendor for credit or reuse or handing surplus to SOFAZ/SOCAR subject to due diligence based on the duty of care. If anything can be used, it is not a waste - the long term financial and environmental costs from waste management are avoided;
- When a process points to a need for a hazardous material, considering if a non hazardous material could be substituted for the same purpose. If not, calculating carefully how much of the material is really needed and determine its waste management options prior to use – waste management factored into the overall cost benefit analysis;
- Preventing spills and leaks by practicing preventative maintenance and good housekeeping thereby minimizing the use of absorbent materials and minimizing the production of contaminated waste material – planned prevention of waste production;
- Giving prior consideration to the sizes of containers available when ordering products that could potentially generate waste. Although ordering in bulk eliminates the generation of waste drums, sacks, and pallets, the intent is to avoid unused products and/or their containers from becoming wastes – balancing waste and material efficiency;
- Segregating uncontaminated and contaminated site drainage to minimize production of contaminated water and waste arisings – process efficiency;
- Segregating uncontaminated and contaminated soils, pre-setting criteria when to terminate clean-up, minimizing secondary contaminations, minimizing ground disturbance where groundwater table is high and can quickly increase the volumes of contaminated soil and groundwater – balancing clean-up and waste volumes.

2.5 Other Commitments

Waste Producers in each BP Performance Unit will have Installation/Asset/Office waste management plans which include current and forecast waste production and all these principles together with continuous improvement plans. All Emergency Response Plans will consider and minimise potential wastes and will provide guidance on treatment/disposal options.

Performance Units will monitor waste production and costs and include the development of waste management and the internal/external costs in their Annual Plans. Waste production, transport, treatment, recycling and disposal statistics are recorded and reported.

Performance Units directly engage with Tier 1 Contractors and other direct Contractors and to develop and implement Contractor Improvement Plans. Contract Accountable Managers monitor contractor HSE performance.

The AzSPU adopt BP EPR as direction and guidance for continual improvement in existing operations.

2.6 AzSPU Waste Management Instructions

EPR-11.10

All wastes shall be recorded and during movement or handover shall be accompanied by Duty of Care documentation.

AZSPU-HSSE-DOC-00126-2 AzSPU Waste Management Instructions covers each of the main waste streams. The instructions set out information and details on cradle to grave actions. Each instruction includes:

- Description; Classification; Analysis
- Handling procedures at point of production
- Transportation procedures
- Handling Procedures at CWAAs to point of treatment/disposal
- Administrative procedures and additional information including health risks
- Application of the Azerbaijan regulations on Hazardous Waste Passports

See Appendix 1. Index of Waste Management Instructions

2.7 AzSPU Waste Streams Register

EPR-11.9

All wastes shall be appropriately classified, segregated (e.g. hazardous and non-hazardous), labelled at the source, and stored in suitable receptacles to ensure the safe containment and transportation of waste.

AZSPU-HSSE-DOC-00084-2 – AzSPU Waste Streams Register summarises the information for each of the main waste streams which have arisen and continue to arise. It serves as a ready reference to characterisation, hazards, options and current in-country arrangements.

The Waste Streams Register mentions the companies currently providing waste management services on BP's behalf in each country.

2.8 AzSPU Waste Contractor Approval

EPR-11.5

A formal process for the selection, management, and monitoring of waste management contractors and facilities shall be established, implemented and maintained.

EPR-11.6

Where waste management contractors do not meet BP standards, BP shall provide developmental support in order to provide capabilities which do meet standards.

BP (Azerbaijan & Georgia) and BIL (Turkey) have procurement and supply chain management procedures.

Waste Companies in Azerbaijan that are proposed for BP Contracts are subject to the supply chain evaluation and assessment process and then are entered into the list of Approved Contractors against specific scopes. This covers all AzSPU activities in Azerbaijan. AzSPU-HSSE-DOC-00069-2 – AzSPU Approved Waste Management Contractors.

In Georgia a single source Georgian contractor has been approved for in-Country waste management operations and an international company has been approved for hazardous waste export.

In Turkey, BIL (BOTAŞ International Limited), as the designated operator is responsible for the operation of the pipeline and above ground facilities follow a similar process on behalf of BTC Co. BIL have contracts with a number of in-country waste disposal/treatment facilities and hazardous/non-hazardous waste transporters.

2.9 Compliance Management System

AzSPU continually reviews the applicability of waste management legislation and commitments and these are captured in the AzSPU HSSE&S MS as specific compliance tasks linked to the source documents. BTC Turkey has identified legislative requirements and made legal commitment as part of the BTC ESIA process. Turkey is reviewing legislation individually. Performance Units then use the Compliance Task Manager to monitor and track compliance. Specific Waste Management Compliance papers are developed as necessary.

See Appendix 2 - Index of Waste Management Compliance Papers

Any situation where it is not possible to fully comply with commitments is documented in a 'deviation' prepared by the relevant Performance Unit and which requires approval by senior BP management (PUL or above)

See Appendix 3 – Index of Waste Management MoCs/Deviations

2.10 Best Practicable Environmental Option (BPEO) Assessment

Reference documents set out the Best Practicable Environmental Options (BPEO) for key waste streams specifically produced in Azerbaijan and Georgia and is shared with BTC Turkey. The results of this can be found in separate reference documents AZSPU-HSSE-REC-00011-4 (Azerbaijan) and AZSPU-HSSE-REC-00014-4 (Georgia). In Turkey, BIL will conduct a waste management BPEO study through their contractor. The draft scope has been approved by BTC Co. and waiting for BIL to process. The intention is to complete the study in 2008 and implement the plan in 2009. In real terms, a particular BPEO solution compliant to specific standards may not be feasible in the short term but remains as the underpinning aim.

3. Waste Management Infrastructure

EPR-11.11

Waste shall only be accumulated or temporarily stored for a maximum of 1 year where legally compliant facilities for reusing, recovering or disposing of the waste are unavailable and provided associated risk assessments have been completed.

Regionally, waste management infrastructure has been poor although the status is improving. In real terms, it has not been possible to limit storage to less than one year (EPR 11.11), necessary although is accepted as guidance for continual improvement.

As an interim measure, when necessary, BP seeks to develop stand alone temporary storage solutions or contracted services which provide effective control and assurance.

BP delivers waste management transport, treatment, recycling and operations through contractors using the procurement processes appropriate in each country. The procurement policies focus on local capacity and competence development. This is evolving as more local companies are improving their performance based on international principles and standards.

Transboundary movements of waste may be considered as a potential means to deliver overall waste management best practise. All three countries have either ratified or acceded to the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal. This provides specific obligations with respect to the transportation, storage and

corresponding documentation governing the management of hazardous waste when it is justified. This is currently the case in Georgia.

4. Implementation (2008-2010)

The AzSPU Integrated Waste Strategy Milestone Plan sets out the key milestones and deliverables underpinning the strategy for 2008-2010 and looks ahead to known projects and developments.

4.1 Azerbaijan

It is the Government's intention in Azerbaijan to promote the development of in country processes rather than export. Under the Partnership and Cooperation Agreement (**PCA**) between Azerbaijan and the European Union (**EU**), Azerbaijan is committed to aligning its environmental legislation with that of the EU. The Azerbaijan Government are investing in EU compliant waste to heat incineration and waste collection and disposal in the Baku area and expect operations to commence in 2009/2010. A Presidential Decree signed in August 2008 established the transfer of municipal management of domestic wastes in the territory of Baku to new joint stock company and promised regulations.

In recent years BP non- hazardous wastes have been disposed of at a private landfill at Sumgayit. This site was audited and found to be not fully EU compliant. A new EU compliant BP exclusive non hazardous waste landfill has been constructed at a different site at Sumgayit and operational use is to start in 2008. The use of the existing hazardous waste landfill cell at the site could lead to co-mingling which should be avoided, so the construction of a new BP exclusive cell in 2009 is planned. BP's medical waste disposal via Central Clinic incineration ceased in 2007. BP will seek to procure new options in 2009.

Existing BP operated infrastructure includes:

- two Central Waste Accumulation Areas, at Sangachal and SPS, where wastes are segregated and consolidated for onward recycling, storage, treatment or disposal
- a facility at Serenja, west of Baku city, for Indirect Thermal Desorption (ITD) treatment and bioremediation of drill cuttings and hazardous waste storage. The ITD process removes oil from drill cuttings and the recovered oil is re-used in mud manufacture. Options for end use or disposal of the treated cuttings are being developed in 2008/9.

Existing BP developed routes in Azerbaijan for recycling and re-use include paints, solvents, wood and metals. In 2009 BP will seek to procure additional recycling routes

Wherever possible, BP onshore facilities self-treat sewage allowing effluent discharge to municipal sewers or approved routes. Currently some municipal plants themselves have issues with their processes. Offshore in the Caspian the Azerbaijan Government have adopted a MARPOL convention which applies reduced suspended solids discharge conditions as from 2010. Responding to this and in compliance with some ESIA commitments, BP is moving towards more biological treatment offshore. This will lead to an increase in the volume of sludge for treatment or disposal in Azerbaijan. BP is seeking sewage sludge processing routes in 2009.

Offshore, cuttings re-injection is in use to a limited extent. This will be the subject of continuous improvement and will be the basis for the West Chirag development

BP uses a private oily water treatment facility at Serenga which separates oil from oily water and sludges for re-cycling with cleaning of water effluent. In 2009 BP will seek to procure additional treatment and disposal routes.

Large quantities of produced water arise onshore and are currently treated and stored at Sangachal Terminal prior to final disposal. The long term solution onshore treatment and offshore re-injection will begin to be fully operational in 2009. In 2009 BP will seek to procure contingency treatment and disposal routes.

BP has developed a number of contracts with local companies for the transport, storage, segregation, treatment and disposal of wastes in Azerbaijan. In 2008 a procurement strategy based on 3-5 year contracts was agreed allowing more localisation and capacity development

Azerbaijan 2008-9 deliverables

- An Annual Integrated Audit Schedule together with Contractor Improvement Plans and site supervision for BP Operated or Sole Use waste operations
- Inspection & Influence Plans for non-BP non-Sole Use contracted waste operations
- Waste Minimisation and Management Plans and Waste Management Efficiency Improvement Programmes for each waste producing asset
- A Surplus & Waste Management Plan for STEP closure
- A Waste Minimisation and Management Plan for West Chirag Project
- A Waste Minimisation and Management Plan for Shah Deniz (SD) 2 Early Civils and Pre-Drilling
- A Waste Minimisation and Management Plan for Inspection, Maintenance & Repair (IMR) Project
- Operational use of the BP EU Compliant Non-Hazardous Disposal Cell at Sumgayit
- Capping off the current Sumgayit Non-Hazardous Cell
- Revised Drill cutting strategy and a Treated Drill Cuttings Management Plan
- Sewage Sludge Management Plan and a defined capital project for 2009/10
- Hazardous Waste Management Plan and a defined capital project for 2009
- Produced Water Contingency Management Plan bridging from the Interim to the Long term project
- Invitations To Tender (ITTs) and agreed revised contracts for Waste Transport Operations
- ITTs and agreed revised contracts for the 12 other streams identified in the Semi-integrated Waste Management Procurement Policy

4.2 Georgia

In Georgia hazardous waste volumes are relatively small and do not support development of compliant infrastructure. BP, with the agreement of the Georgian Government, exports to EU compliant sites in Europe. National and international requirements are met before export is conducted using an international waste management contractor.

In Georgia, during BTC/SCP projects, a municipal waste site at the Iagljudja was used for non-hazardous waste. This was found not to completely meet EU standards and use was stopped in June 2008. BP Georgia has acquired land at the municipal site in Rustavi and has funded the design and construction of a BP sole use non hazardous EU compliant waste disposal cell at the site which should be operational early 2009.

Existing BP operated infrastructure in Georgia includes one Central Waste Accumulation Area at PSG1 where wastes are segregated, consolidated and stored.

Wherever possible, BP facilities self-treat sewage for discharge to municipal sewers or approved routes. Currently the municipal plants themselves have issues with their effluent quality. The majority of BP facilities in Georgia self-treat sewage discharge to approved routes. Currently the municipal treatment plants have issues with their effluent quality, therefore the use of these plants are very limited. For BTC/SCP only, sludge is allowed to be disposed to the settlement ponds of Gardabani municipal plant. For WREP only PS 13 self-treated liquid is allowed to be disposed to Gardabani municipal sewage system since discharge of any effluent is forbidden at PS13 due to the existence of a potable water aquifer.

BP Georgia has contracted for the storage of non-hazardous waste and maceration of food wastes in order to stop usage of municipal waste site at Iagljudja and is storing the product pending development of a compliant disposal route. Usage of a dewatering unit and further composting of

macerated food waste is planned. However food waste can also be disposed into the EU compliant none-hazardous landfill facility once it is operational.

Compaction, baling & temporary storage of non-organic domestic waste is occurring pending the NHW cell becoming available.

The recycling of accumulated plastic waste has been launched locally via plastic shredding company who sells shredded secondary raw material abroad for re – use. BP Georgia may also be open to exporting into Azerbaijan for recycling.

Georgia 2008-9 deliverables

- An Annual Integrated Audit Schedule together with Contractor Compliance programmes and site supervision for BP Operated or Sole Use waste operations
- Inspection & Influence Plans for non-BP non-Sole Use contracted waste operations
- Waste Management Plans and Waste Management Efficiency Improvement Programmes for each waste producing asset
- A Surplus & Waste Management Plan for Georgia Projects closure
- Operational use of the BP EU Compliant Non-Hazardous Disposal Cell

Hazardous Waste Management Plan 4.3 BTC Turkey

In Turkey, Botas International Limited (BIL) operate the BTC pipeline. BIL is ISO14001 accredited and is committed to BTC EU standards of waste management.

The main waste generation areas of BTC Turkey section are Pump Stations (PTs), Intermediate Pigging Stations (IPTs) and Ceyhan Marine Terminal (CMT). Waste is collected and segregated at the on-site Central Waste Accumulation Areas (CWAAs) that were left from the construction phase. The time period in which wastes are stored at the CWAAs is kept to a minimum with a commitment by BIL to limit the storage period for hazardous waste at CWAAs to 6 months. Waste is reused where possible (i.e. food waste is used by villagers for animal feed). Recycling of wastes is undertaken wherever possible. Glass, metals, vegetable oil, paper, battery and other recyclable wastes are sent to Project approved recycling facilities. Non-hazardous domestic and hazardous wastes are transported to Izaydas facility in Izmit (to date the only hazardous and domestic waste landfill site which meets the Project requirements in Turkey).

The new Operations CWAA at CMT was completed in March 2008. It is not yet operational and permitting is not expected to be completed until September 2008. Permanent CWAAs for PTs and IPTs are still not implemented and are not currently included but considered in the BTC list of enhancement projects for 2009.

BTC Tu has initiated a project as part of the Regional Development Initiative (RDI) on a cost shared basis with the local municipality of Antakya to fund improvements to over a two-year period to achieve EU compliance in three areas:

- design improvements to EU standards, including leachate collection, flare system, additional drainage, improvements to medical waste storage etc.;
- development of operation waste management plans; and
- training in waste management for facility personnel.

Antakya Municipality, in conjunction with their RDI Implementing Partner, ISTAC, has developed a tender document to finalize gaps in landfill design and construction. No bids were received; consequently the Municipality has now decided to combine construction and operation into a new tender package. In the meantime, ISTAC has started to develop some of the necessary management plans together with the Antakya Municipality. Due to a delay in the tendering process, staff training has not proceeded at this time.

Across the project, operations of WWTPs are non-compliant. Non-compliance of WWTP discharges ranges from 50-70% of the time. However, no discharges are released to the environment; treated waste water trucked to Project approved Municipal WWTP's. BTC Tu has undertaken a project wide review of WWTP performance and has recommendations for short, medium and long term ranging from improved operator performance, installation of reed beds and replacement of

WWTPs. In this matter a WWTP will be installed at IPT1 as part of BTC environmental enhancements; in addition BIL is implementing enhancement projects to segregate WWTP discharges from other discharges in 2009.

Turkey 2008-9 deliverables

- Provision of CMT Ops phase CWAA
- Establishment of PTs and IPTs Ops phase CWAAAs
- Short, mid and long term waste water enhancement items
- Completion of BPEO study by BIL
- Implementation of BPEO study by BIL (inc. working with Antakya Municipality)

5. Responsibilities

The AzSPU Waste Management RASCI chart sets out the responsibilities and accountabilities for waste related issues in the AzSPU. In summary:

The Strategic Performance Unit Leader (SPUL) is accountable for ensuring the delivery of a sustainable, developing waste management strategy

The **AzSPU Waste Strategy Manager (WSM)** provides the focal point for the identification and determination of waste strategy decisions and actions. The WSM is accountable via the Onshore PUL to the Az SPUL for waste strategy communication and coordination across BP operations and projects in the AzSPU. The WSM is directly accountable for the Waste Management Strategy, RASCI Chart; Waste Streams Register; Waste Management Procurement strategy (Az); Waste Management Development Projects (Az); Waste Management Instructions and Waste Contractor Approval (Az).

Azerbaijan, the Waste Operations Manager (WOM) in the Offshore Performance unit is accountable for ensuring all BP Waste Transport, Treatment and Disposal operations and Contractors in Azerbaijan are compliant and is the Contract Accountable Manager for Waste Operations and Transport contractors.

Performance Unit Leaders (PUL's) are accountable for ensuring all Operating Assets, Construction Sites and 3rd Party Operations, Maintenance and Project Contractors within their PUs are compliant with this document and for influencing those contracted operations not under direct control.

In Georgia, the Georgia Exports Operations Manager, through its Environmental Manager is be accountable for contact with the Environment Ministry in Georgia and for ensuring all BP Waste Transport, Treatment and Disposal operations and Contractors in Georgia are compliant . The **Georgia Environmental Manager** is the Contract Accountable Manager for the single source in-country waste management contractor.

In Turkey, the BTC Operations Assurance Manager, through its Environmental Department, is ultimately accountable for compliance of BIL's Waste Storage, Transport, Treatment and Disposal and related Contractors.

The **AzSPU HSE & Technical Director** is accountable for ensuring Environmental Assurance and compliance with BP EPRs (Projects). This is delivered through the **AzSPU Central Environment Manager**.

The relevant **Environmental Managers/Team Leads** will be responsible for the review of their operations in Azerbaijan, Georgia and Turkey to assure compliance of their Operating Asset/ PU with the specified commitments, plus:

- Compliance with procedures and common processes at a PU level;
- Regular review and monitoring of Environmental Aspects and Impacts Registers to include Waste Management;
- Reporting data to monitor AzSPU KPIs for Waste Management performance.

The **AzSPU Environmental Manager** is the focal point of contact with the Environmental Ministry in Azerbaijan.

The **Georgia Operations Environmental Manager** is the focal point of contact with the Environmental Ministry in Georgia.

The **Turkey Environmental Assurance Manager** is the focal point of contact with the Ministry of Environment and Forest in Turkey.

The **AzSPU Compliance Manager** is responsible for Waste Management Compliance Position Papers, the HSSE Compliance Management System and the HSSEMS Integrated Audit Programme

Contractors have a *Duty of Care* for all wastes arising from their activities and are responsible for the disposal of the wastes they generate in accordance with the terms of their contracts and BP AzSPU WM Strategy through:

- Taking all reasonable steps to avoid waste generation and to minimize both the quantities and the hazards of waste generated;
- Ensuring that all wastes generated are correctly identified, and stored pending collection/transfer for reuse, recovery, recycling, treatment and/or disposal in an environmentally sound manner;
- Ensuring wastes are accompanied by the appropriate documentation;
- Regularly monitoring activities under their control to ensure correct handling, treatment and disposal of waste;
- Reporting / compliance with KPI's;
- Working in partnership with company to improve operations and promote the goals of the strategy.

The **appointed Contract Accountable Manager (CAM)** is responsible for ensuring this through ongoing contractor monitoring and assurance (e.g. audits, inspections, QPR's).

6. Document control

- Waste management documentation shall be managed via AzSPU HSSE &S MS document control procedures.

Appendix 1 - Waste Management Instructions Index, AZSPU-HSSE-DOC-00126-2

Serial	Waste Stream	Serial	Waste Stream
1	Absorbents other than oily rags	49	Filters (used oil)
2	Acids	50	Filters (used water)
3	Activated Carbon	51	Fire fighting foam
4	Adhesive (Solvent Based)	52	Fluorescent tubes
5	Aerosol Cans	53	Freon TF Solvents
6	Air Drying Desiccant	54	Fuel - Aviation
7	Alkalis	55	Fuel Diesel (Fuel Oil)
8	Amine	56	Gas bottles (empty and full)
9	Antifreeze Coolant	57	General Waste
10	Asbestos Containing Materials	58	Glycol contaminated with oil
11	Ballast Water	59	Gravel Pack Fluid
12	Base oil recovered from ITD	60	Grease
13	Batteries Dry Cell	61	Hawsers
14	Batteries Wet cell	62	Incinerator ash
15	Biocides	63	Insulation
16	Bitumen Asphalt used	64	Lead X-Ray Plates
17	Bituminous pipe wrapping	65	Metal Ferrous
18	Blasting Grit	66	Methanol
19	Book Cell	67	Methyl Ethyl Ketone (MEK)
20	Brine 1(Waste)	68	Non Ferrous Metal
21	Brine 2 (Waste)	69	Oil (Used)
22	Buoys Plastic	70	Oil Delivery Hose
23	Cartridges (Printer and Toner)	71	Oily Rags
24	Caustic Soda	72	Oily Soil
25	Cement (returned from down hole)	73	Oily Sludge
26	Ceramic Packing	74	Oily Water Type 1
27	Charcoal Filters	75	Oily Water Type 2
28	Chemicals (used from laboratory)	76	Paint Cans (empty and residue remaining)
29	Chlorine tablets	77	Paints and Paint Sludge
30	Clinical waste (Medicine)	78	Paper and Cardboard
31	Clinical Waste (Sharps)	79	Photographic Developing Liquids
32	Clothing and PPE	80	Pigging Wax
33	Completion fluids (calcium bromide)	81	Pipe dope
34	Construction waste	82	Plastic HDPE
35	Cooking oil	83	Plastics other than HDPE
36	Detergents	84	Produced Sand
37	Drill Cuttings (SBM)	85	Produced Water
38	Drill Cuttings (WBM)	86	Rubber inc pigging discs

Control Tier: 2

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39	Drill Cuttings (Low Tox)	87	Smoke Detectors
40	Drilling Fluids Contaminated Mud 1 (SBM)	88	Solvent and Thinners
41	Drilling Fluids Contaminated Mud 2 (OBM)	89	Swarf
42	Drilling Fluids Contaminated Mud 3 (WBM)	90	Thread Protectors
43	Drums Metal (Empty)	91	Tins (Food)
44	Drums Plastic (Empty)	92	Transformer Oil
45	Electrical & Electronic Equipment (Waste)	93	Transformers
46	Electrical cables	94	Tyres (Used)
47	Explosives and Pyrotechnics	95	Welding Flux
48	Filters (used air)	96	Wood (clean)

Appendix 2 - Index of Draft Compliance Requirements Position Papers (CRPPs) are:

Permitting and Certification
Onshore sewage
Offshore sewage
Indirect Thermal Desorption
Serenja HWMF
Offshore PW Disposal
Offshore SD PW Disposal Supplement

Appendix 3 - Waste Management MoCs & Deviation approvals

AzSPU Management of Organizational Change Procedure, AZSPU-HSSE-DOC-00029-U

Azerbaijan Pipelines (BTC/SCP) Management of Change Assessment Details - General Non-Hazardous Wastes, AZSPU-HSSE-REC-00036-4

Azerbaijan Pipelines (BTC/SCP) Management of Change Assessment Details - Medical Waste, AZSPU-HSSE-REC-00038-4

Azerbaijan Pipelines (BTC/SCP) Management of Change Assessment Details - Oily Wastes, AZSPU-HSSE-REC-00035-4

Azerbaijan Pipelines (BTC/SCP) Management of Change Assessment Details - Pigging Wax Residues, AZSPU-HSSE-REC-00039-4

Azerbaijan Pipelines (BTC/SCP) Management of Change Assessment Details - Sewage Disposal, AZSPU-HSSE-REC-00037-4

Revision/Review Log

Revision Date	Authority	Custodian	Revision Details
24 April 2006	Namig Abbasov	Amanda Hopper	Initial Issue
20 April 2007	Namig Abbasov	Amanda Hopper	Annual Review
26 September 2008	Alan Jones	Vusal Mammadov	Revision and update
25 September 2009	Amanda Hopper	Vusal Mammadov	The revision date has been changed in accordance with the request from document Authority (from 26 September 09 to 25 February 2010)
11 October 2010	Regulatory, Compliance and Environmental Manager	Waste Management Specialist	The document review deadline has been extended to allow detailed analysis and changes to address relevant new GRP requirements and organizational changes.