



# SUSTAINABILITY

FUTURE GROWTH

## **INDEPENDENT ENVIRONMENTAL & SOCIAL CONSULTANT**

**ENVIRONMENTAL & SOCIAL MONITORING REVIEW  
SHAH DENIZ II – GAS FIELD EXPANSION PROJECT  
AZERBAIJAN**

**AUGUST 2016**



## **INDEPENDENT ENVIRONMENTAL & SOCIAL CONSULTANT**

### **ENVIRONMENTAL & SOCIAL MONITORING REVIEW**

#### **STAGE 2 OF THE SHAH DENIZ PROJECT**

#### **AZERBAIJAN**

---

**Prepared for:**            **Bank of China (Intercreditor Agent)**  
**Lukoil Overseas Shah Deniz (Borrower)**

**Prepared by:**           **Sustainability Pty Ltd**  
**Suite 3, 118 Flora Terrace**  
**North Beach, Western Australia, 6020**  
[www.sustainability.net.au](http://www.sustainability.net.au)  
**+61 (0)8 9246 6666**

**Team Members:**    **John Miragliotta**    **Project Director – Principal Reviewer**  
**Amy Sexton**            **Senior Social Specialist**

---

## TABLE OF CONTENTS

<b>ACRONYMS AND ABBREVIATIONS .....</b>	<b>5</b>
<b>Executive summary .....</b>	<b>7</b>
<b>1 Project Summary Information .....</b>	<b>13</b>
<b>2 Introduction .....</b>	<b>14</b>
2.1 Background .....	14
2.2 Project Description.....	14
2.3 Construction Status.....	16
2.4 Applicable Project Standards.....	17
2.5 Sources of Information.....	18
2.6 Report Organisation .....	18
2.7 Scope of This Review .....	18
<b>3 Findings.....</b>	<b>19</b>
3.1 Description of non-conformances .....	19
3.2 Summary Findings Table .....	20
3.3 Summary of Incidents of Violations and Non compliance.....	25
3.4 Summary of Incidents of Environmental, Health Concerns and Safety Accidents .....	25
<b>4 Environmental and Social Management Capacity.....</b>	<b>27</b>
4.1 Environmental and Social Management System .....	27
4.2 Management Programs .....	29
4.3 Organisational Capacity and Competency .....	29
4.4 Emergency Preparedness and Response .....	29
4.5 Stakeholder Engagement.....	30
4.6 Grievance Mechanism .....	30
<b>5 Environment.....</b>	<b>31</b>
5.1 Pollution Prevention and Resource Efficiency.....	31
5.1.1 Oil spills and Protection .....	31
5.1.2 Waste Management .....	31
5.1.3 Air .....	32
5.1.4 Noise and Vibration .....	32
5.1.5 Water.....	32
5.2 Biodiversity Conservation and Ecological Management.....	33
5.2.1 Protection and Conservation of Biodiversity.....	33
<b>6 Social.....</b>	<b>34</b>
6.1 Labour and Working Conditions .....	34
6.1.1 Worker and Subcontractor Management .....	34
6.1.2 Worker Grievances.....	36

6.1.3 Procurement and Supply Chain .....	37
6.2 Land Acquisition, Resettlement and Livelihoods Restoration .....	37
6.2.1 Land Access Agreements .....	37
6.2.2 Fishing Livelihoods .....	37
6.3 Community Development .....	39
<b>7 Health and Safety.....</b>	<b>40</b>
7.1 Worker Health and Safety.....	40
7.2 Community Health, Safety and Security .....	41
7.2.1 Community Health .....	41
7.2.2 Security.....	42
<b>8 Cultural Heritage.....</b>	<b>43</b>
8.1 Protection of Cultural Heritage .....	43
<b>9 Appendices.....</b>	<b>44</b>
9.1 Document List .....	44
9.2 Site Visit Summary.....	44

## **TABLES**

Table 6-1 Status of Main Contractor Employment, May 2016 .....	34
Table 6-2 Skill base enhancement of Nationals through training during employment (cut off April 2016) .....	36

## ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ATA	Amec-Tekfen-Azfen
bcma	billion cubic meters per annum
BDJF	Baku Deepwater Jacket Factory
BOP	Blow Out Preventer
BSTDB	Black Sea Trade and Development Bank
BTC	Baku-Tbilisi-Ceyhan
CAP	Corrective Action Plan
CDF	Community Development Framework
CDP	Community Development Plan
CERP	Community Emergency Response Plan
CFC	Chlorofluorocarbon
CHMP	Cultural Heritage Management Plan
CHMMP	Cultural Heritage Management and Monitoring Plan
CHSS	Community, Health, Safety, and Security
CSR	Corporate Social Responsibility
EBRD	European Bank for Reconstruction and Development
ECAs	Export Credit Agencies
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EIW	Early Infrastructure Works
EMP	Environmental Management Plan
EPs	Equator Principles
EPS	Environmental Protection Standards
ERMP	Employee Relations Management Plan
ES	Environmental and Social
ESAP	Environmental and Social Action Plan
ESHS	Environmental, Social, and Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESR	Environmental and Social Review
ETN	Environmental Technical Note
FFD	Full Field Development
FGR	Flare Gas Recovery
FID	Final Investment Decision
FLMP	Fishing Livelihoods Management Plan
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GOO	Global Operations Office
HCFC	Hydrochlorofluorocarbon
H&S	Health and Safety
HR	Human Resource
HSES	Health, Safety, Environmental and Social
HSE	Health, Safety and Environmental
HUC	Hook-Up and Commissioning
HWTF	Hazardous Waste Treatment Facility
IBA	Important Bird Area



# SUSTAINABILITY

FUTURE GROWTH

IESC	Independent Environmental and Social Consultant
IFC	International Finance Corporation
ILO	International Labour Organisation
IP	Indigenous Peoples
ISD	Inherently Safer Design
JV	Joint Venture
KBA	Key Bird Area
KPI	Key Performance Indicator
LARP	Land Acquisition and Resettlement Procedures
LOMS	Local Operating Management System
LOSD	Lukoil Overseas Shah Deniz
MEG	monoethylene glycol
MMP	Management and Monitoring Plan
MOP	Mutual Operations Plan
MP	Management Plan
MSDS	Material Safety Data Sheet
NGO	Non-Governmental Organisation
NO2	Nitrogen Dioxide
NORM	Naturally Occurring Radioactive Material
OHS	Occupational, Health and Safety
OMS	Operating Management System
OSRP	Oil Spill Response Plan
PAHs	Polycyclic Aromatic Hydrocarbons
PPE	Personal Protective Equipment
PSA	Production Sharing Agreement
PS	Performance Standard
PR	Performance Requirement
RfP	Request for Proposal
RAP	Resettlement Action Plan
SCP	Southern Caucasus Pipeline
SCPx	SCP Expansion
SD	Shah Deniz
SDB	SD Bravo
SDB-PR	SDB Production and Risers
SDB-QU	SDB Quarters and Utilities
SEE	State Ecological Expertise
SEP	Stakeholder Engagement Plan
SGC	Southern Gas Corridor CJSC
SMP	Social Management Plan
SOCAR	State Oil Company of the Azerbaijan Republic
SOP	Standard Operating Procedure
SPS	Safeguard Policy Statement
ST	Sangachal Terminal
Sustainability	Sustainability Pty Ltd
TAP	Trans Adriatic Pipeline
TANAP	Trans Anatolian Pipeline
TKAZ	Tekfen Azfen Alliance (construction contractor)
TSP	Total Suspended Particle
VOC	Volatile organic compounds

## **EXECUTIVE SUMMARY**

Sustainability Pty Ltd (Sustainability) was appointed as the Independent Environmental and Social Consultant (IESC) by the Bank of China, acting as Intercredit Agency (ICA) for the Lender group financing Lukoil Overseas Shah Deniz (LOSD). This report provides the findings and recommendations of the first environmental and social monitoring review and audit for Shah Deniz II Gas Expansion Project (SD2 or Project) in Azerbaijan. The Project, which is currently in construction and approximately 75% complete, involves all the aspects of the upstream Stage 2 operations, including two new bridge-linked offshore platforms being constructed in shipyards in Azerbaijan; 26 gas producing wells which are currently being drilled by the Heyder Aliyev semi-submersible rig with the second rig, the Istiglal, being refurbished prior to commencing drilling; 500km of subsea pipelines to link the wells with the onshore terminal; upgrades to the offshore construction vehicles; and expansion of the Sangachal Terminal (ST) to accommodate the new gas processing and compression facilities.

The Final Investment Decision (FID) for SD2 was made on 17 December 2013 (Stage 1 development/production is ongoing). Early works were commenced in 2014 and the SD2 project is substantially advanced in the construction of the offshore and onshore components. Gas and condensate produced from the wells will be transported to the onshore ST where it will be treated to commercial quality. Condensate will be introduced to the liquid stream and shipped through the Baku-Tbilisi-Ceyhan (BTC) pipeline. Treated gas will be shipped through Azerbaijan and Georgia using the Southern Caucasus Pipeline (SCP) system, including the new expansion system, through Turkey using the Trans Anatolian Pipeline (TANAP) and through Greece and Albania and into Italy using the Trans Adriatic Pipeline (TAP).

The scope of the monitoring of the SD2 Project included a review against Lender Group environmental and social performance standards, requirements and policies that differ from the environmental and social criteria and impact assessment and management methodologies applied to the SD Project through both statutory requirements and Operator (BP) standards. These differences are recognised by the IESC with the monitoring findings discussed within the context of the intent or objective of the Lender Group requirements and policies.

This report summarises the IESC first monitoring field visit since the due diligence phase, which took place in Azerbaijan from 18-20 May 2016. It presents the IESC understanding and assessment of compliance of the Project against Project standards and provides a snapshot of the Project at the time of the meetings, based on information provided by the Project Operator before, during and after the visit. These observations and findings are made with the acknowledgement that LOSD, as the party seeking finance from the Lender Group, is not the operator of the SD Project and has therefore no direct influence over the Project's environmental and social performance.

The following paragraphs are organized to provide a summary of the project environmental, health and safety, and social performance observed during the site visit and assessed in Project related documentation.

### **Environment and Social Management**

The IESC notes that the Project has various management plans (MPs) in place for its existing SD operations, and that these plans include measurable targets and indicators and assign clear roles and responsibilities for time-bound implementation. The social impact management planning for the Project relies on both SD2 construction/contractor management planning and BP's Regional Community and External Affairs team who implement on-going consultation with potentially affected communities in the vicinity of the Sangachal Terminal. The BP Regional consultation processes with potentially affected communities include scheduled and planned community meetings and informal communications through a network of community liaison officers who are located within these communities.

The IESC notes that the environmental and social management plans documented for the SD2 construction phase have not been publicly disclosed during the SD2 ESIA process and are not currently available to the general public which indicates a deficiency in conformance to Lender Group requirements. It is recommended that the SD2 Operator publicly disclose documented environmental and social management plans where these plans contain the details and commitments to manage or mitigate potentially significant environmental and social impacts of the Project.

Further, in line with stakeholder engagement and grievance management requirements, responses to affected communities, summary feedback and adjustment to management plans as a result of consultations and grievances received are recommended to be communicated back to interested stakeholders and affected communities. Verification on effectiveness of engagement and grievance management with key stakeholders such as community members and representatives, commercial fishers, and local government representatives is sought by the IESC for the next site visit.

### **Environment**

#### *Oil spills and spill prevention*

A key construction phase risk is the potential for spills to the environment resulting in soil and water contamination and discharge to the marine environment. Two spills over 1 barrel in volume were recorded in 2015, which were investigated and corrective and preventative actions identified and implemented. The operator has invested in improvement to oil spill response preparedness including oil spill response planning with the Ministry of Emergency Situations and has engaged the services of oil spill responders for offshore and nearshore construction works.

#### *Waste Management*

The ATA topsides fabrication yard expansion included installation of a sewage treatment plant with a capacity of treating 300m<sup>3</sup> per day. Monitoring data indicates compliance with discharge



water quality criteria. However, the SD2 temporary onshore construction workforce sewage treatment plant at ST was not operational at the time of the site visit due to delays in obtaining permits. Alternative wastewater removal to licensed treatment facilities was in place for the work site and accommodation camp. The process to enable full operation of the temporary wastewater treatment facility by the construction contractor is well understood and in progress, and will be monitored by the IESC at the next site visit.

Wastes at the offshore fabrication yards ATA and BDJF are segregated on site prior to transport to a centralised waste accumulation centre. At the centre, a BP managed waste contractor transfers wastes to various waste treatment, recycling and disposal facilities. Approximately 500 tonnes of waste per month is generated at the ATA Yard, including hazardous wastes.

#### *Noise and Vibration*

Noise monitoring has been undertaken at the four communities near the ST, and shows regular noise levels above the daytime criteria of 65dB (LAeq). Elevated noise levels have been attributed to a range of contributing sources and have been reported back to the communities by the construction contractor. There have been no instances where the action triggers established in construction environmental management plans has been reached. BP advised the IESC that construction noise from SD2 activities has generally not been audible at monitoring locations during the surveys and that no noise complaints have been received in Q1/2016.

#### *Biodiversity*

ST environmental monitoring includes the water quality and water levels of wetlands (or wadi) located to the east of the SD2 expansion area, in the proximity of the beach pull site. Pre-existing soil and water contamination was identified as well as possible sources of contamination from nearby pipelines and neighbouring land use. Free phase oil on water has been observed in wetlands near the neighbouring power station, and the SD2 Project now maintains a monitoring programme to identify the cause of contamination at the wetlands area and monitor the ecological use of these wetlands by birds and other fauna, the results of which are reported annually to the Ministry for Environment.

#### **Health and Safety**

In general, the IESC observed a strong Project health and safety culture. H&S management remains a priority at the site, particularly the ST with very few incidents reported especially considering the number of man-hours worked, compared to industry benchmarks. The project has achieved a commendable rolling 12-month Recordable Injury Frequency Rate (RIF) of 0.04 and a total RIF of 0.05, since the commencement of construction. Key statistics show that there have been no fatalities on the Project to date; 3 high potential incidents, 7 injuries requiring a day away from work, 18 recordable injuries, 193 first aid incidents and 520 safety near misses recorded. The IESC notes the effective health and safety management structures and framework established between the Project Operator and key contractors who have all had past experience in working with BP in the Caspian region since the AGT Project construction.

## **Social**

### *Labour*

No substantial deficiencies were identified as a part of this review against labour and working conditions criteria. The SD2 construction project had maintained an excellent safety record for the period from commencement of construction to the site visit in May 2016. The Project had amassed a total of 20.5 million man-hours, including both BP direct hire and contractors, and has achieved a very low accident frequency rate when compared to relevant industry benchmarks.

At the time of the site visit there were a total of 18,976 contracted workers. The employment numbers had peaked for the construction phase and de-manning had occurred at Project sites in response to completed work packages. The changes to Project labour requirements have been implemented through a de-manning strategy aimed at minimising the impacts of reduced employment as the Project moves towards completion. A Labour Management Committee has been put in place to discuss and resolve key HR/IR issues relevant to contracts and BP personnel working on the SD2 construction, including grievances, and meeting records of which indicate no significant labour relations issues. The IESC notes that there is a potential for an increase in grievances during the de-manning process, particularly given the depressed Azeri economy and fewer future employment opportunities for particular skillsets. This will be followed up during the next site visit.

### *Community Health, Safety and Security*

The Operator has described the HSE leadership, planning and management, legal and regulatory framework, as well as management of contractor health and safety, security, environmental and social responsibility, and self-verification in the Programme HSE Management Plan, demonstrating an established system is in place for addressing emergencies. As with other management plans, the specific documented plans have not been publicly disclosed, which is inconsistent with the requirements of the Lender Group policies. However, records of community engagement reviewed by the IESC included communications, via public meetings, provided to potentially impacted communities on the measures proposed in response to emergencies and specific mitigations taken to ensure community safety during construction and operations.

Furthermore, the impact of population influx to local communities was scoped out at the ESIA Phase due to past Project experience and proven labour management practices. However, with a reduced construction workforce labour demand and fewer forward employment opportunities available in the current Azeri market, the mechanism for tracking potential impacts of the demobilised workforce on communities remains unclear.

To enable independent verification of the available project data the IESC recommends that the next site visit include engagement with key external stakeholders on their experience and preparedness for emergencies and potential for social impacts as a result of demobilised workforce.

### *Resettlement and Livelihood Restoration*

The Project induced some temporary economic displacement of fishing households in the vicinity of the export gas pipeline and monoethylene glycol (MEG) pipeline shore crossing during the construction period when a marine exclusion zone was in place.

Impact assessment on enforcement of the marine exclusion zone recognised the potential impact to small-scale fishermen, resulting in a fishing livelihood baseline survey being undertaken to gather additional information on small-scale fishing activities within Sangachal Bay and the nearshore environment. The baseline determined that livelihood restoration is required to compensate the fishermen's temporary loss of access to natural resources of the Bay. The Project has developed and implemented a Fishing Livelihoods Management Plan (FLMP) which describes the mechanisms to be used to engage with Project-affected fishing households, the validation of information underpinning the impact assessment and to define priorities in relation to mitigation measures. Further, the Plan specifies measures to address the needs of affected fishing households.

The Project reached agreement with the identified impacted fishing households, including support workers. The IESC has reviewed the details of compensation measures which have been made to affected households and further adjusted agreements based on additional fishermen being deemed eligible and increased payments made to accommodate for a longer period of marine exclusion. Evidence of effective engagement with affected fisherman has been reviewed including minutes of meetings, participant registers and two household surveys of eligible fishermen. The grievance process outlined in the FLMP remains active with ongoing consideration of some issues. The IESC will continue to monitor the implementation of the FLMP during the next site visit with a focus on the resolution of residual grievances. It is recommended that the FLMP grievance process remains in place pending the outcome of the next planned independent FLMP monitoring report.

The IESC notes that the FLMP was not publicly disclosed by the Operator in local language but has been disclosed by Lenders, on the ADB website. The FLMP has been communicated to the potentially affected fishing community through targeted stakeholder group meetings, meetings with individual fishermen and two household surveys with eligible fishermen. The operator has maintained a detailed register of engagement with the local fishing community in regards to the communication of the details of the FLMP. The grievance records associated with the FLMP process suggest that there is a high level of awareness and engagement within the community of the Plan.

### *Cultural Heritage*

The SD2 construction at ST includes provision of ongoing monitoring of potential impacts to Cultural Heritage and a watching brief for works being undertaken outside of past detailed heritage surveys in line with the Project's cultural heritage plan commitments. Local experts have been undertaking the monitoring in consultation with the Ministry for Culture and Tourism as cultural heritage observers, and initial surveys were completed and submitted for approval to the

Ministry of Environment. A range of isolated artefacts have been identified during the watching brief of construction at ST but no finds have been deemed to be of significant heritage value.

Vibration monitoring at the Sand Cave heritage site has been undertaken by the SD2 Project to protect the site from potential damage from Project related activities in the vicinity of the shore crossing and pipeline beach pull site. The action trigger was not reached during monitoring, but the Project did amend the piling technique to reduce vibration in response to the monitoring results, and no damage to the Sand Cave site was observed throughout the works.

## 1 PROJECT SUMMARY INFORMATION

<b>PROJECT NAME</b>	Shah Deniz Stage 2 (SD2)	
<b>PROJECT LOCATION</b>	Sangachal, Azerbaijan	
<b>NATURE OF PROJECT</b>	<p>Lukoil Overseas Shah Deniz (LOSD) investment into BP Caspian, operator of the SD2 Project. The Project comprises upstream gas Stage 2 operations, including:</p> <ul style="list-style-type: none"> <li>• Two new bridge-linked offshore platforms;</li> <li>• 26 gas producing wells</li> <li>• 500km of subsea pipelines</li> <li>• Upgrades to the offshore construction facilities</li> <li>• Expansion of the Sangachal Terminal (ST).</li> </ul>	
<b>PROJECT CAPACITY</b>	16 billion cubic meters per year (bcma) of gas production	
<b>PROJECT KEY DATES</b>	Construction	2014 - 2018
	Target First Gas	September 2018
<b>REPORT PREPARED FOR</b>	<p>Bank of China 1 Lothbury, London EC2R 7DB, United Kingdom <a href="http://www.bankofchina.com">www.bankofchina.com</a> +44 20 7282 8926</p>	
<b>REPORT PREPARED BY</b>	<p>Sustainability Pty Ltd Suite 3, 118 Flora Terrace, North Beach, Western Australia 6020 <a href="http://www.sustainability.net.au">www.sustainability.net.au</a> +61 8 9246 6666</p>	
<b>TEAM MEMBERS</b>	John Miragliotta	Project Director – Principal Reviewer
	Amy Sexton	Senior Social Specialist
<b>REPORTING PERIOD</b>	November 2015 to June 2016	
<b>REPORT NUMBER</b>	BAC001_LukoilSD2_E&SMonitoring1_20160828_Rev1	

## **2 INTRODUCTION**

### **2.1 BACKGROUND**

Sustainability Pty Ltd (Sustainability), located in Perth, Australia, was appointed as the Independent Environmental and Social Consultant (IESC) by the Bank of China, acting as Intercredit Agency (ICA) for the Lender group financing Lukoil Overseas Shah Deniz (LOSD).

The Shah Deniz (SD) gas field lies approximately 100km south east of Baku, within the Azerbaijani sector of the Caspian Sea. Development of the oil field is being pursued in stages under the terms of a Product Sharing Agreement (PSA) between the state Oil Company of the Azerbaijan Republic (SOCAR) and a consortium of foreign oil companies, including LOSD. LOSD is a 10% shareholder of the BP Caspian operated Shah Deniz Company (SDC).

The SD Stage 1 development commenced in 2006, while this environmental and social monitoring relates to the second stage of development of the Shah Deniz field, SD2. Lender involvement and financing of the SD2 development requires both pre-finance due diligence and post-finance project construction and operation assurance related to the various environmental, health, safety and social performance standards relevant to the Project. After the Environmental and Social (E&S) due diligence completed in July 2015, Lenders require external and independent health, safety, environment and community (HSEC) compliance monitoring of Project activities during construction and operations. The lender group includes the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank (ADB) and the Black Sea Trade and Development Bank.

This report summarises the IESC first monitoring field visit which took place in Azerbaijan from 18-20 May 2016 and was the first visit since the initial due diligence phase review. It presents the IESC understanding and assessment of compliance of the Project against Project standards and provides a status of the Project's environmental and social performance at the time of the meetings, based on information provided by the Project Operator before, during and after the visit.

### **2.2 PROJECT DESCRIPTION**

The SD2 Project aims to deliver 16Bcma of gas sales, with peak condensate rates of 85Mbd through the installation of additional wells within the high pressure gas-condensate SD Contract Area located approximately 100km south east of Baku. Full Field Development (FFD) of the Shah Deniz Contract Area is being pursued in stages.

The SD Stage 1 development is located in the north eastern portion of the field and commenced production in 2006. The development included:

- A fixed platform (denoted SD Alpha) with drilling and processing facilities limited to primary separation of gas and liquids; and

- Two marine export pipelines to transport gas and condensate to onshore reception, gas-processing and condensate facilities located at ST, approximately 60km south west of Baku.

Oil and gas are currently exported from ST following stabilisation and dehydration respectively via three main export pipelines:

- The BTC Pipeline transports oil from ST through Azerbaijan, Georgia and Turkey to the Ceyhan Terminal located on the Turkish coast of the Mediterranean Sea. From Ceyhan the oil is distributed to international markets. The pipeline covers a distance of 1,768km and has eight pump stations along the route with the head pump station installed at ST.
- The Western Route Export pipeline is 829km in length and transports oil from ST to the Supsa Terminal located on Georgia's Black Sea coast.
- The SCP transports gas from ST to Azerbaijan, Georgia and Turkey. It became operational in late 2006 and on 30 September 2006 began transporting gas to Turkey from the SD Stage 1 project. The SCP is 691km in length and runs parallel to the BTC Pipeline to the Turkish border where it is linked with the Turkish gas distribution network.

The SD2 Project represents the second stage of SD field development and is planned to comprise:

- A fixed SDB platform complex including a Production and Risers (SDB-PR) and a Quarters and Utilities (SDB-QU) platform, bridge linked to the SDB-PR;
- 10 subsea manifolds and 5 associated well clusters, tied back to the fixed SDB platform complex by twin 14" flowlines to each cluster;
- Subsea pipelines from the SDB-PR platform to the ST comprising:
  - Two 32" gas pipelines (for export to the ST);
  - One 16" condensate pipeline (for export to the ST); and
  - One 6" MEG pipeline (for supply to the SDB platform complex).
- Onshore SD2 facilities at the ST located within the SD2 Expansion Area; and
- Up to 26 producer wells.

The Early Infrastructure Works (EIW) were completed at the ST in 2015, prior to installation of the SD2 onshore facilities, and included:

- A new access road;
- Clearance and terracing of the SD2 Expansion Area; and
- Installation of storm water drainage and surface water/flood protection berms.

Associated Facilities<sup>1</sup> include the Amec-Tekfen-Azfen (ATA) Yard, and the Baku Deepwater Jacket Factory (BDJF) where topsides and jackets are being constructed respectively; the Serenja

---

<sup>1</sup> As defined in IFC Performance Standard 1, para 8: Facilities are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.

Hazardous Waste Treatment Facility (HTWF); and gas export pipeline projects: Southern Caucasus Pipeline Expansion (SCPx); the Trans Anatolian Pipeline (TANAP) and the Trans Adriatic Pipeline (TAP).

### **2.3 CONSTRUCTION STATUS**

The SD2 Project construction was over 70% complete, slightly ahead of schedule, at the time of the site assessment undertaken from 18-20 May 2016. Activity included the construction of the two bridged offshore production facilities at the ATA Yard where topsides construction was nearing 75% completion. The two offshore production facility jackets and subsea production facilities were continuing to be constructed by BOS Shelf, the lead contractor at the BDJF, with the roll up-up of one of the jackets being planned at the time of the visit. One jacket was 80% complete the other approximately 40% complete. The subsea production facility equipment for SD2 is being fabricated at the BDJF by BOS Shelf, which represents the first time that this type of fabrication has occurred in Azerbaijan. The subsea facilities require extensive pressure testing at high pressures, 15,000 pounds per square inch (psi), and requires specialist welding technology and expertise. Quality control and verification of the subsea facility being produced for SD2 is a strong focus for the BDJF activities.

Well development in the Shah Deniz production field is progressing with the Heyder Aliyev semi-submersible rig drilling in the deepest sector, up to 550m, with the completion of two wells in 2015 in support of the SD2 pre-drill programme. The second semi-submersible, the Istiglal, is being refurbished since July 2015 prior to re-commencing development drilling. At the end of 2015, the two rigs had completed a total of 9 production wells for the SD2 programme in preparation of for first gas being delivered from the north flank of the Shah Deniz field in September 2018.

The marine and subsea work has substantially progressed with installations in the North Flank being undertaken by Saipam. Saipam are the contractor responsible for transportation and installation of jackets, topsides, subsea structures, the laying of over 360 km pipelines, diving support services, provision of support vessels and the upgrade of the Pipelay Barge Israfil Huseynov. The pipe-lay barge Israfil Huseynov had installed about 40 kilometres of the 32-inch subsea export pipeline as of the end of the first quarter of 2016 and, in May, the subsea construction vessel "Khankendi" was re-floated into the Caspian Sea at the Baku Shipyard quay.

The construction work for the 50 ha SD2 expansion site at the Sangachal Terminal is being led by TKAZ as the main contractor. The construction of the SD2 facilities at Sangachal was approximately 63% complete with piling works completed, engineering complete and procurement more than 90% complete. Civil works were continuing along with condensate tanks, flare structure modules and process facility construction. The onshore construction site had a workforce of approximately 7,000 workers, including 5,000 TKAZ employees and 2,000 sub-contractors; 90% of the workforce was national Azerbaijani labour. The construction site had an onsite accommodation camp that housed 700 Turkish TKAZ workers. The workforce numbers had peaked and current numbers are expected to continue to the end of 2016. The pipeline corridors, including two gas, one condensate and one MEG pipeline were being excavated to the shore



crossing some 4km south of the terminal and was 80% complete. An access road had been constructed off the main highway to the south and east of the Sangachal terminal to provide direct access by construction traffic to the SD2 site without requiring additional access of the main highway.

## **2.4 APPLICABLE PROJECT STANDARDS**

As documented in the SD2 ESIA, the applicable project standards are based on:

- Standards agreed with the Azerbaijan Ministry of Ecology and Natural Resources and implemented at existing BP operational sites
- BP corporate governance
- Applicable international and national standards.

The review and audit has focused on evaluating social and environmental changes brought about by the Project and on assessing the implementation and effectiveness of mitigation measures. The basis for evaluating the Project in terms of Lender policies is defined as follows:

- Equator Principles III (2013);
- IFC Sustainability Framework (2012) including the Environmental and Social PSs;
- IFC General EHS Guidelines;
- ADB SPS and other social requirements (ADB GAD Policy, ADB's Policy on Incorporation of Social Dimensions into ADB Operations, and ADB's Public Communications Policy);
- The Project's ESMPs; ESAP/CAP; SEPs including internal and external grievance mechanisms; and Health and Safety provisions and record for the Project;
- Applicable national laws in Azerbaijan;
- Conformance with international environmental agreements and good international industry practice; and
- Any other environmental or social regulation or standard as the Lender Group may indicate they expect to apply to the Project.

Project specific standards include those required under the Product Sharing Agreement between the Operator and the Government<sup>2</sup>. The detailed legal regime for the joint development and production sharing of the Shah Deniz field is set out within the PSA signed by BP and its co-venturers and the State Oil Company of the Azerbaijan Republic (SOCAR) in June 1996 which was enacted into law in October 1996. The PSA prevails in the event of conflicts with any present or future national legislation, except for the Azerbaijani Constitution; the highest law in the Republic of Azerbaijan. The PSA sets out that petroleum operations shall be undertaken "in a diligent, safe and efficient manner in accordance with the Environmental Standards to minimise any potential

---

<sup>2</sup> Until such time that the SD specific Environmental Protection Standards (EPS) have been signed by all parties as required under Article 26.1 of the PSA, the standards set out in Part II of Appendix 9 to the PSA apply to production activities. The EPS was formally approved via signed letters from SOCAR and the MENR in 2008. The protocol for their entrance into legal force has been signed by BP on behalf of the SD partners and SOCAR, but has yet to be signed by the MENR.

disturbance to the general environment, including without limitation the surface, subsurface, sea, air, lakes, rivers, animal life, plant life, crops, other natural resources and property”.

## **2.5 SOURCES OF INFORMATION**

The IESC completed a site visit to assess compliance with the environmental and social audit criteria from 18-20 May 2016. The site visit included a focus on the status of construction activities for offshore facilities, being constructed at contracted shipyards located near Baku, and the SD2 onshore production facility at Sangachal Terminal, also being constructed by a lead contractor, TKAZ.

The review and audit was based on:

- 1) publicly available ESIA documentation;
- 2) Information provided to the IESC site visits in 2015 and 2016;
- 3) Information provided by BP Caspian in the 2015 and 2016 in response to IESC information requests; and
- 4) Interviews with key staff from the Operator and key contractors.

A full list of all documents used to prepare this Report is provided in Appendix A, while Appendix B provides a summary of the site visit.

## **2.6 REPORT ORGANISATION**

Subsequent sections of this report are organised as follows:

- Section 4: Findings
- Section 5: Environmental and Social Management Capacity
- Section 6: Environment
- Section 7: Social
- Section 8: Cultural Heritage

## **2.7 SCOPE OF THIS REVIEW**

The management of environmental aspects of the construction activities for SD2 were observed at the offshore facility fabrication yards, at the onshore process facility site at ST, and the gas export pipeline corridor from the shore crossing. The social review focussed on fishing livelihoods and labour arrangements at each site visited. The observations and interviews held during the site visit were aimed to determine if environmental aspects of construction were being managed in line with Lender standards, legislation, the ESIA commitments and good international industry practice. It was not possible for the IESC to interview project affected people living in communities near the Project sites.

## 3 FINDINGS

### 3.1 DESCRIPTION OF NON-CONFORMANCES

This section tabulates a summary of the Action Items identified by the IESC, based on the outcomes of IESC site visits and reports. The table below includes newly open items, any follow-ups on previously identified issues (in this first monitoring visit this includes issues identified at the due diligence phase). In future, closed recommendations related to previously open issues will also be included.

Items in the table are identified by number of the audit visit (X.Y), where Y is the related action item number. The text descriptor may be updated in subsequent visits to reflect current conditions however the item number will remain as this reflects the same broad issue and its evolution to closure. The relevant project standards and/or reference to the applicable Lender Environmental and Social Standards to which the issue refers are also included.

All issues are categorised as High, Medium, Low, or Observations, reflecting the level of non-conformance in terms of the magnitude and/or on time frame in which an impending risk might occur (short-term, medium-term, long-term). Descriptions of the categories are as follows:

- **High:** Level III critical non-conformance, typically including observed damage to or a reasonable expectation of impending damage or irreversible impact to an identified resource or community and/or a major breach to a commitment as defined in Project documents or the Applicable Lender Environmental and Social Standards. A level III non-conformance can also be based on repeated Level II non-conformances or intentional disregard of specific prohibitions or Project standards;
- **Medium:** Level II non-conformance representing a situation that has not yet resulted in clearly identified damage or irreversible impact to a sensitive or important resource or community, but requires expeditious corrective action and site-specific attention to prevent such effects. A Level II non-conformance can also represent a significant breach of a commitment, or a risk of a significant breach if not expeditiously addressed, requiring corrective action as defined in Project documents or applicable Lender Environmental and Social Standards. A Level II non-conformance can also be based on repeated Level I non-conformances;
- **Low:** Level I non-conformance not consistent with stated commitments as defined in Project documents, but not believed to represent an immediate threat or impact to an identified important resource or community. A Level I non-conformance can also represent a minor breach of a commitment requiring corrective action as defined in applicable Lender Environmental and Social Standards;
- **Observation:** A situation that could eventually become inconsistent with stated commitments as defined in Project documents and/or in the applicable Lender Environmental and Social Standards, and that could lead to non-conformance if not addressed.

### **3.2 SUMMARY FINDINGS TABLE**

The following table references both the non-conforming due diligence findings as well as new items identified in this monitoring visit.

Abbreviations on standards referenced in the table are as follows:

- IFC PS            IFC Performance Standards
- IFC EHS        IFC Environment, Health and Safety Guidelines
- ADB SPS        ADB Safeguards Policy Statement
- ESMP            specific Environmental and Social Management Plans



Visit / Issue #	Site Visit	Closing Date	Description	Non-conformance	Reference	Status	Comments / Report Reference
<b>Stakeholder Engagement and Grievance Management</b>							
1.1	Sep 15 May 16		Disclosure of the Project management plans	<b>Low</b>	IFC PS1 SEP	Open	At the time of the due diligence, none of the Project ESMPs were disclosed. During the course of due diligence, ADB disclosed the Fishing Livelihoods MP (see issue 1.7). The remaining ESMPs have not been publicly disclosed in line with Lender E&S Standards. In particular, the Stakeholder Engagement Plan (SEP) should be disclosed, to provide for communication of engagement with and participation of affected communities in the Project. This item remains outstanding as at the first monitoring visit (May 2016).
1.2	Sep 15 May 16		Consultation with affected communities, including communities in the areas of the associated facilities, and key stakeholder groups	<b>Observation</b>	IFC PS1 SEP	Open	Summary evidence of the operator BP and particularly contractor TKAZ stakeholder engagement at the construction phase does not provide sufficient details on responses to affected communities, summary feedback and adjustment to management plans as a result of



Visit / Issue #	Site Visit	Closing Date	Description	Non-conformance	Reference	Status	Comments / Report Reference
							consultations. Verification on effectiveness of engagement with key stakeholders such as community members and representatives, fisherfolk, and local government representatives is sought by the IESC for the next site visit. This item remains outstanding as at the first monitoring visit (May 2016).
1.3	Sep 15 May 16		Procedure for external communications with external stakeholders	<b>Observation</b>	IFC PS1 SEP	Open	The procedure for external communications, including the methods for screening, tracking and the resulting response in the management system, has not been evidenced and could not be verified by the IESC with external stakeholders. This item remains outstanding as at the first monitoring visit (May 2016).
1.4	Sep 15 May 16		IESC unable to verify that the grievance mechanism is operational and effective for affected communities	<b>Observation</b>	IFC PS1 SEP	Open	Project data has been provided on grievances however the IESC has been unable to verify this issue with any external stakeholders. This includes on grievance mechanism operation and



Visit / Issue #	Site Visit	Closing Date	Description	Non-conformance	Reference	Status	Comments / Report Reference
							grievance summary feedback to affected communities This item remains outstanding as at the first monitoring visit (May 2016).
<b>Environment – Waste Management</b>							
1.5	Sep 15		Hazardous materials management planning should include a system for community awareness, notification and involvement	<b>Observation</b>	IFC EHS 5, 10, 24	Open	Project data has been provided on emergency response and hazardous materials, however the IESC has been unable to verify this issue with any external stakeholders. This item remains outstanding as at the first monitoring visit (May 2016). See also item 1.3.
<b>Community Health, Safety and Security</b>							
1.6	Sep 15		No monitoring or management plan in place to determine or respond to potential impacts to communities in the Project area due to population influx.	<b>Observation</b>	IFC PS4 IFC EHS 23	Open	Influx was scoped out at the ESIA Phase due to a closed camp, however with demobilisation pending of the construction workforce and fewer forward employment opportunities available in the current Azeri market, the mechanism for tracking potential impacts of the demanned workforce on communities (e.g. influx, antisocial behaviour) remains unclear.



Visit / Issue #	Site Visit	Closing Date	Description	Non-conformance	Reference	Status	Comments / Report Reference
							Verification with external stakeholders is additionally sought by IESC. This item remains outstanding as at the first monitoring visit (May 2016).
<b>Resettlement and Livelihoods Improvement</b>							
2.	May 16		Completion audit for fishing livelihoods	<b>Observation</b>	IFC PS5 ADB SPS	Open	IESC notes that the Operator intends to undertake a completion audit in late 2016 however observes that this is likely too soon to be able to clearly demonstrate that livelihoods have been sustainably restored. A number of restoration measures/payments remain in progress (e.g. alternative transport for 4 fishermen). The Operator should be informed by the results of the next resettlement monitoring report to determine readiness for a Completion Audit in 2017.



### 3.3 SUMMARY OF INCIDENTS OF VIOLATIONS AND NON COMPLIANCE

Issue	Summary Detail
Recorded dates and responsible agencies	No regulator action reported
Nature of non-conformance	
Violation or non-conformance based on what environmental standards and regulations	
Results of investigations and reviews	
Corrective actions, deadlines, identification of responsible parties; Short term remedial action; Long term preventative measures	

### 3.4 SUMMARY OF INCIDENTS OF ENVIRONMENTAL, HEALTH CONCERNS AND SAFETY ACCIDENTS

Issue	Environment Incident Summary	OHS Incident Summary
Incident recorded dates and responsible agencies <sup>3</sup>	Two oil spills <sup>4</sup> in 2015, both at Central Azeri platform – a spill of 250 litres of oil and water to the platform deck, of which 10 litres reached the open environment; and 795litres of oil-based mud released to sea. Responsible Agency: MENR	3 high potential incidents, 7 injuries requiring a day away from work, 18 recordable injuries, 193 first aid incidents and 520 safety near misses recorded. Responsible Agency: MLSPP
Scale of damage / injury (if any)	None reported	None reported
Authorities in charge of investigation / recording	Ministry of Environment and Natural Resources (MENR)	Ministry of Labour and Social Protection of the Population (MLSPP)
Results of investigations and reviews	None reported	None reported
Corrective actions, deadlines, identification of responsible parties Short term remedial action Long term preventative measures	Offshore Oil Spill Contingency Plan	OHS Management Plan
Other environmental, health and safety initiatives which have been planned	Offshore Oil Spill Contingency Plan shared with MENR and accepted by the Ministry of	BP organized a safety training session for 20+ local companies participating in the enterprise

<sup>3</sup> As reported in the BP Caspian Sustainability Report (2015)

<sup>4</sup> Oil spills are defined as any liquid hydrocarbon release to secondary containment or to open environment of more than or equal to one barrel (159 litres, equivalent to 42 US gallons).



or implemented	Emergency Situations in 2015.	development and training programme sponsored by BP in 2015.
----------------	-------------------------------	---

## **4 ENVIRONMENTAL AND SOCIAL MANAGEMENT CAPACITY**

### **4.1 ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM**

The site assessment confirmed the implementation of the SD2 environment, health and safety management system in line with BP's corporate Health, Safety, Security and Environment (HSSE) commitment statement Project policies. The contractor HSSE Plans are developed in alignment with BP's Project and Program HSSE Plans which provide a rigorous framework for ensuring the protection of worker safety, compliance with HSSE requirements, social responsibility and protection of the environment. The construction activities reviewed demonstrated a clear commitment to HSSE policies and achieving leading practice performance objectives for prevention of accidents, prevention of pollution, management of waste and engagement with nearby communities. Competent teams of health, safety, environment and social professionals who are effectively resourced and trained implement the health, safety, environment and social management systems in place at the SD2 constructions sites.

The BP oversight of contractors to ensure compliance with HSSE requirements is clearly evident through a structured program of HSSE audits, contractor self-verification and BP HSSE oversight. The oversight process includes BP HSE personnel actively engaging with contractors during construction activities to observe safety behaviours and develop HSE leadership. BP's HSSE management systems being implemented for the SD2 Project are mature systems that have been effective in management of BP's operational HSSE risks in the Caspian region. The operator enforces BP's 8 Golden Rules for safety for all Project related activities undertaken by BP personnel, contractors and sub-contractors. The construction contractor HSSE plans are aligned with these systems and include robust processes for: contractor and sub-contractor management; legal compliance; crisis and emergency management; reporting of performance; HSE Organisation; and, assurance planning.

The risk management tools employed for the SD2 Project construction are proven processes that have been effective for existing operations at Shah Deniz and throughout BP's operations in the Caspian Region. The risk management processes include clear methods for identification of health, safety and environmental risks and include consideration of health, public safety and security risks to communities. Risk assessments are undertaken through the ESIA, ENVID, HAZOP and HAZID processes with input from workers. Risk registers are maintained that prioritise significant risks and identify risk management controls that apply the mitigation hierarchy; whereby risks are avoided where possible or mitigated to ensure risks are acceptable where avoidance is not possible.

The SD2 HSSE risk register is maintained through the Project Management Control System (PMCS), an electronic tool to facilitate the capture, assessment, monitoring, controlling and communication of project risk. The construction facilities utilise clearly defined permit to work systems for hazardous activities such that safety controls are managed, communicated and reviewed for each activity. Permit to work process provide effective controls for working at heights, access to confined spaces, electrical work, hot work and for working within excavations.

The SD2 Project has implemented a Risk – Talk – Check (RTC) processes which are designed to facilitate worker involvement with the risk management and hazard perception to ensure HSSE risks are understood and are being effectively implemented.

The communication of HSSE related issues and reporting of performance was evident during the site visit whereby regular formal meetings are scheduled and minutes recorded. Communications with Project workers include the opportunity for worker input to HSSE programmes and clear authority for workers to stop work if unsafe practices are observed. HSSE reporting is a continuous process with various formats used to track construction HSSE performance against Project targets and statutory requirements.

BP's HSSE requirements include that contractor HSSE management systems be aligned with ISO standards: ISO14001 and OHSAS18001. The ATA and BOS Shelf contractors are externally certified to ISO standards and BP holds ISO14001 certification for its regional operations in the Caspian.

BP's AGT Region manages BP's operation in Azerbaijan and implements environmental and social management programmes through the Local Operating Management System (LOMS). The environmental management component of the LOMS is certified to the ISO14001 standard for environmental management systems. The SD2 Construction Phase Environmental and Social Management System (ESMS) has been developed by BP and Includes: commitments register; legal register; Environmental and Social Management and Monitoring Plan (ESMMP); monitoring and inspection schedule; and, the implementation of an audit tracking and corrective action tracking system. Main design and construction contractors are required to conform fully to the BP SD2 Construction Phase ESMS and to develop their own construction phase ESMS that will integrate with the SD2 Construction phase ESMS. The construction phase ESMS provides a framework for implementation of the ESIA commitments and for the coordination and review of the environmental and social performance of the Project throughout construction.

The MODU facility, used for offshore well development drilling, is operated by third party contractors who are required to implement their own independent Environmental Management System (EMS) already in place. Alignment of the plans, procedures and reporting requirements of the rig and AGT Region EMS is achieved through the development of an EMS interface document which defines clearly how all activities will be managed to ensure a safe and environmentally acceptable working environment, including the roles and responsibilities relevant to environmental management. The EMS interface document is a live document and is reviewed annually at a minimum. Both the BP EMS and the Rig Operator EMS monitor the same targets and objectives that are separately audited as part of their internal review process. Communications lines are in place to ensure the effective sharing of the findings and action lists.

In addition to the above, the environmental and social management program appears in the ESMMP. The Construction Phase ESMS has been developed for implementation by the Operator and construction contractors, in line with the SD2 Construction Phase E&S Management framework. The SMPs include the Employee Relations MP, the Archaeology and Cultural Heritage MP and the Stakeholder Engagement Plan (SEP), and the Fishing Livelihoods Management Plan.

## **4.2 MANAGEMENT PROGRAMS**

The SD2 Project and delivery teams are required to use the ESMMP as the framework to deliver the environmental and social requirements, as defined by applicable legal, contractual and other requirements, including ESIA commitments. The ESMMP includes specific requirements for various work packages to manage and monitor environmental performance against the Environmental Design verification register, the SD2 Environmental and Social Compliance Register that includes ESIA commitments.

## **4.3 ORGANISATIONAL CAPACITY AND COMPETENCY**

The IESC notes in the audit that the Operator has assembled a team of competent professionals to manage the environmental and social performance function from within the BP AGT Regions Team supported by external experts as required. In May 2016 there were 50 HSE personnel working for ATA on the SD2 construction contract, and 70 TKAZ HSE personnel supported by another 23 BP HSE personnel at the ST expansion project. ATA had 3 environmentalists on the HSE team for monitoring, inspections, training, reporting and investigations. The BP HSE team had a shared environmental resource who provides oversight of the offshore construction sites at ATA and BDJF. The offshore construction contractors, ATA and BOS Shelf, are responsible for maintaining environmental permits and approvals for the construction yards and reporting performance to the Ministry for Environment.

## **4.4 EMERGENCY PREPAREDNESS AND RESPONSE**

Management of emergencies is managed for the SD2 Project through the BP' Crisis Management and Emergency Response framework which includes an established response mechanism, site response teams, country-based incident management team and regional business support team and an executive support team based in London. BP has a Baku emergency response team consisting of 120 personnel and mutual operating plan on management of emergency situations between the BP AGT Region and the Azerbaijani Ministry of Emergency Situations.

The SD2 Project has identified potential emergency scenarios that may impact on health, safety, the environment and communities. Emergency response plans are developed for significant scenarios and training drills are undertaken on a regular basis to ensure operational readiness and familiarity with emergency response requirements. The SD2 Project undertakes 20 emergency response exercise drill per year, of these 2 to 3 exercises involve external and government emergency response providers in addition to the BP-AGT emergency team. The offshore delivery units undertake 6-7 emergency response exercises annually. Each work site undertakes a weekly site muster and evacuation drill. Records of emergency response drills, exercise reports and debrief reports were reviewed by the IESC.

Emergency response capability was maintained at all work areas inspected in May 2016 by the IESC including medical and first aid facilities, on site ambulances, incident management teams and rescue capability. The SD2 onshore project maintains a worker exclusion area where the construction project overlaps with the identified risk zone from the operating SD1 facilities.

#### **4.5 STAKEHOLDER ENGAGEMENT**

The Project has continued to engage with local communities in the vicinity of the onshore construction works at ST through meetings held by the construction contractor TKAZ, with BP attendance, most recently in January 2016 where over 350 community members attended meetings held in Sangachal and Umid villages. The contractor led meetings were aimed at providing information on current status of construction, employment issues and engagement with communities regarding potential for Project impacts including noise, vibration, dust and traffic issues. The majority of issues raised in these meetings were employment related.

Both BP and TKAZ employ community liaison offices in the local communities surrounding ST personnel. The community liaison offices provide a conduit for communications and engagement with local communities through provision of information and receiving grievances. TKAZ and BP have community engagement personnel within their teams at the SD2 onshore construction site at ST.

BP-led meetings in these communities have been primarily aimed at fishing livelihoods management plan issues, although meetings have also been held regarding emergency response readiness, and in partnership with TKAZ regarding employment initiatives.

IESC notes that 17 meetings provided as evidence to IESC on meetings with BP Lead Community in the ST area in the period 5 Feb 2015 – 25 Mar 2016 (i.e. 13 months), including the meetings with fishermen on compensation and TKAZ/local recruitment. Given the nature, scale and phase of the Project, this may not be sufficient or reflect all of the stakeholder engagement activities being undertaken. IESC would like to verify stakeholder engagement outcomes with affected community members in line with good international industry practice at the following site visit.

#### **4.6 GRIEVANCE MECHANISM**

Of the 234 individual entries in the TKAZ community grievance register from January 2016 to end of May 2016, all were related to people from nearby communities seeking employment. The grievances resulted in two incidents where individuals who raised formal grievances regarding the hiring process were consequently hired following investigation of these grievances.

It has not been possible for IESC to verify any of the grievance management process with external stakeholders to confirm accessibility and understanding of the mechanism, including feedback from the mechanism owners in closing any grievances raised as well as reporting back to the community on the type and numbers of grievances, in line with good international industry practices. IESC hopes to be able to meet with external stakeholders at subsequent monitoring visits to verify satisfaction levels and obtain comments from grievance mechanism users, including reporting back to communities on grievance summary data and Operator responses.

## **5 ENVIRONMENT**

### **5.1 POLLUTION PREVENTION AND RESOURCE EFFICIENCY**

#### **5.1.1 Oil spills and Protection**

Environment spills during construction are identified as a key risk due to the potential for discharge to the marine environment and soil contamination. The SD2 Project reports all spills outside of containment that exceed 1L in volume, with the data being reported in BP's project performance reporting, including to government authorities, and in the BP Caspian public Sustainability Reports<sup>5</sup>. Across the Project there were 10 reportable spills in 2014, 26 in 2015 and 11 spills to the end of March in 2016. Of these, there were 4 spills over 50L and one spill to the ocean, being from the pipe lay barge hydraulic system in 2014. All spills were investigated by the Project team and corrective and preventative actions identified and implemented. Further, the Operator has worked in 2015 with the Ministry of Emergency Situations in BP oil spill desktop and field drills as well as BP participation in a major emergency response exercise organized by the Ministry.

#### **5.1.2 Waste Management**

A sewage treatment plant was installed as part of the expansion of the ATA yard for the SD2 construction work. The plant consists of 7 bioreactors with a total capacity to treat 300m<sup>3</sup> per day. Treated wastewater is monitored monthly and discharged to the ocean via an outfall or reused for dust suppression on site. The monitoring data to date indicates compliance with the discharge water quality criteria for the wastewater treatment plant.

The sewage treatment plant for the SD2 onshore construction workforce and camp located at the ST was not operating at the time of the site visit. The contractor, TKAZ, is seeking final approvals from various regulators and the issue has been elevated within the SD2 project as delays have increased reliance on pump out and transport of wastewater to approved nearby facilities. IESC will follow up on the next site visit to determine if the plant – which should service a workforce of 700 individuals – is operational, thereby relieving additional pressures on local roads through the regular transport of this wastewater.

Wastes at the ATA and BDJF are segregated on site and taken to a centralised waste accumulation centre where a BP managed waste contractor transfers wastes to various waste treatment, recycling and disposal facilities. The waste contractor inspects wastes to ensure segregation is taking place at the construction yards and will return loads that are not appropriately segregated. A total of 500 tonnes per month of waste is generated at the ATA facility and includes biomedical wastes, chemical containers and other hazardous wastes. Hazardous waste includes isocyanate wastes from the flow line pipe-coating process. 12 barrels have been removed from the facility to date using appropriately licensed hazardous waste contractors. It is forecast that another 10 barrels of the waste will be removed during the construction phase.

---

<sup>5</sup> BP in Azerbaijan Sustainability Report, [bp.com/Caspian/report](http://bp.com/Caspian/report)

### **5.1.3 Air**

The ATA facility manages dust emissions through regular watering of unsealed areas using treated water from the site sewage treatment plant. No regular dust and noise monitoring is undertaken surrounding the facility due to the lack of sensitive land use surrounding the ATA yard and the proximity of the Baku-Salyan Highway.

### **5.1.4 Noise and Vibration**

Monitoring of ambient noise at all four nearby communities, Azim Kend, Sangachal, Umid and Massiv 3 for the period from October 2014 to March 2016, was undertaken by the SD2 construction contractor and reviewed by the IESC. Monitoring during construction and the initial baseline surveys show regular noise levels at nearby communities above the daytime criteria of 65 dB (LAeq). Noise monitoring data recorded at Masiv 3 during construction shows that the criteria was exceeded on 3 occasions: January 2015 – 65 dB; March 2015 – 65 dB; and November 2015 - 69 dB maxima (LAeq). The average recorded measurement for any one monitoring event did not exceed 58 dB (LAeq). At Sangachal village the noise criteria was exceeded during most monitoring events with the highest being a 68 dB maximum (LAeq) in October 2014 with the average measurement for a monitoring event not exceeding 64 dB (LAeq). Monitoring at Azim Kend and at Umid villages did not record any result above the criteria during the period. The average noise level at Azim Kend was below 53 dB and below 55 dB (LAeq) at Umid village.

The cause of exceeding noise levels has been attributed to a range of contributing sources including highway traffic, power stations, existing ST operational noise and trains. The Sangachal village noise monitoring presented the highest noise levels recorded over the construction period, as this site is located closest to the Baku-Salyan Highway and the Sangachal Power Station. During SD2 construction 14 noise survey rounds have been completed and data was presented for the monitoring at nearby communities for the period from October 2014 to March 2016. There have been no instances where the specified action trigger for exceeding noise criteria from construction activity at SD2 has been reached.

BP advises that construction noise from SD2 activities has generally not been audible at monitoring locations during the surveys. Noise from SD2 vehicle reversing alarms, intermittent hammering, on site engine/compressor noise and from vehicles undertaking pipeline installation activities was recorded, but noise levels from these sources were not recorded above the daytime criteria. The register of community grievances provided from TKAZ indicates no noise complaints received through that process in the first quarter of 2016 and BP advised that there have been no noise complaints received from communities through the formal grievance process since construction works commenced on SD2.

### **5.1.5 Water**

The ATA yard drains to a surface water drainage system that is connected to the ocean via a discharge mechanism. The holding drain also receives oil-contaminated groundwater from the site and requires regular cleaning to ensure discharge to the ocean meets water quality criteria. The requirement for regular cleaning of drains was identified through the ENVID undertaken for the



ATA yard and the drains are subject to a scheduled maintenance and inspection programme. Oil spill response at the site is managed through a third party contractor, Briggs, who undertakes drills with ATA twice per year and provide equipment for marine oil spill response.

A temporary cooling water system is in place at the ATA yard that uses seawater to cool equipment. The discharged seawater is monitored, via an online analyser for residual chlorine used for water treatment.

The BDJF drainage system includes a site wide stormwater system that captures all water onsite in storage tanks for testing prior to discharge. If the water quality does not meet the discharge criteria, then the collected stormwater can be pumped out for transport to a treatment facility.

## **5.2 BIODIVERSITY CONSERVATION AND ECOLOGICAL MANAGEMENT**

### **5.2.1 Protection and Conservation of Biodiversity**

The environmental monitoring at Sangachal Terminal includes monitoring of the water quality and water levels of wetlands (or wadi) located to the east of the SD2 expansion area. The works being undertaken on the pipeline corridor between the ST expansion area and the gas export pipeline shore crossing are located in close proximity to the wetlands. Pre-existing soil and water contamination was identified and reported in the initial ESIA baseline studies prior to civil works commencing for SD2, which identified possible sources of contamination from nearby pipelines and neighbouring land use. There was evidence of free phase oil on water located in wetlands near to the neighbouring power station. The SD2 project maintains a monitoring programme to identify the cause of contamination at the wetlands area and monitor the ecological use of these wetlands by birds and other fauna. The results of ecological monitoring are reported annually to the Ministry for Environment.

## 6 SOCIAL

### 6.1 LABOUR AND WORKING CONDITIONS

#### 6.1.1 Worker and Subcontractor Management

The current status of Project employment as of the end of May 2016 is provided in the Table 7-1. The employment numbers had peaked for the construction phase and de-manning had occurred at Project sites in response to completed work packages. Approximately 200 workers were released at the end of April 2016. The Project is implementing a de-manning strategy aimed at minimising the impacts of reduced employment as the Project moves towards completion. Workers are provided minimum of 1-month notice prior to redundancy taking affect. A completion payment of is provided at the end of employment for workers who have been engaged for a minimum of 12 months. The completion payment exceeds the requirements of local labour laws and is made under Project employment conditions.

Other aspects of the de-manning strategy include ensuring the timing of redundancies avoids periods when large numbers of workers are released in any one time and maximising the potential for contract labour to move between work packages and contracts when the skills are requirements allow. Meetings with local communities are reported to include discussion of changes to contract labour requirements during the Project construction period. TKAZ discussed reduced labour requirements during its meetings with local communities in January 2016. The de-manning program is also discussed with SOCAR and Labour unions. The IESC would like to verify the Operator-reported data with key stakeholders at the next site visit, in line with good international industry practices.

An increase in foreign specialist skilled welders at BOS Shelf occurred, as while a nationalisation program is in place, the contractor was unable to engage sufficient skills locally and as originally planned. The contractor in consultation with BP, unions and SOCAR undertook the employment of foreign nationals for these specialist positions. Additional training and capacity development for local workers was a consideration with the change and it was recognised that the fabrication of subsea facilities at the BDJF was the first time this had occurred in Azerbaijan and that previous projects used overseas fabrication yards for these this activity.

*Table 6-1 Status of Main Contractor Employment, May 2016*

<b>SD2 Key Contractors Manpower Status</b>		
<b>ATA (decks)</b>		
<b>Job Category</b>	<b>Nationals</b>	<b>Expats</b>
Professional	3,381	590
Non-professional	943	0
Total	4,324	590
Grand Total	4,914	

<b>TKAZ (Terminal)</b>		
Professional	5,749	1,093
Non-Professional	1,304	0
Total	7,053	1,093
Grand Total	8,146	
<b>BOS Shelf (Jackets)</b>		
Professional	3,137	712
Non-Professional	865	0
Total	4,002	712
Grand Total	4,714	
<b>Saipem (Marine and Subsea)</b>		
Professional	659	465
Non-professional	78	0
Total	737	465
Grand Total	1,202	
<b>Total Manpower</b>	<b>18,976</b>	

The Project has established a Labour Management Committee to discuss key HR/IR issues relevant to contracts and BP personnel working on the SD2 construction. Issues considered and discussed in the April 2016 meeting include a range of standard dashboard issues required to be completed for each major contractor and include: employee grievances, workforce communication and engagement, provision of safety equipment, worker facilities, worker recognition and awards, incidents of industrial action, disciplinary actions taken, training and competency, absenteeism, demobilization and community engagement. Committee records indicate that there are no significant labour relations issues and that there is a high level of communications and oversight of labour relations throughout the Project.

Skill base enhancement of the National workforce is a key project objective and includes technical skills and broader competencies, which include health, safety and environmental aspects. Details of skill enhancement training of nationals for key Project contractors are provided in Table 6-2 below.

Table 6-2 Skill base enhancement of Nationals through training during employment (cut off April 2016)

<b>Training hours completed by Nationals from Project commencement to April 2016</b>		
<b>Job Category</b>	<b>Technical Skills</b>	<b>Broader Competencies</b>
<b>ATA (decks)</b>		
Professional	5144	13439
Non-professional	231829	22937
Total	236937	36376
Grand Total	273349	
<b>TKAZ (Terminal)</b>		
Professional	19040	5496
Non-Professional	14328	16
Total	33368	5512
Grand Total	38880	
<b>BOS Shelf (Jackets)</b>		
Professional	1723	1976
Non-Professional	278	647
Total	2001	2623
Grand Total	4624	
<b>Saipem (Marine and Subsea)</b>		
Professional	2055	228
Non-professional	34	18
Total	2089	264
Grand Total	2353	

### 6.1.2 Worker Grievances

The ESIA describes grievance handling and the site audit confirmed it is in place and being implemented. The Employee Relations MP also requires that a grievance process be implemented for contractors. The Employee Relationship MP required of each contractor also includes a grievance mechanism.

The Labour Committee reviews worker grievances such that here is BP oversight of grievances that are being managed by individual contractors. External grievances are exclusively in regards to employment issues as evidenced through the meeting minutes from TKAZ discussions with local communities in January 2016. Given the size of the workforce, there are a low number of grievances registered, however, IESC would prefer to see more detailed records on the contractor engagement activities including resolution processes for employment grievances.

IESC notes that there is a potential for an increase in grievances during the de-manning process, particularly given the depressed Azeri economy and fewer future employment opportunities for particular skillsets. This will be followed up during the next site visit.

### **6.1.3 Procurement and Supply Chain**

This was not investigated during this site visit and will be followed up during the next site visit.

## **6.2 LAND ACQUISITION, RESETTLEMENT AND LIVELIHOODS RESTORATION**

### **6.2.1 Land Access Agreements**

This review included discussion of the original 2013 land access agreement required for a 2.5 ha parcel of land required for the gas export pipeline route from the shore crossing to the SD2 onshore processing site at ST. The IESC has been provided evidence of the agreements, which further clarify the issues discussed in the 2015 report. The land had been under a land use agreement issued by the local authority in 2011 to 5 individuals of 0.5 ha each. The land had not been used by any of the 5 individuals for any special or economic purpose but improvements had been undertaken in the form of a perimeter fence and ground levelling. There were no residences located on the land and it is understood that the individuals had no past use of the land prior to the land use approval being issued by the local authority. It is understood that the intention of the land use approval was to construct housing on the land.

The agreements entered into between BP Exploration Shah Deniz Ltd and the 5 individuals provided agreed compensation to the individuals in return for the withdrawal of land use rights by the individuals and removal of any further rights to claim loss or damages against BP. The financial compensation was entered into on the bases of negotiated value and consideration of improvements undertaken to the land and transaction costs. The agreement for land access and compensation entered into between BP and the 5 individuals was not considered to trigger IFC PR5 or ADB Involuntary Resettlement Safeguards Policy as the agreements were deemed to have consisted of a voluntary transaction and applied fair market values and on the premise that the land access rights could not be involuntarily removed by the local authority, or the buyer, in the event that the agreements could not be reached. In addition, the removal of land access rights would result in no loss of residence or loss of source of livelihood.

### **6.2.2 Fishing Livelihoods**

The ESIA process identified that local commercial fishing in the Sangachal area would be subjected to economic displacement during the period of enforcement of a marine exclusion zone around the gas export pipeline shore crossing. The Marine Exclusion Zone was a temporary measure during which all vessels would be excluded from entering a formally enforced zone. The Project had developed a Fishing Livelihoods Management Plan (FLMP) in 2015 as a framework for identification of impacted fishermen, determination of compensation; establish mechanism for engagement and establish a grievance process. The SD2 Project FLMP states the commitment to “ensure that the livelihoods and living standards of small-scale fishing households affected by SD2 activities are restored to, or where possible, improved above pre-Project conditions” (FLMP 2015).

The initial compensation arrangements were put in place for 43 fishermen deemed eligible under the FLMP framework. However, the 1st Household Monitoring Survey undertaken in June 2015 resulted in reconsideration of eligibility and a further 5 fishermen were included in the compensation arrangements (as reported in the IESC July 2015 Report).

Since July 2015, an independent consultant has completed quarterly monitoring of the 48 eligible fishermen and the 2nd Household Monitoring Survey report was issued to BP in March 2016. The compensation packages have been updated on the basis of on-going monitoring of the compensated fishermen as reported in the Household Survey Report. The key issues from the household survey that have been considered in the review of the compensation includes:

- The compensation payments had been established on the basis of a marine exclusion zone being in place for a 9-month period. However, the exclusion zone was in place for 1.5 months longer than originally planned, resulting in a pro-rata increase in compensation to eligible fishermen in addition to the original compensation calculated on the basis of a 9-month exclusion period.
- Household surveys had identified claims of reduced fishing income from one fishing group who had relocated to a new fishing area following the exclusion period. The new fishing area used by this fishing group was claimed to be less viable than the area compensated for and also that the time taken for the fishing captain and his employees to travel to the new fishing areas had taken longer than expected and therefore costs had increased. This fishing captain had laid off 6 employees due to the increased travel costs. The affected fishing captain has requested an additional compensation payment for the increased travel costs above what was expected. This request is logged as a formal grievance and is under consideration by BP. The remainder of the compensated fishermen did not relocate to new fishing areas and are using the fishing grounds that were subject to temporary exclusion.
- The household survey found that six fishermen, who previously worked for the fishing captain who relocated to another fishery and who were now unemployed, have since received less income due to lower viability of the new fishery and increased travel costs. BP has provided the details of the unemployed fishermen to the Sangachal construction contractor (TKAZ) for consideration of eligibility for employment through vulnerable groups employment programmes.

The household survey outcomes indicate mixed perceptions among participants on the level of success and satisfaction from the FLMP process to date. All the people who were subject to the FLMP continue to commercially fish in Sangachal Bay except for the 6 fishermen who have been unemployed as discussed above. Fishermen report a decrease in fish stocks and increased time required to catch the same amount of fish. Fishing incomes have increased since the last household survey but remain lower than the original baseline survey. There was a 51% satisfied and 29% unsatisfied response regarding the compensation payments from the FLMP participants while the vast majority agreed that fishing assets and conditions had improved since December

2014. The majority of participants agreed that the engagement process established for the FLMP was effective.

The fishing livelihoods grievance register has been maintained with additional information entered from household surveys and other BP led meetings with affected fishing communities.

BP expects that the remaining household quarterly monitoring will be used to inform a close out report for the FLMP at the end of 2016. However, the IESC notes that due to the ongoing nature of issues and grievances raised, that a completion audit of the livelihoods program in Q4/2016 is most likely too soon to determine sustainability of livelihoods improvements measures, and considers instead that the results of the next survey be used to inform the most appropriate timing and project readiness for a completion audit.

### **6.3 COMMUNITY DEVELOPMENT**

Community development programs were not investigated during this site visit and will be followed up at the next visit.

## **7 HEALTH AND SAFETY**

### **7.1 WORKER HEALTH AND SAFETY**

The SD2 construction project had maintained an excellent safety record for the period from commencement of construction to the site visit in May 2016. The Project had amassed a total of 20.5 million man-hours, including both BP direct hire and contractors, and achieved an overall rolling 12-month Recordable Injury Frequency Rate (RIF) of 0.04 and a total RIF of 0.05, since the commencement of construction. This includes the activities for marine and subsea, onshore construction, offshore construction and SCPX. As a comparison, the relevant industry standards for RIF established by the International Association of Oil and Gas Producers (IOGP) is 0.31 and International Pipeline and Offshore Contractors Association (IPLOCA) is 0.52. There have been no fatalities on the Project to date; 3 high potential incidents, 7 injuries requiring a day away from work, 18 recordable injuries, 193 first aid incidents and 520 safety near misses recorded.

The site visit observed a strong safety culture at all construction sites and an established relationship between BP and the contractors who have all had past experience in working with BP Caspian since the AGT Project construction. Observations included the use of PPE, dual language safety signs, barriers to prevent access to unsafe areas, permits to work, safety inductions for visitors and the availability of medical treatment and emergency response facilities/capability onsite.

4 million km of road travel had been undertaken for the Project for the year to date without a serious project related traffic accident. Traffic use on the Baku-Salyan Highway poses significant risk to Project workers as this is the main route taken for workers who commute daily to the offshore construction facility yards and the onshore construction site at ST. Traffic management to reduce risk includes the use of busses for workers and strict enforcement of Project defined speed limits. The IESC noted the access to the ATA yard off the Baku-Salyan Hwy required a turn across oncoming traffic without traffic lights being operational. The BP HSE personnel were aware of this hazard and had established protocols for alternative access when traffic lights were not operating.

Working at heights, lifting, use of ladders, confined space entry and hazards from dropped objects were all key HSE focus areas for the offshore constructions yards at BDJF and ATA as the topsides and jackets are nearing completion. The contractors and BP had increased verification and oversight of these focus areas to ensure safety controls remain in place and effective.

Safety observations are formalised through a behavioural observation safety program that requires workers to document safe work observations undertaken during normal work activities. Specialist contractor HSE personnel support the program. There are 50 HSE personnel working for ATA on the SD2 construction contract, and 70 TKAZ HSE personnel supported by another 23 BP HSE personnel at the ST expansion project.

The BDJF facility had a new paint shop constructed for the SD2 Project works. The paint shop includes fire protection and alarms, drainage containment and air extraction. Additional hazards at



the BDJF include exposure to hazardous materials from flow line pipe coatings and hazards from high pressure testing of subsea equipment. Additional foreign workers were brought onto the BDJF facility to support high integrity welding work. The weld failure rates had been increasing prior to the additional foreign specialist welders being brought on. The contractor manages the risks associated with this change through implementing an on-boarding and induction process for the new workers, predominantly Turkish, which includes allocation of English language speakers for each work group who pass on training and other safety communications to the non-English speakers.

The offshore construction process includes a change register for any changes that occur to the original design which had been subjected to a comprehensive risk assessment. The change register provides a record of variation in design and any additional risk management controls that may be required

Emergency response capability is maintained at all work areas including medical and first aid facilities, on site ambulances, incident management teams and rescue capability. The SD2 onshore project maintains a worker exclusion area where the construction project overlaps with the identified risk zone from the operating SD1 facilities.

## **7.2 COMMUNITY HEALTH, SAFETY AND SECURITY**

### **7.2.1 Community Health**

Noise monitoring is undertaken at SD2 onshore construction site at the nearby communities to ST to verify compliance with agreed noise criteria and determine if Project construction activities are significantly contributing to breach of noise criteria. The Project specified noise criteria have been derived from British Standard, BS5228-1:2009. An action trigger occurs when criteria are exceeded on three sequential occasions during the same monitoring round due to Project activities.

Baseline noise at all four nearby communities, Azim Kend, Sangachal, Umid and Massiv 3, was completed and reported in the ESIA. Monitoring during construction and the baseline surveys show regular noise levels at nearby communities above the daytime criteria of 65 dB (LAeq). The cause of exceeding noise levels has been attributed to a range of contributing sources including highway traffic, power stations, existing ST operational noise and trains. The Sangachal village noise monitoring presented the highest noise levels recorded over the construction period, as this site is located closest to the Baku-Salyan Highway and the Sangachal Power Station. During SD2 construction 14 noise survey rounds have been completed and data was presented for the monitoring at nearby communities for the period from October 2014 to March 2016. A number of individual noise levels above the daytime criteria of 65dB were recorded. These were attributed to sources such as car horns and vehicles on the highway and passing trains. There have been no instances where the action trigger has been reached.

BP advises that construction noise from SD2 activities has generally not been audible at monitoring locations during the surveys. Noise from SD2 vehicle reversing alarms, intermittent hammering, on site engine/compressor noise and from vehicles undertaking pipeline installation

activities was recorded, but noise levels from these sources were not recorded above the daytime criteria. The register of community grievances provided from TKAZ indicates no noise complaints received through that process in the first quarter of 2016 and BP advised that there have been no noise complaints received from communities through the formal grievance process since construction works commenced on SD2.

The Project potential for influx was scoped out at the time the ESIA was prepared on the grounds that the camp is closed. However, during this upcoming period of de-manning there is no evidence of a system for monitoring potential influx (e.g. coordination with local government agencies or other organisations), particularly as the economic environment in Azerbaijan into which this workforce will be laid off will be more challenging in finding future work opportunities. IESC looks forward to discussing the potential issues of de-manning and local community impacts with relevant stakeholders in the next site visit.

### **7.2.2 Security**

A contracted security firm, Titan, as a subcontractor to TKAZ, provides the onshore construction site security. Security personnel are required to have completed 90 hours of training including a 4-hour component on protection of human rights. Police and state security have a presence outside to boundary of the SD2 site with regular patrols of the external perimeter of the facility. Security contractors on site have regular interface with police and state security.

## **8 CULTURAL HERITAGE**

### **8.1 PROTECTION OF CULTURAL HERITAGE**

The SD2 construction at ST includes provision of ongoing monitoring of potential impacts to Cultural Heritage and a watching brief for works being undertaken outside of past detailed heritage surveys. Monitoring was being undertaken by local experts in consultation with the Ministry for Culture and Tourism. The initial surveys were completed as part of the investigations undertaken for the Early Infrastructure Works (EIW) EIA prepared and submitted for approval to the Ministry of Environment. The EIW EIA included details of the Cultural Heritage Monitoring and Management Plan and the Chance Find Protocol to be implemented during construction. These surveys were originally completed in 2011 and identified the two most significant heritage sites being a nearby Caravanserai and Sand Cave site located nearby to the pipeline shore crossing. Both sites are protected under cultural heritage laws but have been considered to have low national significance. The Project's cultural heritage plan commits to maintaining a watching brief during earthworks to identify any potential cultural heritage aspects or finds during excavations and land disturbance. Cultural heritage observers were in place at the time of the site visit to examine any finds that may arise for the pipeline corridor that was being excavated at the time. A range of isolated artefacts has been identified during the watching brief of construction at ST but no finds have been deemed to be of significant heritage value. The watching brief is expected to continue through to the end of Quarter 3 2016 when site disturbance of Greenfield areas will be complete and a close out report is proposed. The results of monitoring for cultural heritage during the watching brief phase are reported weekly and monthly to the SD2 Project team.

Monitoring of vibration near the Sand Cave heritage site has been undertaken by the SD2 Project to protect the site from potential damage from Project related activities in the vicinity of the shore crossing and pipeline beach pull site where water winning ponds were constructed approximately 100m from the Sand Cave site. The vibration monitoring was designed to confirm if vibration from construction activities were below criteria that would have potential to damage the site, which is a State protected monument and considered fragile. Site specific criteria for vibration, including both continuous intermittent criteria, was developed by SD2 based on Codes of Practice, heritage protection advice and baseline vibration monitoring results and action triggers were developed. 11 rounds of vibration monitoring were completed at the Sand Cave during the pipeline landfall construction activities that included rock breaking, piling and pile removal. Monitoring results show that 89% of vibration levels (10 monitoring results) were recorded below the continuous criteria and 1 result was recorded above the intermittent criteria. The action trigger was not reached, but the Project did amend the piling technique to reduce vibration in response to the monitoring results. No damage to the Sand Cave site was observed throughout the works.

## 9 APPENDICES

### 9.1 DOCUMENT LIST

#### 2016 EVIDENCE LIST

File or Information Title	Contents
ADB Visit to ATA 18052016.pdf	Offshore delivery progress and activities at ATA yard, HSE performance; project progress
FLMP Update Rev 1.pdf	Update of FLMP to May 2016
SD2 E&S overview May 16 rev1.pdf	Sangachal environment and social issues update including noise, vibration, cultural heritage, wetland monitoring and stakeholder engagement activities.
SD2 HSSE Management Overview.pdf	Project wide description of HSSE management approach, strategy, systems
TKAZ community Grievance Data Jan-May 2016.xls	Spread sheet of grievances received and actions taken by TKAZ at community meetings and through other sources from January 2016 through to May 2016
Employment data.pdf	Current contractor manpower numbers and breakdown of employee type.
Workforce training statistics	Information on workforce training hours over life of project for each contractor and information of de-manning strategy.
External Stakeholder Meetings .pdf	Summary of issues raised and actions taken from community meetings held between BP and local communities from January to May 2016.
ESIA Change Register May 2016	Details of revised EIA documents, approvals and studies completed since July 2015 for changes to Project or additional works.
Environmental Performance Standard pdf	Information provided by BP on the status of PSA environmental performance standards
ERM Metrics April 2016	Summary of Labour Management Committee Meeting Minutes April 2016
FLMP monitoring report #2	Details of the FLMP Household Survey from March 2016
Fishing Grievance Log.xls	Details of the fishing grievance log and actions taken up to May 2016
Land Agreement.pdf	Redacted copy of the 2013 land use agreement between BP and 5 individuals for land near the pipeline shore crossing
BP in Azerbaijan Sustainability Report 2015	Business performance, environmental record and wider role in Azerbaijan during 2015 (publicly available report)

### 9.2 SITE VISIT SUMMARY

#### TRIP SUMMARY, MAY 2016

Date	Summary of activity
Wednesday 18 May	IESC, BP (operator), ADB visit to ATA Yard
Thursday 19 May	IESC, BP (operator), ADB visit to SOCAR Yard
Friday 20 May	IESC, BP (operator), ADB visit to Sangachal Terminal; beach pull site; sand cave.