

APPENDIX B – ENVIRONMENTAL AND SOCIAL ACTION PLAN

| No. | Action | Environmental & Social Risks (Liability/Benefits) | Requirement (Legislative, IFC PS, Best Practice) | Resources, Investment Needs, Responsibility | Timetable | Target and Evaluation Criteria for Successful Implementation | Status |
|------------|---|--|--|--|---|--|--------|
| PS1 | Assessment and Management of Environmental and Social Risks and Impacts | | | | | | |
| 1.1 | Naftogaz to continue to develop its integrated EHSS management system to achieve compliance with requirements of IFC Performance Standards. | Currently the environmental and health and safety procedures are largely benchmarked against Ukrainian national standards, which do not fully address IFC's environmental and social performance requirements. | PS1, best practice | NJSC "Naftogaz of Ukraine" PJSC "Ukrtransgaz" | Roll out new policies and management systems to all subsidiaries by April 2018. | The Company's environmental and social policies and procedures contain a clear commitment to comply with the IFC PSs. Management systems compliant with the requirements of ISO 14001:2015, ISO 9001, ISO 45001 (currently out for public consultations and planned to be published as International standard in October 2016), and including IFC Performance Standards as a benchmark are approved and in use at corporate and operational levels. | |

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| 1.2 | <p>Develop Company's standard and procedures on impact assessment, including land acquisition, community impacts, and cultural heritage, in line with IFC PS1.</p> <p>Include chance find procedures</p> | <p>Issues such as land acquisition are approached mainly from a legalistic point of view; and there is no systemic cultural heritage impacts assessment as part of the national EIA. Identified gaps can be readily mitigated by developing relevant company standard and procedures based on available guidance; whereas failure to address these issues may entail the risk of complaints and delays.</p> <p>Cultural impact assessment activities are limited to requests to the relevant archaeological authorities to provide an opinion on the absence of potential cultural heritage site. Pro-active screening of potential cultural impacts and development of chance-find procedures will help to avoid and minimise any cultural heritage impacts.</p> | <p>Performance Standards and good oil industry practice</p> | <p>NJSC "Naftogaz of Ukraine"</p> <p>Subsidiary companies and enterprises</p> | <p>December 2016</p> | <p>Develop and approve a statutory document regulating the procedure for impacts assessment, including land acquisition, community impacts, and cultural heritage, in line with IFC PS1</p> <p>Operating procedures and implementation mechanism for screening, assessment and mitigation of cultural heritage impacts (inclusive of chance-find procedures), especially for any earth works, land movement and land excavation and demolition activities etc., are approved and communicated to subsidiaries / contractors prior to works start.</p> | |

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| 1.3 | Expand Company's communication programme to include stakeholder engagement programme compliant with IFC PS1 | Currently communication of environmental and social information largely focuses on use of mass media or is in response to regulatory requirements. | Performance Standard 1, good oil industry practice: http://www.ipieca.org/publication/community-grievance-mechanisms-oil-and-gas-industry-manual-implementing-operational-level | NJSC "Naftogaz of Ukraine" PJSC "Ukrtransgaz" | June 2016 | Communication and stakeholders engagement programme, containing clear mapping of the stakeholders, potential environmental and social impacts and benefits of the Company's activities (including subsidiaries); required mitigation measures and modality for communication of relevant information, is approved and published on the Company's website | |
| PS2 | Labor and Working Conditions | | | | | | |
| 2.1 | Implement an Occupational Health & Safety Management system consistent with a recognised international standard | Overall, mechanisms are in place to provide a safe and healthy working environment. However, some specific issues have been identified (see below) that would benefit from a more structured approach to managing H&S | PS4 | PJSC "Ukrtransgaz" | December 2017 | Implementation plan for the development and implementation of a Safety Management System aligned with the requirements of the OSHAS 18001, International Safety Rating System (ISRS), or ISO45001 (currently out for public consultation and due to be published as an International Standard in October 2016) | |

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| 2.2 | Update the training plan at the Bogorodchany site and include refresher and safety orientated training | Generally, the provision of health and safety training was in place. However, the training delivered at the Bogorodchany site within the Ivano-Frankivsk region was more limited | PS4 | PJSC "Ukrtransgaz" | October 2016 | Completed EHS training needs analysis for staff on the Bogorodchany site including key performance indicators around training delivered, attendees etc. | |
| 2.3 | Implement a reporting system which encourages accurate reporting of all accident, incidents and near misses. | <p>Focus is mainly on physical injury and not on the acute effects of long term exposure to, for instance noise (Regulators highlighted that staff were exposed to high levels on noise on the Urgeske site).</p> <p>Safety culture should be improved and Accident/Incident/Near miss reporting should be encouraged rather than penalised.</p> | PS4 | PJSC "Ukrtransgaz" | April 2017 | <p>Develop and implement a near miss reporting and tracking system.</p> <p>Set near hit reporting targets to encourage reporting,</p> <p>Provide awareness training so staff understand the importance of near miss reporting.</p> <p>Communicate outcomes from near hit reports to motivate staff to continue to raise near miss reports.</p> | |

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| 2.4 | Undertake a regular audit of the Permit to Work Systems employed on the sites, to ensure that requirements and controls are being implemented on a consistent basis. | There is a formal permit to work system in place. However, based on interviews there is no current system of PTW auditing and during the site walkovers there were a number of instances where activities under a PTW didn't appear to have the appropriate controls in place. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Include the use of the Permit to Work system within the internal audit programme. The schedule should include reviews of completed permits with respect to the quality and thoroughness of completion and assessment of live work with regards to compliance of permit requirements | |
| 2.5 | Update the Ukrtransgaz internal audit scope and methodology, to ensure findings raised by the Regulator are captured. | The internal audit programme appears to be comprehensive but clearly the key findings raised by the Regulator in November 2015 at Uherske (water & noise) should have been captured earlier. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Updated internal audit and workplace inspection programme scope. | |
| 2.6 | All sites should review their management of noise exposure, PPE usage, availability and enforcement. | PPE including suitable hearing protection was not always available in work areas. | PS4 | PJSC "Ukrtransgaz" | April 2016 | PPE selection and implementation plan as part of noise management. Encourage the wearing PPE through training and awareness campaigns. Supervisors to enforce use every time they observe a non-compliance.. | |

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| 2.7 | Undertake a full survey of all sites to identify the required safety signage as well as the condition and adequacy of current signage. | Directional signage for evacuation routes was mainly limited to administration buildings. There was no assembly area signage observed. Very limited use of hazard signage was observed and there was use of non-standard signage in some areas. | PS4 | PJSC "Ukrtransgaz" | September 2016 | Implement the findings of the review by updating / replacing the safety signage. Signage should make use of internationally recognised pictograms as well as text. | |
| 2.8 | Ensure strict enforcement of the control of ignition sources, including non-intrinsically safe mobile phones on site. | Mobile phones were required to be switched off or left behind for site tours. However, whilst on the operating site it was observed that several Lvivtransgaz personnel received and took calls and it appeared that their phones remained switched on during the rest of the site walk around. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Implement and enforce a clear policy on the control of ignition sources. Communicate requirements through instruction / training. | |

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| 2.9 | Leak/ fume detection and/or fire/ smoke detection should be installed in ancillary buildings that house safety critical equipment | <p>A mixture of temperature, flame detection, smoke and methane is monitored using fixed sensors and also manually as per a pre-planned schedule for specific buildings/rooms where there is a significant risk of build-up of a flammable atmosphere if a leak were to occur.</p> <p>At Bilche-Volytsko-Uherske the oil/ ethylene glycol pumping room did not have fire or smoke detection, loss of coolant system would result in gas compressors overheating</p> | PS4 | PJSC "Ukrtransgaz" | June 2016 | Install required Leak/ fume detection and fire/ smoke detection should be installed in ancillary buildings that house safety critical equipment. | |

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| 2.10 | Implement internationally recognised risk assessment methodologies, i.e. HAZID and HAZOP for new plant and process and significant changes to existing plant and process; Management of Change and incorporate organisational change in scope. | Risk assessment is used to identify actions to minimise hazards. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Updated management of change procedures to include the requirement to follow internationally recognised risk assessment methodologies, i.e. HAZID and HAZOP. | |
| 2.11 | Implement a programme of inspections of access platforms and ensure any necessary repairs / replacements are made. | Most walkways and handrails were in adequate condition taking into account age and environment. However, access gantries and walkways were rusted and in poor condition in some locations, e.g. tank access platforms at Bilche-Volytsko-Uherske. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Updated internal maintenance and inspection programme to include access gantries and walkways. | |
| 2.12 | Review all lifting equipment to ensure its safe working load is clearly marked. | Lifting limits were not always displayed. | PS4 | PJSC "Ukrtransgaz" | April 2016 | All lifting equipment should clearly display the safe working load. | |

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| 2.13 | The cooling tower management should be reviewed to ensure that sufficient maintenance, biocidal dosing and testing is conducted to minimise the potential for Legionella | Potential for legionnaire's disease due to airborne dispersion of bacteria in mist from wet cooling towers being carried off site. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Updated inspection and maintenance programme and action plan to control the presence of legionella bacteria in open wet cooling systems | |
| 2.14 | The plan should demonstrate that all types of probable emergency scenarios have been considered for inclusion and a risk based approach used to determine which should be included in the plan. Areas for consideration should include major injuries and health effects, major property damage above an established cost base, major environmental damage, fire, flood and storm, bomb threats, sabotage, etc | Mitigation of potential emergency scenarios | PS4 | PJSC "Ukrtransgaz" | May 2016 | Updated emergency plan which identifies the full scope of scenarios which have been considered and which have been assessed as significant to that they require emergency planning to be undertaken. | |

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| 2.15 | A simplified version of the emergency plan and steps should be made available for operators to access swiftly in the event of an incident. | Mitigation of potential emergency scenarios | PS4 | PJSC "Ukrtransgaz" | June 2016 | Additional simplified emergency actions guide document for use in emergencies | |
| 2.16 | All sites should consider upgrading to CCTV and/or motion sensors around the site boundary | Minimises the risk of undetected site intrusion | PS4 | PJSC "Ukrtransgaz" | December 2016 | CCTV and/or motion sensors around the site boundaries linked to central security room at each site. | |

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| PS3 | Resource Efficiency and Pollution Prevention | | | | | | |
| 3.1 | EBRD ESAP <i>Expand Company's environmental policy to include a commitment to apply Best Available Technique (BAT) for all new investments and BAT assessment for major installations which are potential source of pollution.</i> | EBRD ESAP <i>Application of BAT and inclusion of the requirement for the new equipment and technology to comply with BAT will significantly reduce the use of resources and environmental pollution</i> | EBRD ESAP <i>Performance Requirement 3, EU Directive on Industrial Emissions</i> IFC Sector Guidance for Onshore Oil & Gas Development IFC Sector Guidance for Natural Gas Processing IFC General EHS Guidelines | EBRD ESAP <i>NJSC "Naftogaz of Ukraine"</i> Subsidiary companies and enterprises | EBRD ESAP <i>January 2018</i> <i>* 2010/75/EU on industrial wastes)</i> | EBRD ESAP <i>Procedures for relevant BAT assessment for the new facilities or existing facilities requiring up upgrade are in place, and such assessment are conducted on a regular basis</i> <i>Relevant BATs are applied, when technically and economically feasible, to all activities including an upgrade and modernisation of waste storage facilities; hydrocarbon storage facilities and any activities requiring a consumption of large volumes of energy.</i> | |
| <p>The EBRD ESAP item is considered appropriate, but the following subsidiary actions are also considered required:</p> <ul style="list-style-type: none"> a) Conduct a review of the control of the combustion units to ensure that NOx is minimised as far as practicable, in particular through reviewing the air feed to ensure that excessive NOx is not being produced as a result of high air feed b) Confirm that internationally recognized methodologies and reporting procedures have been used for quantification of CO2 emissions. c) Conduct a review of management systems, operational & maintenance processes and equipment for management of wastewater, stormwater and other water discharges d) Conduct a review of concentrations of methanol and glycol in water discharges against appropriate international guidelines. e) Conduct a review of systems, processes and equipment for storage of oil, fuel and chemicals, covering bunding of storage tanks, containment of delivery areas, inspection programs for delivery hoses and underground pipework and improved spill response procedures and equipment f) Conduct a review of post-collection waste tracking | | | | | | | |

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| 3.2 | <p>Undertake an assessment of each of the sites to identify site specific areas of potential concern in relation to historic soil and potentially associated groundwater contamination.</p> <p>Based on the above locations, develop a strategy to decide if any further investigations of these areas is required, whether as a proactive measure, or at the time of redevelopment.</p> | Ongoing reduction of risks of future soil and groundwater contamination. | <p>IFC General EHS Guidelines</p> <p>IFC PS3</p> | <p>NJSC "Naftogaz of Ukraine"</p> <p>Subsidiary companies and enterprises</p> | Undertake site reviews and develop strategy by June 2017 | Report highlighting site specific risk areas, based on conceptual site risk settings and historic use. | |

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| 3.3 | Develop and implement a formal management program for identification and management of asbestos to minimise the potential for damage to asbestos containing materials and minimise potential for exposure to asbestos fibres. | Ongoing reduction of risks of employee and community exposure to asbestos fibres. | IFC General EHS Guidelines IFC PS3 | NJSC "Naftogaz of Ukraine" Subsidiary companies and enterprises | Undertake site reviews and develop strategy by June 2017 | Report highlighting site specific risk areas and management measures. The Company's procedures contain a clear process to manage asbestos to comply with the IFC PSs. | |
| PS4 | Community Health, Safety, and Security | | | | | | |
| 4.1 | Ensure strict enforcement of the control of ignition sources, including non-intrinsically safe mobile phones on site. | Mobile phones were required to be switched off or left behind for site tours. However, whilst on the operating site it was observed that several Lvivtransgaz personnel received and took calls and it appeared that their phones remained switched on during the rest of the site walk around. | PS4 | PJSC "Ukrtransgaz" | April 2016 | Implement and enforce a clear policy on the control of ignition sources. Communicate requirements through instruction / training. | |

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