



Netherlands Commission for
Environmental Assessment

Advisory Review of the resubmitted Environmental and Social Impact Assessment for the East Africa Crude Oil Pipeline (EACOP)

UGANDA



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Advisory Report by the NCEA

Title	Advisory Review of the resubmitted Environmental and Social Impact Assessment for the East Africa Crude Oil Pipeline (EACOP) – Uganda
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Date	22 October 2020
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1. Introduction

1.1 Background

The East African Crude Oil Pipeline (EACOP) will transport oil from the delivery point in Hoima District, Uganda, to a storage tank facility in Tanga District and an offshore tanker loading platform, on the East African coast of Tanzania. The EACOP project part on the Ugandan territory includes:

- A 296 km long, 24-inch diameter buried pipeline from the future Kabaale Industrial Park, in Hoima District, to Mutukula near the border with Tanzania. The pipeline will be insulated and will have an electrically heated cable on the pipeline to keep the temperature of the oil at 50°C or warmer so the oil will flow in the pipeline.
- Aboveground installations which consist of:
 - two pumping stations to keep the oil moving through the pipeline;
 - 19 block valves at key locations where the oil flow can be reduced or stopped;
 - 4 electrical substations, collocated with valves, to power the electrically heated cable.
- 6.8 km of new and upgraded permanent access roads and 8.3 km of new and upgraded (temporary) roads for getting to construction facilities and the RoW.
- Construction facilities consisting of 4 main camps and pipe yards where pipe and equipment will be stored and construction workers housed.

1.2 Request of the Ugandan National Environmental Management Authority (NEMA) and involvement of the NCEA

The Netherlands Commission for Environmental Assessment (NCEA) has a long-standing relation with the NEMA. Regarding petroleum development, an overview of cooperation activities is presented in [Annex 2](#).

It is within this cooperation framework that the NEMA requested the NCEA support in reviewing the ESIA report that was re-submitted to the NEMA in February 2020 for EACOP. [Annex 1](#) presents the request and proposed review approach. The aim of this support is to review this resubmission considering its role in ensuring that the project implementation does sufficiently consider the environmental and social issues of concern. This includes suggestions for conditions to consider in a possible approval by NEMA.

More specifically, the NCEA was asked to:

- check against NCEA's advisory review of July 2019 and the letter that NEMA has sent to the developer in August 2019 (and reflected in a comments/response matrix prepared by the developer);
- assess whether public comments have been taken into consideration;
- raise any other key issues/red flags, that NEMA needs to be mindful of.

The NCEA agreed to perform an independent review of the resubmitted ESIA for the Ugandan part of EACOP, seen NCEA's previous involvement. Because of Covid-19 and resulting travel restrictions, it was agreed to present the NCEA findings (virtually and remotely) during a joint review retreat that NEMA plans to hold from 26–31 October 2020 in Uganda.

1.3 NCEA expert group and approach taken

This report is prepared by a working group of the NCEA, comprising expertise in: natural resource management, oil and gas development, environmental and social performance management, geohydrology, social sciences and ESIA and SEA application. The composition of the working group and the background of the individual experts are presented in the Colophon. The composition of the expert group is similar to previous NCEA reviews on the Ugandan oil development projects as performed between 2017 and 2019. This with the exception of Ms Pflästerer, who stepped in for Mr. van Dessel who was unavailable at the time of this review.

Note that the working group does not express an opinion on the feasibility or acceptability of the project itself, but comments on the quality and completeness of the resubmitted ESIA report. For the preparation of this advice, the group members were neither able to visit the project route and sites, nor meet with stakeholders in Kampala and along the pipeline route. The review is done based on the information contained in the resubmitted ESIA report, the reports on the public hearings held, and site visits performed to Uganda previously in relation to Tilenga and Kingfisher. The working group members also used their own practical experience in reviewing ESIA's for comparable projects.

Based on discussions held during meetings virtually/online, the working group drafted this advisory review report with the following aims:

- To verify whether the resubmitted ESIA report contains adequate, accurate and sufficient information (on environmental and socio-economic impacts, on options/alternatives/mitigation measures to deal with these, and adequate environmental and social management plans for the implementation phase of the project). This with to aim to guarantee that all essential information is provided for sound, informed and well-balanced decision making and through a transparent and inclusive process.
- To assess the consequences for decision making in the case of shortcomings and provide recommendations for supplementary information needed to address these shortcomings.

In Chapter 2, the NCEA provides its overall conclusion and summarises key gaps that still remain, followed by recommendations how these could be dealt with or phrased in the Environmental Certificate, which NEMA may issue.

In Chapter 3, the NCEA provides a more detailed assessment of whether its key recommendations provided in the NCEA advisory report of June 2019, have been given follow up in a satisfactory manner. If not, recommendations are given on how to remedy these issues before or during project implementation.

In Chapter 4, the NCEA provides its assessment of a few other issues highlighted by the NCEA in its previous advice. In addition, it mentions issues that have come up during the review of the revised ESIA, that were not part of NCEA's previous advisory report. However, as NEMA explicitly requested to raise any other key issues/red flags, that NEMA needs to be mindful of, the NCEA decided to include a number of them.

2. Main review findings

2.1 Overall conclusion

The NCEA appreciates the efforts made by the developer to provide responses to the remarks made by NEMA (including those of the NCEA). The comment/response matrix has been helpful in summarizing how concerns were addressed and providing clear reference to those sections in the ESIA where revisions were made. The NCEA has focused on the key concerns raised in its advisory report of July 2019 and comes to the conclusion that some have been partially addressed, but a great number unfortunately **still insufficiently**. The justification for coming to this conclusion is found in Chapter 3.

2.2 Summary of recommendations

The NCEA below lists the suggestions for inclusion in the Environmental Certificate, that follow from the conclusions in Chapter 3. Note that these are not listed in order of priority. For full understanding on how the NCEA came to these recommendations, please also refer to Chapter 3.

On ESIA as a decision-making tool, including ESMPs

- Establish a fully-fledged environmental and social management system in line with ISO 14001 prior to the start of any early works and construction. This should include an overarching framework document describing the responsibilities of the developer and its contractors together with a signposting figure specifying whether and how the various ESMP plans are linked. It should also include topic-specific contractor control plans highlighting what measures contractors need to implement as part of their work. These plans need to be fully aligned with the mitigation measures stated in Appendix E4 and Appendix J of the ESIA. The documentation requires submission to NEMA for review and approval by NEMA prior to start of construction and any pre-works including vegetation clearing. In line with best practice and to enhance transparency, the ESMPs should be publicly available. A similar approach is required for the later operational phase.
- Provide submission dates regarding the above plans considering the review time needed by NEMA and the overall project schedule including early works such as road upgrades and vegetation clearing.

On Expectation management, local content and jobs

As issues of local content most likely are not part of NEMA's mandate, the NCEA has no suggestion for inclusion in the Environmental Certificate. However, some general recommendations follow below:

- The developer should finalise its demand and supply analysis and provide training to identified local companies to write better tenders and be compliant with HSE requirements as these are usually the knockout criteria;
- The community liaison officers (CLO's) of the team of developers should be used to disseminate information on employment opportunities and receive grievances. CLOs need to be monitored though as well, as they may misuse their position;

- The post-ESIA stakeholder engagement plan needs to have a strong focus on expectation management and capacity building on financial literacy and should be shared with NEMA for review and alignment shortly after award of the Environmental Certificate;
- Plans regarding the community awareness programs should be shared with NEMA once available. They need to be timed adequately and ongoing (not just a one-off). NEMA, together with supporting agencies, should reserve the right to participate in events within the framework of the community awareness programme;
- Training of staff regarding financial literacy and duration of employment needs to be timed adequately and be included in regular toolbox talks throughout construction.

On Water and Wetland crossings

- NEMA approval is required of the environmental and social studies and evaluations related to the detailed design of the water crossings to ensure environmental and social considerations are adequately taken into account when selecting the final water and wetland crossing methodology. The studies should include considerations related to early works, construction, reinstatement and restoration. Depending on the degree of disturbance and the sensitivity of the habitat, more extensive restoration measures are necessary for the water courses and wetlands, including bio-restoration of riverine habitats.
- Cathodic protection of the entire pipeline (and not limited to wetland and water crossings only) should be established as part of construction to minimise the risk of pipeline corrosion and associated spills during pipeline operations.

On Water Use

- Environmental and social considerations should be taken into account during the development of the water supply study and hydrotest management plan. Both studies are to be reviewed by the relevant lead agency in collaboration with NEMA. Approval of any abstraction/discharge permit should only be given if NEMA provides a positive response (no-objection). Detailed measures for reducing water volumes needed as well as noise protection measures during pipeline drying should also be provided.
- In relation to water abstraction and discharge locations for hydrotesting and related impacts, environmentally sensitive areas should be avoided. In case avoidance is not feasible, activities should be timed to avoid sensitive periods for fauna and be as short as possible. Noise emission compliance monitoring should be undertaken during commissioning of the pipeline.

On Biodiversity/Chimpanzees

- A re-evaluation of potential impacts on chimpanzees and their habitat, as the developer has promised to undertake, should be provided in writing to NEMA, directly after completion of the studies, including a clear specification and quantification of the support to conservation of the chimpanzees in terms of money or services provided. In the still to be developed Biodiversity Management Plan, as part of the ESMP, a clear link should be established with the outcomes of these studies, in particular how identified threats to the chimpanzee population will lead to measures that avoid or mitigate these threats and help to protect the existing populations in the Wambabya-Bugoma protected areas and corridor.
- In general, areas earmarked for biodiversity conservation management planning and bio-restoration should be clearly identified on maps for approval by NEMA.

On Biodiversity/Taala Forest

- The developer is required to provide a justification for the route selection through the Taala FR. In case the detailed design shows that the routing remains through Taala FR, the developer should assess collaborative opportunities to enhance the ecological function of Taala FR.

On Landownership, compensation and resettlement

- The RAP should be developed in compliance with Ugandan requirements as well as IFC Performance Standard 5, land acquisition and involuntary resettlement. Stakeholders, including vulnerable groups and women, should be consulted on all resettlement components, including compensation, replacement housing and livelihood restoration.
- The developer needs to ensure that compensation in accordance with the RAP is paid in a timely manner and prior to any resettlement or early works/construction.

Additional remarks

The following recommendations could also be considered for inclusion in the Environmental Certificate:

- Reduction of the construction **RoW** in environmentally (and socially) sensitive areas and areas of designated conservation status. Reduction of the operations RoW should be to the minimum necessary for pipeline maintenance and monitoring.
- **Topsoil** to be segregated from subsoil and stored separately throughout the pipeline RoW to ensure efficient revegetation.
- The **Emergency Preparedness and Response Plan** should include compensating measures, when a spill occurs, for the people who depend for their drinking water on the surface water body that becomes contaminated as long as remediation is not finished.
- A **project schedule** should be provided identifying important milestones for deliveries prior to the start of early works and construction (e.g. RAP, ESMP plans, etc.) and activities scheduled for project implementation.
- **Commitments made in the ESIA** are legally binding and if there are discrepancies between the various chapters and appendices the more stringent wording would apply.
- A dedicated ESIA for **decommissioning** of the EACOP facilities should be submitted maximum 5 years, minimum 2 years prior to the end of life of the EACOP pipeline.

3. NCEA key issues and recommendations

Readers guide for this Chapter:

- Each paragraph starts with a reiteration of the NCEA recommendations (in boxes) from its July 2019 advisory report¹;
- Below the recommendations/box, it is indicated in which part of the NEMA letter of August 2019, the NCEA recommendation also feature (in **bold**);
- Subsequently, the text from the comments–response matrix by the developer is presented on that particular issue (in *italics*);
- This is followed by NCEA’s conclusion as to whether the recommendation has been given insufficient/partial/sufficient follow up;
- This forms the basis for NCEA’s recommendations for possible inclusion in the Environmental Certificate.

In its overall conclusions in the July 2019 advisory report, the NCEA distinguished between comments regarding ‘Suitability of the ESIA as a decision–making tool’ and ‘Key potential impacts requiring better assessment’. The first issue will be dealt with in 3.1. The key potential impacts will be dealt with subsequently in 3.2 to 3.9.

3.1 ESIA as a decision–making tool

The ESIA report is not fit for purpose, namely facilitating decision making:

- The ESIA consists of 1011 pages (and 2600 pages of attachments), which makes it difficult to read and understand it properly. Because of the size, it is inevitable to pay less attention to sections, skip them, or skip fairly large parts.
- The ESIA document/process is not transparent: it is impossible to follow how potential impacts have been assessed, mitigated and made acceptable. Particularly smart maps, highlighting Valued Ecological Components (VECs), sensitivities, impacts and solutions, are missing to present the reader an overview.
- The ESIA is not ‘convergent’: it presents a wealth of data and details but fails to analyse these data in such a way that the key issues come out. The process to identify potential impacts, weigh them, find mitigation if required and motivate why impacts are acceptable after mitigation is not transparent. In Chapter 1 (Introduction), this assessment process is described as the objective, but the authors, and as a consequence the readers, get lost in the quantity of data and pages. Summaries of the key issues after every step of the process would have helped not to get lost. The information on what needs to be done next in concrete terms to assure an environmentally sound and socially acceptable project therefore is not presented in a clear way and vanishes in the amount of information provided.
- The NTS, but also the Executive Summary, is biased in the way it is written and justified (lack of justification actually). The conclusion that there will be important positive (economic) impacts and no significant negative impacts comes out of the blue.
- The elaboration of many mitigation measures is postponed to (management) plans still to be written. Nevertheless, the effectiveness of these, still unknown, measures is

¹ https://www.eia.nl/docs/os/i72/i7228/7228_advisory_report_eacop_uganda_27_june_2019.pdf

assumed to be sufficient to bring possible negative effects to a low and acceptable level.

- The ESMP does not provide a key-issue table or an overview of the most important residual impacts. To manage risks and impacts of the project, the ESMP refers to 20 management plans still to be developed. As such the ESMP is not an ESMP yet. The ESMP refers to attachment E4, which presents a long list of measures to be included in the management plans to be developed. Attachment E4 includes a lot of sensible measures. As this list is 'measures only', it is very difficult to find – an overview of – the connection between (potential) impact, measure and (acceptability of) residual impact. Also, it is somewhat striking that the plans for the operational phase are often not there albeit that the impacts will presumably be small (p E4-37 and further).

See also NEMA letter of August 2019 on ESMP issues, comment 5 and xxiii to xxv

Response by the developer:

'Appendix J1-1 Environmental and Social Management Plan now includes a column for monitoring required, monitoring frequency and responsible party. Appendix J1-2 includes all parameters that will be monitored for water and wastewater, erosion and sedimentation, air and noise and vibration. Section 10.11 Estimated Costs addresses the costs associated with the implementation of the ESMP. Appendix E5 includes for each plan a table of content (ToC) that reflects national and good international industry practice (GIIP). Contractors, with project oversight, will prepare their plans in accordance with the ToC'.

NCEA conclusion after review of resubmitted ESIA: has been given INSUFFICIENT follow up

Overall, the NCEA concludes that the information on environmental and social performance management during construction (and operation) is still insufficient and the management plans are not yet ready. There is written assurance that the mitigation measures will be implemented but no details are provided in Appendix J.

It is not clear how relevant information will be conveyed to the various contractors to ensure they are aware of their responsibilities (assuming they will not read the ESIA in detail), including their responsibilities to implement the mitigation measures. The interaction between the developers and contractors should be clearly established, particularly during construction, when most impacts are likely to occur.

NCEA recommendation

The NCEA proposes that the conditions of the Environmental Certificate include the following:

- A fully fledged environmental and social management system has to be established in line with ISO 14001 prior to the start of any early works (e.g. road construction, road enhancements, clearing and levelling) and construction. This should include an overarching framework document describing the responsibilities of the developer and its contractors together with a signposting figure specifying whether and how the various ESMP plans are linked. It should also include topic-specific contractor control plans highlighting what measures contractors need to implement as part of their work. These plans need to be fully aligned with the mitigation measures stated in Appendix E4 and Appendix J of the ESIA. The documentation requires submission to NEMA for review and approval by NEMA prior to start of construction and any pre-works including vegetation clearing. In line with best practice and to enhance transparency, the ESMPs should be published. A similar approach is required for the later operational phase.

- Submission dates regarding the above plans should be provided considering the review time needed by NEMA and the overall project schedule including early works such as road upgrades and vegetation clearing.

3.2 Non-technical summary and executive summary

The NTS states, but does not justify, that after mitigation no significant residual impacts are predicted. Graphically highlighted messages are mainly positive or reassuring. The summarising recommendations are benefit-oriented only. The NTS does not explain what the key concerns are. The NCEA recommends that at least the NTS and Executive Summary be re-written, to provide a good and easily understandable overview of the most important impacts of the EACOP project and corresponding mitigation and/or compensation measures. This can be done through including among others:

- a paragraph summarising the key VECs and sensitivities to keep track of the elements which are important as a basis for the ESIA;
- more and more detailed maps to present the vast amount of data in an accessible way;
- an overview of which impacts are key, which real measures will be taken and which impacts will be residual and must be accepted as the consequence of the project. It is not realistic to come to the conclusion that EACOP has only benefits and will not cause any negative impacts.

See also NEMA letter August 2019, comment 1. And iv.

Response by the developer

'The Executive Summary and NTS have been updated so that both potential beneficial and potential negative impacts are provided. All potential projects impacts have been assessed, relevant mitigation measures proposed, and all impacts are assumed to occur, i.e., they have a 100% likelihood. Therefore, the implementation of mitigations for any impact is equally important. The impacts assessed in the ESIA report are best reviewed in tandem with Appendix D, E2 and E3. Summary tables of the impacts for each VEC are included at the end of each VEC impact assessment'.

NCEA conclusion after review of resubmitted ESIA: has been given PARTIAL follow up

The Executive summary/NTS have indeed been updated so that both potential beneficial and potential negative impacts are provided. But it is not in any way quantitative: how serious is each impact? Are some impacts more serious than others? What are the key impacts?

The summary table on unplanned events has been removed. The paragraph on climate change has been replaced by a phrase that 'potential impact on climate has also been assessed', leaving the reader in doubt on what this impact may be.

Corresponding mitigation and/or compensation measures have not been presented. The NTS just refers to a long list of additional plans, still to be developed, to further reduce and manage impacts and address stakeholder concerns. It is neither clear how adequate they will be, nor when exactly they will be developed other than 'prior to commencement of construction'.

No follow-up is given to the bullets in the NCEA recommendation above:

- For summary tables of impacts for each VEC, simply reference is made to Appendices;
- More (detailed) maps have not been provided. While many maps for VEC's can be found in Appendix I1 from p. 3243 onwards as to their sensitivity, there is no map which

connects protected areas to the oil spill sensitivity and the projected block valves. A map with key biodiversity areas and migration routes is also still missing;

- The last bullet has neither been given follow up. This makes it difficult to verify what will be the impact after implementation of mitigation plans (residual impacts). The recommendation at the end of the NTS, that NEMA should approve the ESIA because of its benefits in the public interest, is therefore not substantiated.

NCEA recommendation

For stakeholder engagement purposes and to facilitate decision making, it is valuable to still improve the NTS to allow better understanding on what is going to happen and to enable proper follow-up. Translation into main local languages should be considered. This could be part of the community awareness program or post ESIA stakeholder engagement plan (see recommendations next paragraph).

3.3 Expectation management

It is crucial to manage people's expectations by telling them what is feasible and what is not. Therefore, the NCEA reiterates the recommendation done at the scoping stage: 'Provide upfront, clear, concrete and well communicated procedures for provision of goods and services, hiring labour, including conditions and duration. Honest and realistic estimates should be provided regarding labour requirements for the project, as well as training and transfer of knowledge'. This could be part of the still to be developed 'Labour management plan' (Table E4.2-10 appendix E) and the 'Procurement and supply chain management plan' (Table E4.2-12 appendix E).

See also NEMA letter August 2019, comment v.

Response by the developer

'In Section 8.11 (8-160) Economics project commitments for employment opportunities, local provision of goods and services, training and capacity building have been reviewed and updated. The completion of management plans and more detailed information on local contributions/participation is directly dependent on the finalised project execution strategy. However, the commitments included in this ESIA will ensure that the project will meet Ugandan local content regulatory requirements and expectations'.

NCEA conclusion after review of resubmitted ESIA: has been given PARTIAL follow up

Stakeholders were informed, as part of the ESIA impacts mitigation process and the procurement and supply chain management plan (ESIA Sections 8.11-8.15) that:

- the developer is committed to reinforcing the use of local workers and suppliers;
- project benefits will include employment opportunities for skilled and semi-skilled workers, upgrades of some roads, potential growth of small training programmes and capacity building for local people;
- small businesses and farmers can become part of the supply chain by submitting tenders to supply to the EACOP project.

Given the fact that the project will traverse 10 districts in Uganda, it is unclear who is considered as 'local workers and suppliers'. Are these Ugandans or locals from the districts where the pipeline will pass through? Given the multiple ethnic compositions in these areas (Banyoro, Alur, Baganada, Banyankole etc.), how is the project prepared to address ethnic

identity when it comes to recruitment given the fact that some districts are composed of different ethnic groups? What about 'nonlocals' who are seeking job opportunities? These issues, small as they may seem, are vital to avoid creating ethnic polarisation.

The kind and duration of training programmes that the developer is planning for which category of people is unclear as yet. How will the capacity of the local people be built, and what are the objectives of such plans regarding the project? These kinds of promises may be received too optimistically. Unrealistic expectations should be avoided where possible.

The developer estimates that 'on average, some 2000 direct construction jobs may be generated in Uganda over three-year construction phase, of which 1800 may be skilled and semi-skilled and 200 unskilled. It is estimated that 1200 workers will be nationals'.

Numbers on pipeline operation have now been added and 'will require a workforce of 16 people, of whom approximately 11 workers may be nationals in the first ten years, increasing to at least 14 workers after 10 years. The percentage of skilled professionals is expected to increase during operations'.

From these estimates, it is clear that the project is over hyping the job opportunities for the local communities, many of whom form the bulk of unskilled labour. How will the 200 potential vacancies for unskilled jobs be distributed among the thousands of expected job applicants? Information on the very limited number of job opportunities during operations should have been passed to the expectant public so that they are fully 'prepared' to take in these realities. The developer acknowledges that 'information on the anticipated wage bill is not available'. This leaves the assumptions made in terms of the expected benefits (income) and other related opportunities without proper justification.

The developer has also promised that the project procurement will provide opportunities for national businesses, and that the project is developing a local content plan to guide the implementation process. It further adds that Uganda's Oil and Gas Local Content Regulations prescribe that goods and services must be preferentially procured from local providers.

The main challenge that the local companies have been facing is the definition of 'local'. Many foreign based companies with huge capital base register their businesses with the Uganda Investment Authority and therefore automatically qualify to be 'local'. In this sense, the local Ugandan companies struggle to compete with such 'local' businesses.

Concerning the contribution of the project to national economy from investment, the developer makes interesting assumptions, which may be useful for economic discussions. Since most of the materials will be procured abroad, including the technology and the accompanying workers, the presumed benefits to the economy will most likely not occur. The developer states that the contribution to the national economy from investment may lead to direct and indirect impacts by stating that 'the total direct, indirect and induced economic effect of EACOP Opex on the Ugandan economy amounts to an estimated USD 41 million (UGX 154.9 billion) per annum for the duration of pipeline operation'. Unless a breakdown of this figure is provided specifying what amount would be derived from direct, indirect, or induced effects respectively – these are speculations which can lead to false hope and future frustration.

NCEA recommendation

Local content regulatory requirements are in place, but implementation still faces challenges. However, legal and company registration issues are outside the scope of an ESIA. This should rather be aligned with Ugandan law and other mandated agencies. As monitoring of local content does not fall into NEMA's mandate, the NCEA has no suggestion for inclusion in the Environmental Certificate. However, some general recommendations follow below:

- The developer should finalise its demand and supply analysis and provide training to identified local companies to write better tenders and be compliant with HSE requirements as these are usually the knockout criteria;
- The community liaison officers (CLO's) of the team of developers should be used to disseminate information on employment opportunities and receive grievances. CLOs need to be monitored though as well as they may misuse their position;
- The post-ESIA stakeholder engagement plan needs to have a strong focus on expectation management and capacity building on financial literacy and should be shared with NEMA for review and alignment shortly after award of the Environmental Certificate;
- Plans regarding the community awareness programs (chapter 7.9.3) should be shared with NEMA once available. They need to be timed adequately and need to be ongoing (not just a one-off). NEMA, together with supporting agencies, reserves the right to participate in events within the framework of the community awareness programme;
- The training of staff (chapter 10.9.1) regarding financial literacy and duration of employment needs to be timed adequately and be included as a topic in regular toolbox talks throughout construction.

3.4 Water and wetlands crossings

Given the sensitivity of the rivers and wetlands, the ESIA should elaborate in detail the way in which the crossings of the major rivers and associated wetlands will be done. A particular element of attention is how stretches having a water depth of 2–3 meters will be crossed. Project alternatives should be considered including the different construction techniques: open-trench, auger drilling, digging or drilling a tunnel. If open trenches remain the preferred option, the NCEA recommends considering rigorous filling of the trenches (in order to avoid that the pipes lie bare during part of time) instead of the proposed natural filling of the trenches in the turbid streams as the material may easily erode (see 2–45). In addition, cathodic protection measures can be considered when the pipe lies under surface waters (currently unclear whether or not applied (2–66).

See also NEMA letter August 2019, comment 3 and xxi.

Related NEMA remarks xxvii (impact on aquatic life), xxxi and xxxv (small water crossings)

Response by the developer

'The ESIA report has been revised to include additional information on crossing strategy in Section 3.8.3.3 (4–44) Crossings and the equipment that would be used for wetland crossings in Section 2.4.2.5 (2–44) Crossings.

While open-cut is considered as the default method for all rivers, streams and wetland crossings (based on the FEED concept design) the final site-specific watercourse and wetland crossing method will be selected based on detailed design and site evaluation by the construction contractor. The appropriate technique will be determined through a systematic assessment of each crossing using the following criteria:

- *nature of the crossing (length, location, terrain, geotechnical and hydrogeological constraints)*
- *environmental aspects (ecological value including critical habitat qualifying features [e.g. presence of species of conservation concern, protected and iconic species])*
- *social attributes (community water use, wetland resource utilisation, commercial use [e.g. fishing])*
- *constructability (access restrictions, size of construction spread required).*

The assessment process will be documented and serve to support the river/wetland crossing permit application to the regulatory authority.

Crossing impacts assessed are based on a default open-cut crossing technique and hence the impacts are assessed conservatively. If final crossing methods differ from the open-cut method and there is a potential for greater impacts the project will conduct an environmental and social evaluation of the crossing method to inform the crossing permit application.

Section 2.4.5.6 (2–68) Monitoring includes a subsection on Corrosion Management. The coating described in Section 2.3.2 Typical EACOP Section is applied to protect the pipe against external corrosion over the course of its operational life. This coating will act as a second barrier in case of water ingress below the bonded thermal insulation system. Cathodic protection measures will only be provided on AGIs. For the pipeline, internal corrosion will be monitored by intelligent pigging. To further manage oil spill risk at sensitive locations, such as water crossings, block valves will be installed’.

NCEA conclusion after review of resubmitted ESIA: has been given INSUFFICIENT follow up

The NCEA concludes that the crossing of the wetlands remains one of the most critical activities in the construction of the pipeline. The crossing of smaller watercourses also needs special attention because these watercourses are frequently important as source for drinking water. According to the response matrix, the final site-specific watercourse and wetland crossing method will be chosen during detailed design and site evaluation by the selected construction contractors.

The NCEA assumes that the definition of the crossing method refers to the following steps in the engineering process: (i) conceptual design/feasibility, followed by (ii) front-end engineering design (FEED, the design basis) and (iii) the still outstanding detailed design often done by the contractor. The NCEA understands that no detailed designs for the crossings can now be available but points out that also the figures presented on the FEED are meagre, although the ESIA states the FEED has been done. In section 2.4.2.5, some starting points are formulated for the watercourse crossings but not much for the more challenging wetland crossings. Two specific comments illustrate this. One step formulated in constructing a watercourse crossing is digging a 1.8 m trench (p. 2–45). Note that this depth may be insufficient for watercourses having their own hydro-morphological conditions. Figures 2.4–13 and 2.4–14 are confusing as they do not seem to recognise the width of some of the wetlands nor the presence of soft mud (seasonal or annual wetland) or surface water (annual wetland) and therefore the storage of spoil seems unrealistic. The criteria formulated under section 3.8.3. (see bullet in response by developer above in italics) are not specific either.

Regarding corrosion protection and pipeline monitoring (Please note, this issue is not only related to wetland or water body crossing but applicable to the entire pipeline) Chapter 2.4.5.6 on monitoring states that the fusion-bonded epoxy coating will protect the pipeline

against corrosion. Cathodic protection of the pipeline is only foreseen for the AGIs but not for the pipeline. Corrosion monitoring of the pipeline is stated as being undertaken via intelligent pigging every 5 years (or more often depending on results). It is not clear why no cathodic protection and only pigging is foreseen. Cathodic protection, once installed, is a reliable and cheap standard measure for corrosion control. Pigging every 5 years seems underestimated, particularly given the wax content. Furthermore, the potential use of aerial drones and establishment of a community watch system is mentioned vaguely as it may assist in pipeline monitoring. The overall text is written very non-committal and it is therefore unclear whether cathodic protection and monitoring of third party interference will actually be undertaken.

NCEA recommendation

The NCEA suggests to include in the Environmental Certificate that NEMA requires approval of the environmental and social studies and evaluations related to the detailed design of the water crossings to ensure environmental and social considerations are adequately taken into account when selecting the final water and wetland crossing methodology. The studies should include considerations related to early works, construction, reinstatement and restoration. The latter is of utmost importance as biological and physical damage cannot be avoided during the construction phase. Depending on the degree of disturbance, more extensive restoration measures are necessary for the water courses and wetlands, including bio-restoration of riverine habitats.

Cathodic protection of the entire pipeline (and not limited to wetland and water crossings only) to be established as part of construction to minimise the risk of pipeline corrosion and spills during pipeline operations should also be prescribed in the Environmental Certificate, including a mechanism for (community) monitoring and frequency.

3.5 Water use

Regarding potential interference between the water supply for the project and that for the local communities, the NCEA recommends specifying where and when this could take place, including its duration and who will be affected. The mitigation and compensation measures for disturbing watering points for animals during construction are not sufficient. Impacts could be highly significant for individual farmers. The same holds for loss of natural resources. The ESIA report should further elaborate what provisions have been put in place to cater for activities directly linked to some of these water sources, like brick making, sand mining, vegetable growing and communal resources like grazing.

See also NEMA letter August 2019, comment xxxvi. See also related NEMA remark xli (hydrotesting).

Response by the developer

'The water supply study is described and updated in section 2.4.1.2 (2-22) Water Supply Study, to identify and evaluate potential water sources to support construction, commissioning and operations. This study is being undertaken in stages and in collaboration with the Uganda the Directorate of Water Resource Management (see Comment xxxi). The text has been supplemented with information on hydrostatic testing. Section 8.13 Land Based Livelihoods, Section 8.13.3.2 (8-213) Construction Generic Mitigation Measures includes the following:

- *The infrastructure and utilities management plan and resettlement action plan will include measures that will contribute to the control of this impact.*
- *Potentially affected landowners, land users and communities will be consulted if there is a possibility of disruption to the existing infrastructure and utility services and their feedback will inform planning of the works.*
- *If project activities affect land-based livelihoods because of interruption to irrigation or drainage compensation will be provided'.*

NCEA conclusion after review of resubmitted ESIA: has been given INSUFFICIENT follow up

The NCEA concludes that details on the water supply are still lacking. Three types of water are recognised: (i) water for the construction process, such as for concrete or dust suppression, (ii) potable water for the workers and (iii) water for the hydrotesting. The NCEA observes that the impact assessment in Chapter 8 has a limited meaning as long as the source of water for the various types of water needed is still unclear. The NCEA notes that no details are provided:

- on the availability of surface water for the three types of water whereas groundwater is indicated as water source at the 4 camps;
- the potential interference with the availability of drinking water for local people is not well addressed. One aspect is, for example, whether the construction of new groundwater wells will interfere with existing groundwater wells for drinking water for locals. Another aspect refers to the remark at p. 6–83 that flow in watercourses traversed by the AOI is considered to have a low or very low sensitivity to change because there are relatively few uses of the watercourses other than providing water for a dispersed rural population and livestock. This is a worrying remark as it does not acknowledge the importance of water availability for local people.
- the livelihood compensation is limited to irrigation or drainage issues but does not seem to include livestock watering holes. Potential interference with watering points for wildlife has not been addressed either.
- the hydrotest management plan is still to be prepared whereas this is an activity with a high demand for water and potentially high environmental and social impact. All responsibility is pushed to the contractor to be selected. The developer states that hydrotesting will not cause impacts to local groundwater resources (p. 2–23), but this statement should be valid for all ways in which groundwater (and also surface water) will be used for the construction of the pipeline and not just for hydrotesting. However, no information has been provided regarding volumes of water required (total and per abstraction point), water abstraction locations, chemical additives, discharge locations and drying procedures. Mitigation measures identified are therefore very limited and generic, the same goes for the assessment of impacts. Although not specifically related to water use, potential noise impacts from drying are stated to remain within the legal limits (68 dB at 10 m distance from the source considering a 2 m high noise barrier). It is doubtful whether 68 dB can be realised. Impacts, particularly within areas with sensitive species or near populated areas appear underestimated.
- It is foreseen that the natural resource management plan (MP04) will address the water management approach. However, no starting points for local water management are formulated in the revised ESIA and the water demand for the EACOP project remains unclear (see bullets above). This implies that the environmental and social impacts stay unclear and mitigating measures are neither formulated.

NCEA recommendation

It is not known when the results of the ongoing water supply study will be available. Consequently, it also remains unclear what will happen if impacts would be very significant/unacceptable. The NCEA therefore recommends inclusion of a condition in the Environmental Certificate regarding environmental and social considerations to be taken into consideration during the development of the water supply study and hydrotest management plan. These considerations could include for instance principles such as maintenance of hydrological flow for ecosystem services, e.g. guaranteed water availability for people and (wild) animals.

Both studies are to be reviewed by the relevant lead agency in collaboration with NEMA. Approval of any abstraction/discharge permit can only be given if NEMA provides a positive response (no-objection). Detailed measures for reducing water volumes needed as well as noise protection measures during pipeline drying should also be provided.

The water supply study and hydrotest management plan should also be will aligned with the RAP, in terms of content but, even more importantly, also in terms of timing.

In relation to water abstraction and discharge locations for hydrotesting and related impacts, environmentally sensitive areas should be avoided. In case avoidance is not feasible activities should be timed to avoid sensitive periods for fauna and be as short as possible. Noise emission compliance monitoring should be undertaken during commissioning of the pipeline.

3.6 Biodiversity concerns, chimpanzees

The NCEA recommends confirming in the ESIA that there are no other important animal migration routes apart from the Wambabya–Bugoma Corridor. In addition, it is recommended to enhance the proposed mitigation measures for chimpanzees, through specifying what the concrete support will be in terms of money or services provided.

See also NEMA letter of August 2019, comment iii and xxviii.

Response by the developer

'The impacts on loss of chimpanzee habitat and disturbance to chimpanzees were reviewed and re-assessed as significant (Section 8.3 Biodiversity: Flora and Fauna Species of Conservation Importance, Section 8.3.2.1(8–29) Potential Project Impacts – Construction, Location Specific). After the implementation of impact avoidance and mitigation measures, including an ongoing study of faecal DNA and chimpanzee movement in the Wambabya – Bugoma Corridor, these two impacts were assessed as not significant (Section 8.3.3.2 (8–43), Mitigation Measures – Construction, Location Specific).

However, it is recognised that the completion of the study results in the requirement to revisit the assessments of these two impacts. The cumulative impact section for the loss of chimpanzee habitat and disturbance of chimpanzees has also been revisited. The potential for significant cumulative impacts is recognised but the lack of information on the third-party projects make a final assessment difficult. However, the suggested mitigations will remain effective, even if the conditions around the implementation of the third-party projects, changes.

Chimpanzees are thought to occasionally cross the corridor separating Wambabya and Bugoma Forest (see Section 8.3, 8–26). A literature review indicated that there are no other migratory routes crossing the pipeline's RoW.

A study of the chimpanzees using the Wambabya and Bugoma Forest reserves is ongoing. This study covers the collection of faecal material in both forest blocks to establish the occurrence of gene flow, which, if occurring would establish the importance of the corridor to the viability of this population. In addition, surveys of the corridor as well as interviews with its inhabitants are undertaken to determine how chimpanzees use the corridor in both time and space (see Section 8.3). Upon completion of the study the project commits to a re-evaluation of the impact assessment based on the study results. Possible outcomes may result in additional mitigation measures that can include support for a forest connectivity project as well as other initiatives that support mitigations included in the ESIA. In addition, the project will ensure compliance with international standards which require net gain (NG) outcome. To achieve this the project is also conducting a critical habitat assessment (CHA) that will comply with IFC PS6 requirements'.

NCEA conclusion after review of resubmitted ESIA: has been given PARTIAL follow up

The NCEA concludes that the ESIA confirms that a literature review indicated that – apart from the Wambabya–Bugoma Corridor – there are no other (animal) migratory routes crossing the pipeline’s RoW. This issue can thus be removed from the NCEA list of concerns.

Section 8.3.6.2 (p 8–69, 623) of the revised ESIA tells that:

‘The project will partner with forest conservation initiatives within the Albertine Graben which will also be of benefit for chimpanzees. The selected initiatives would address the development and implementation of forest management and restoration plans with the involvement of communities to improve:

- sustainable management of forest areas to maintain natural resource availability and the supply of ecosystem services for local communities
- connectivity between forest blocks
- improve management of forested protected areas, such as Budongo, Wambabya and Bugoma Forest Reserves within the wider landscape.

The conclusion of this study will lead to collaboration and support of a chosen forest conservation initiative as part of the project’s mitigation strategy and contribution to cumulative impact management’

In comparison with the first version of the ESIA, the NCEA concludes that there does not seem to be any change. The ESIA and the response matrix only speak about ‘to partner’ and possible additional mitigation measures, but still do not tell anything about money or services provided within the framework of that new partnership. It is remarkable that the full impact assessment of the project on the chimpanzees is not yet ready, while considerable time between version 1 and 2 of the ESIA has passed.

NCEA recommendation

Protection of chimpanzees and their habitat is worldwide considered as important, also in Uganda. It plays a vital role in maintaining the biodiversity of Central Africa’s forests. The large seeds they eat and disperse are too big for most other animals. Without them, and their fellow great apes (and elephants), these forests would be irreversibly changed.

A condition in the Environmental Certificate could therefore be that the re-evaluation of impacts, as the developer commits to in the response matrix, should be provided in writing to NEMA, directly after completion of the studies, including a clear specification and quantification of the support to conservation of the chimpanzees in terms of money or

services provided. In the still to be developed Biodiversity Management Plan, as part of the ESMP, a clear link should be established with the outcomes of these studies, in particular how identified threats to the chimpanzee population will lead to measures that mitigate these threats and help to protect the existing populations in the Wambabya–Bugoma protected areas and corridor. In general, areas earmarked for biodiversity management planning and bio restoration should be clearly identified on maps and agreed with NEMA.

3.7 Biodiversity concerns, Taala Forest Reserve

The NCEA recommends explaining why the pipeline passes through the Taala FR and whether alternatives have been considered. The potential consequences for the hydrology inside the FR and the water catchment function of the area should be clarified, including what has been done to mitigate risk of oil or chemical spills (currently there is a restricted number of valves near Taala and sensitive areas in general, which could be considered).

See also NEMA letter August 2019, iii and xxix.

Response by the developer

‘Mitigation for potential impacts on Taala Forest reserve have been addressed in Section 8.2.3.2 (8–17) Construction – Location Specific. In addition the project will assess collaborative opportunities to enhance the ecological function of Taala Forest Reserve. Section 3 Alternatives (3–4) describes the EACOP route selection process and the final alignment based on technical, environmental, socio-economic and cultural heritage criteria. The evaluation of these criteria indicated that traversing the Taala FR resulted in the lowest potential impact. In addition, fieldwork conducted to inform both pipeline route selection and the ESIA indicates that Taala FR has undergone substantial modification. As a result of these modifications the Taala FR no longer has an important catchment function.

Appendix J1.2, Location Specific ESMP Matrix identifies monitoring requirements for construction activity in Taala FR.

Oil spill modelling is included in Section 9 Potential Impact and Evaluation – Unplanned Events.

Chemical spills are addressed in:

Section 8.2.2.2 (8–6) Habitats of Conservation Importance – Potential Project Impacts

Section 8.2.3.2 (8–17) Habitats of Conservation Importance – Mitigation Measures

Section 8.3.2.2 (8–29) Flora and Fauna Species of Conservation Interest – Potential Project Impacts

Section 8.3.3.3 (8–43) Flora and Fauna Species of Conservation Interest – Mitigation Measures

Section 8.5.3.2 (8–82) Soils – Construction

Section 8.6.3.2 (8–97) Surface Water – Construction’

NCEA conclusion after review of resubmitted ESIA: has been given PARTIAL follow up

The NCEA concludes that the revised ESIA pays more attention to biodiversity issues concerning Taala FR. However, concerns still remain. Although Taala is a legally protected area (Forest reserve, FR) the revised ESIA has still not made clear why it was necessary to cross the FR. This is not according to Ugandan law. Taala FR is recognised as a sensitive VEC, because of the recorded presence of the spot-necked otter, which is vulnerable in Uganda p 6–54). This suggests that wet habitats are important in this FR. The pipeline will go through wet zones. P 6–11 states that ‘The reserve was gazetted for environmental and ecology

purposes, as it serves to protect the drainage system of the Kitumbi and Lugulima rivers that join and flow north into the Kafu River (NEMA, 2010)'.

Although the response matrix states that *'evaluation of technical, environmental, socio-economic and cultural heritage criteria indicated that traversing the Taala FR resulted in the lowest potential impact'*, this could not be verified, as there is no proof of an effort to consider alternatives that would avoid the FR. In section 3.5 (which describes the way alternatives have been considered) Taala FR is not mentioned at all. Apparently its legal status was not a criterion.

NCEA recommendation

The developer is required to provide a justification for the route selection through the Taala FR. In case the detailed design shows that the routing remains through Taala FR, the developer should assess collaborative opportunities to enhance the ecological function of Taala Forest Reserve.

3.8 Landownership issues, compensation and resettlement

Lessons learned from previous projects have demonstrated that concerns related to land ownership and compensation bring fears, anxiety and valid concerns to stakeholders which should not be taken lightly. The NCEA therefore recommends addressing, for instance in the still to be developed Resettlement Action Plan (Table E4.2–9 of Appendix E), the following issues to remedy the observations made above:

- Utmost care must be taken in case of formation of communal land associations.
- Standards regarding compensation should be clearly and explicitly explained to the stakeholders to manage their expectations. Just referring to 'national laws and international standards' is not enough.
- Land access management should rest on the shoulders of the developers and not on the contractors for accountability purposes since the contract is between the developer and the contractor.
- Specific information should be given regarding how pipeline crossings will impact on the surrounding communities, including its duration.
- Regarding physically and economically displaced people, it is recommended to reveal the total number of people instead of households, which gives the break down to cater for vulnerable groups (e.g. women and elderly people) in those households.
- Provide clarification on the total project land take.

See also NEMA letter August 2019, comment 4 and Iv (partly taken over).

NEMA related remarks x (project cut-off date), and Iii to Ixi all on social issues.

Response by the developer

'In Section 6.4.3.10 (6–157) Land and Property customary tenure is recognised as a form of ownership. Ugandan law defines customary tenure as "a system of land tenure regulated by customary rules which are limited in their operation to a particular description or class of persons.'

The recording and evaluation of individual concerns of PAPs is a key component of resettlement planning and will form the foundation of the RAP. A reference in Table 6.4–44 Land Management Challenges to land users without title deeds that will not be compensated

was replaced. Revisions have been made to Section 8.15.1 (8–238) Land and Property to clarify that customary land tenure is a recognised form of ownership. Section 8.15.2.1 (8–241) Potential Project Impacts – Construction, a sentence was added clarifying that Ugandan law recognises customary tenure as a form of ownership. In Section 8.15.3.3 (8–250) Generic Mitigation Measures – Construction it is stated that the project will deal directly with landowners who have customary rights of occupancy.

The resettlement action plan (RAP) addresses land ownership, compensation and livelihood restoration. Stakeholder concerns, including those of vulnerable groups (e.g., widows, elderly, disabled and youth) form the foundation for the RAP. Stakeholder engagement has been ongoing and will continue throughout planning and implementation of the RAP to ensure stakeholder concerns are addressed and managed’.

NCEA conclusion after review of resubmitted ESIA: has been given PARTIAL follow up

The NCEA concludes that the revised ESIA has attempted to address a number of issues which had been raised earlier on. However, during the public hearings as described in the two reports², most of the issues which came up were concerns related to land acquisition/compensation, local content, cut-off date, resettlement, jobs among others. Surprisingly, most of the issues related to compensation, displacement and resettlement have been left out in this ESIA report. Instead the developer made this statement: ‘Resettlement and compensation is a parallel activity to the preparation of the ESIA. Resettlement associated engagement is undertaken directly by the project for the development of the resettlement action plan (RAP)’. While this may be true, the fact is that people’s property (land and houses) have already been earmarked for the project. Some Project Affected People (PAP) have already lost income because of the ongoing project. It is of utmost importance to address the concerns of the PAPs at this point in time.

The NCEA did not have access to the (draft?) RAP which seems to ‘contain all the issues’ raised by the PAP and was therefore unable to see if the concerns of the PAP have been captured sufficiently in the RAP. In addition, the developer states in the response matrix that *‘stakeholder engagement has been ongoing and will continue throughout planning and implementation of the RAP to ensure stakeholder concerns are addressed and managed’.*

According to the two reports from the Public hearing, the 3 most pressing issues raised by the over 10.000 PAP related to delayed compensation, local content, and land use/restrictions resulting from cutoff date. There seems to be confusion about the cutoff date of 15 March 2018, mentioned in Section 2.1.1. of the ESIA. This was for project description information used to identify project aspects for impact assessment purposes, not in reference to the RAP.

Therefore, unless these issues (including those mentioned by the NCEA previously, see box above) are addressed by the developer, the PAP may not have confidence in the whole process which will make it hard for the project to attain a ‘social license to operate’ from these communities.

² Report on East African Crude Oil Pipeline Project Environment and Social Impacts Statement Public Hearings November 2019, PAU, 45 p. and Report on the Public Hearing Kakumiro, Mubenda and Rakai November 2019, by the Presiding Officer Vincent Bagire 132 p.

NCEA recommendation

According to the developer, the RAP is being developed in compliance with Ugandan requirements as well as IFC Performance Standard 5, land acquisition and involuntary resettlement. Stakeholders, including vulnerable groups and women, will be consulted on all resettlement components, including compensation, replacement housing and livelihood restoration. This could be reiterated in the Environmental certificate as a condition. Alignment with the still to be developed water supply study and hydrotest management plan (see Paragraph 3.5) is equally important.

In addition, NEMA could require that the developer needs to ensure that compensation in accordance with the RAP is paid in a timely manner and prior to any resettlement or early works/construction.

3.9 Energy/CO₂

The ESIA should provide complete information on CO₂-emissions, in order to enable a check of the calculations and assumptions. It should also mention and discuss cumulative greenhouse gas emissions for the overall Uganda oil development (e.g. in relation to heat generation for EACOP at the CPF-Tilenga).

See also NEMA letter of August 2019, comment xxii.

Response by the developer

'The EACOP basis of design describes the power architecture and distribution main principles i.e. that the Tilenga Central Processing Facility (CPF) will supply the power to PS1, PS2 and associated electrical substations via HV cable. The current proposed concept for power export/import for the overall Lake Albert oil development project key principle is for shared power infrastructure.

Reference is made to the power generation scheme for Tilenga Project ESIA (see Chapter 2 Project Description & Alternatives, Sections 2.2.1 & 2.3.4).

The impact assessment for air quality is presented in Volume II, Chapter 6 Air Quality and Climate, Section 6.7.6 Assessment of Impacts Summary. The residual impacts associated with power generation at the CPF have been assessed as Low Adverse (Table 6-35 Impact Summary). Given that power generation air quality impacts have been assessed as low adverse at the CPF, and that this assessment includes the power required to operate the EACOP system, the associated impacts resulting from this inclusion are also not significant'.

NCEA conclusion after review of resubmitted ESIA: has been given SUFFICIENT follow up

There is now more information on CO₂ emissions of the project, see e.g. section 8.22.2.3. The bulk heaters have detailed emission calculations, incl CO₂.

4. Additional observations

4.1 Introduction

NCEA was asked by NEMA not only to reflect on its own previously reported findings but also to check against the letter that NEMA has sent to the developer, to assess whether public comments have been taken into consideration and to raise any other key issues/red flags (see Chapter 1 and Annex 1). The following topics were formulated in response to this with additional observations on topics raised by the NCEA in its earlier report.

4.2 Right of Way (RoW)

The ESIA states that the working corridor (Right of Way) along the entire pipeline route will be 30m. According to good international industry practice (GIIP) the working width during construction should be reduced in areas of environmental sensitivity (e.g. wetlands, protected areas or forest) to limit habitat interference/destruction. This has only been addressed in a generic way related to biodiversity (see also p. 13) and it is currently not clear whether or where the construction RoW will be reduced.

The RoW for the operations phase is usually further reduced. The ESIA, however, states that the RoW for construction as well as operations is 30m. This leads to a much larger permanent footprint than necessary and is not in line with GIIP regarding the minimisation of footprint.

NCEA recommendation

It is proposed that the conditions of the environmental permit should include reduction of the construction RoW in environmentally sensitive areas and areas of designated conservation status. This could also apply for socially sensitive areas and those with high population density. Reduction of the operations RoW should be to the minimum necessary for pipeline maintenance and monitoring.

4.3 Management of topsoil

Separation of topsoil from subsoil seems only undertaken in agricultural land (p. 2–39) but not in other areas. Chapter 2.4.3.2 on soil management provides no information in this respect either. However, management of topsoil to preserve the natural seed bank for quick revegetation and soil erosion control would be good international industry practice. This is particularly relevant as reinstatement in non-agricultural areas is planned to take place by natural revegetation only, i.e., no revegetation/biorestorement is planned except for areas prone to erosion and selected areas due to their importance for biodiversity (e.g. Taala FR).

NCEA recommendation

The NCEA suggests requiring, as part the conditions in the Environmental Certificate, topsoil to be segregated from subsoil and stored separately throughout the pipeline RoW to ensure efficient revegetation.

4.4 Oil spill modelling

The modelling has been based on a worst case defined as 1430m³ of crude oil released from a 600 mm hole in the pipeline over one hour which would result in an oil pool of 127m². It is not clear how this scenario has been established.

A worst case could occur with oil release to surface water (Appendix 11, from p. 3187 onwards). Most likely the impact area would extend 3 km, but a reasonable worst case could be 15 km. Oil release to land, with migration to groundwater could likely extend 240 m, with a worst case of 340 m.

The assumptions for the three types of model runs seem justified, but a few remarks remain:

- The oil will solidify when it flows out of the pipeline during a spill and cools down. When the spill occurs at a river valley, such a wax plug may block a river channel when sufficiently big. This is referred to as the barrage effect in Appendix I. Bigger spills will thus have a larger blocking effect while smaller spills may easier flow down the river. The latter may therefore pose a bigger threat for the environment. An uncertainty analysis on the size of the spill is lacking.
- The barrage effect has the positive consequence that the spill will be contained and not drift far downstream, so the area of influence of the spill will be limited in comparison to a lighter oil. An uncertainty analysis on the size of the spill is lacking;
- The occurrence and fate of tar drops has not been considered. It would have been valuable when a literature study was provided on this in addition to the modelling exercises on the three other kinds of contamination;
- No oil spill simulation has been made for the Nanakazi River;
- The surface water screening values are high when compared to drinking water standards. For benzene, the first is 0.2 mg/L (Table I1.3-9) whereas the last is 0.01 mg/l according to the WHO (as mentioned in Table I1.3-5).

NCEA recommendation

Although the rationale for the modelling scenario is lacking, the NCEA believes that at this stage it is not helpful to do more modelling or to ask for the rationale. The Emergency Preparedness and Response Plan should take the above remarks into account and include consideration of compensating measures when a spill occurs for the people who depend for their drinking water on the surface water body that becomes contaminated as long as remediation is not finished (See also Paragraph 4.8)

4.5 Scheduling of construction

No information is provided regarding the overall project schedule although this is important to understand potential timing constraints related to outstanding studies and plans mentioned in the ESIA, as well as variability in nuisance, risks and impact as related to seasonal variability in weather. The only information provided is the highly generic Figure 2.6-1 which just indicates that activities will take 3 years (Q1 - Q12).

NCEA recommendation

Include in the Environmental Certificate the conditions that a project schedule be provided identifying important milestones for deliveries prior to the start of early works and construction (e.g. RAP, LRP, ESMP plans, etc.) and activities scheduled for project implementation

4.6 Language regarding commitments

There are discrepancies in the use of language between the main body of the ESIA and the Appendices and comments–response table. The text in the main body is often non-committal (.. the project may ...) while the Appendix makes more commitments (... the project will ..).

NCEA recommendation

NEMA should state in its conditions in the Environmental Certificate that commitments made in the ESIA are legally binding and if there are discrepancies between the various chapters and appendices the more stringent wording would apply.

4.7 Decommissioning plan

The NCEA recommends including a decommissioning plan in the ESIA report, clearly stipulating who will do what and when (issue of liability). This would also make it easier for affected communities to know whom to approach in case there is breach of contract by the developers and operators.

See also NEMA comment of August 2019 letter: lxiv.

Response by the developer

'Decommissioning, as much as can be addressed at this time, is documented in Section 2.4.6 (2–70) Decommissioning. Matters of project liability and decommissioning plan requirements are difficult to establish at this time since these are likely to be impacted by developments taking place over the project's life cycle (approximately 25 years). It is therefore expected that the project will engage with all relevant authorities to finalise a decommissioning plan compliant with Ugandan laws and regulations as well as international requirements at the time of decommissioning'.

NCEA conclusion after review of resubmitted ESIA: has been given INSUFFICIENT follow up

The NCEA concludes that no changes have been made in the revised ESIA.

NCEA recommendation

NEMA could require that a dedicated ESIA for decommissioning of the EACOP facilities will be submitted maximum 5 years, minimum 2 years prior to the end of life of the EACOP pipeline. Also, it would be interesting to know whether the GoU has established (or will) a decommissioning fund where O&G industry has to pay into to finance future liabilities.

4.8 Oil spills and emergency response

Although the NTS speaks about an emergency response plan (p. 23 and 24), this plan is not yet part of the ESIA. Therefore, the NCEA recommends indicating at what point it will be ready, how its enforcement will be realised and how it relates to the Pollution Prevention Plan. The emergency response plan should specifically address the measures taken in case of a failure of the oil heating system.

See also NEMA remark in August 2019 letter, xvii on oil spill, although not exactly the same.

NCEA recommendation

See also Paragraph 4.4 on Oil spill modelling. In general, the Emergency Response Plan and Pollution prevention plan should be integrated in the overall ESMPs (see also Paragraph 3.1)

Annex 1: Request for NCEA support

'As you are aware, we have been getting support (technical and financial) towards building our capacity to handle complex developments in Uganda's growing Oil & Gas Sector. The EACOP ESIA report is one such project where the NEA and the NCEA have supported both Uganda and Tanzania with the review process. Whereas Tanzania completed its review, Uganda has not and the review process led to a request for resubmission of an improved ESIA report. I am glad to inform you that the EACOP ESIA resubmission has now been made and a copy is attached herewith in recognition of the support/assistance you have given us in the review of this project. We kindly request that you continue to stand with us to the end by looking at this resubmission and advising NEMA on the aspects you think would ensure that the project implementation does sufficiently consider the environmental issues of concern. In particular, advice on conditions to any approval will be much appreciated. The incidence of covid-19 has certainly ruled out any possible travels but arrangements can be made to receive your assistance remotely including any discussions where some clarification and/or intellectual debate is needed prior to taking on a position'

Isaac Ntujju, principal environmental inspector at NEMA, e-mail 3 September 2020.

Further details were discussed on 4 September 2020, as documented below:

- We agreed to provide NCEA support although the Dutch Ministry of Foreign Affairs is stricter in terms of support in the fossil fuels sector. However, in this case it is a clear continuation of support provided on the same project and we therefore see no problems.
- The NCEA review of the ESIA took place in July 2019. In August 2019 NEMA sent a letter to Total with comments, in which almost all main NCEA comments were included.
- In October and November 2019 public hearings took place, where affected districts were clustered in 3 public hearing events.
- The draft revised ESIA has been submitted in February 2020. NEMA was checking whether review comments and public hearing outcomes have been incorporated correctly and sufficiently in the revised ESIA, but the process got delayed due to Covid.
- NEMA shared the ESIA NTS, the ESIA main report and a so-called comment/response matrix with the NCEA. Reports on the public hearing events that were made by PAU and the presiding officer and the Certificates for Kingfisher and Tilenga, as well as the Certificate issued by Tanzania were also shared.
- Purpose of the review of the resubmitted ESIA as requested by NEMA is:
 - What are loose ends that we must be mindful of?
 - What are key issues that should be reflected in the Environmental Certificate?
 - How should the certificate be structured, given that it is a linear project. Same format as compared to Tilenga and Kingfisher or different?
- The NEMA team is now reading all materials and is planning one final field visit to check crucial issues again, such as Taala Forest, issues of location of supporting infrastructure (pipeyards, camps etc.). This will result in a field report.
- Thereafter NEMA plans to organise a 3-4-day joint review workshop again (15-20 participants) with NCEA and NEA remote input. They have recently organised something similar in a hotel in Entebbe with long distance support through Zoom.
- Two optional weeks are the week of 12-16 October of the week thereafter. NCEA input does not have to be for the full workshop but can be concentrated in specific intervention moments.

- It was agreed that the NCEA would focus more on the ESIA review part, and NEA support would be more on writing conditions for the Environmental Certificate. The NCEA tends to refrain from issues that remain the responsibility of the regulator. However, of course findings will be directly relevant for the conditions in the Certificate, to make sure that possible red flags that were noticed are properly addressed in the Certificate.
- The scope of NCEA's work would therefore be to:
 - check against our own advisory review of July 2019 and the letter that NEMA has sent to the developer in August 2019.
 - assess whether public comments have been taken into consideration (these deal mainly with issues of compensation/land rights etc.)
 - any other key issues/red flags.

Annex 2: Overview of NCEA/NEMA cooperation

- Between 2010 and 2013, the NCEA and the Norwegian Oil for Development programme provided assistance on a Strategic Environmental Assessment (SEA) for oil and gas development in the Albertine Graben.
- In March 2017, the NCEA facilitated a capacity building workshop for Ugandan environmental pillar institutes involved in the review of ESIA reports to be expected for petroleum field development in the Albertine Graben.
- In September 2017, the NCEA received a NEMA delegation with the aim to jointly review the Scoping Report and ToR for the ESIA to be undertaken for the EACOP Project.
- For the joint review, an NCEA working group of experts was composed, contributing to a 5-day quality assurance working session in the Netherlands with the NEMA delegation. The report with findings is available at the NCEAs [website](#).
- In July 2018, the NCEA participated in a joint review retreat organised by NEMA for the ESIA report for Tilenga oil development, where, apart from NEMA, representatives of various lead agencies participated, as well as two representatives from the Norwegian Environmental Agency. The review findings and review approach are documented in a report (also available at the NCEAs [website](#)).
- In February 2019, the NCEA participated in a joint review retreat organised by NEMA for the quality assurance and review of the ESIA for the Kingfisher oil development project in a similar setting as compared to the Tilenga review. NCEA's findings are documented in an advisory review report and can be accessed at the NCEA's [website](#).
- In May 2019, NEMA requested the NCEA to perform an independent quality review of the ESIA submitted for the EACOP project. NCEA findings were presented during a retreat organised by NEMA in Fort Portal. The advisory report is also available on the NCEA [website](#).