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**CIVIL SOCIETY COALITION ON OIL & GAS IN  
UGANDA**

**POSITION PAPER**

**ON**

**THE PETROLEUM (WASTE MANAGEMENT)  
REGULATIONS, 2016:**

**DRAFT**

**OF**

**13<sup>TH</sup> FEBRUARY, 2016**

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## SECTION I

### SUMMARY

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This is a Position Paper by the Civil Society Coalition on Oil & Gas in Uganda (CSCO) on the draft Petroleum (Waste Management Regulations), of 13<sup>th</sup> February 2016. It presents salient issues, comments and recommendations for consideration in the draft Petroleum (Waste Management Regulations), 2016.

It is recognized that the Petroleum Waste Regulations, 2016 are made under section 3(8) of the Petroleum (Exploration, Development and Production) Act, 2013 and section 3 (8) of the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013, and may be cited as the Petroleum (Waste Management) Regulations, 2016.

It is also observed that the draft Petroleum Waste Regulations, 2016 address core issues of oil and gas waste management key among which include: disposal, land filling, treatment and segregation, management of hazardous waste, offences and penalties, and decommissioning of waste among others.

It is therefore believed that if strengthened further and well enforced, the draft regulations can go a long way in contributing towards achieving resource efficiency, pollution prevention, and environmental protection, as far as waste management is concerned in Uganda.

A summary of CSCO' s salient issues and observations for consideration in the draft Petroleum (Waste Management) Regulations, 2016 include:

- i. The draft Petroleum (Waste Management) Regulations, 2016 illustrate the linkage with other relevant laws, policies, regulations and guidelines in the environment and natural resources sub-sector. This is important because effective enforcement of these regulations requires reference to these policies and laws. Besides, it helps in avoiding any contradictions, which can create confusion during enforcement of the regulations at different levels.
  - ❖ Some of the policies and laws cross-referenced in the current draft include: Petroleum (Exploration, Development and Production) Act, 2013; Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013; National Environment (Waste Management) Regulations, the Occupational Safety and Health Act, 2006; Uganda Wildlife Act, 2000; the National Forestry and Tree Planting Act, 2003. This is indeed commendable, **however**, further referencing needs to be done to demonstrate the linkage of the Petroleum (waste management) regulations with the operational guidelines for oil and gas waste operations, 2012; the Petroleum (Exploration and Production) (Conduct of Exploration Operations) Regulations, 1993; The National Wetlands Policy; and Uganda's Vision 2040.
- ii. The draft petroleum waste regulations addresses a number of aspects of oil and gas waste, **however** there are other relevant aspects that are left out. Some of the important aspects

left out include: standard distance-petroleum waste management facilities should be placed away from residential communities, commercial areas and Base-camps; the issue of management of used oil, flaring and venting waste, monitoring and inspection among others are all left out. In order to promote environmental and social protection, and reduce the economic cost of managing oil and gas waste, it is imperative for the Petroleum waste regulations to address all the basic and technical issues of oil and gas waste.

- iii. The draft Petroleum (Waste Management Regulations), 2016 should highlight the existing waste management infrastructure in the country to further strengthen the scope and context in which these regulations may be applicable.
- iv. The Draft Regulations do not encourage and/or promote reporting by the local people/general public on issues concerning waste leakages, and illegal dumping. This limits public participation in the affairs of petroleum waste management. The regulations should therefore highlight a clear and suitable reporting criterion for illegal dumping, and emergency of leakages for the local people/General Public's participation. This may include providing a toll-free public line in case of any emergency, incident or accident.
- v. The role and responsibilities of the Authority as the lead agency in enforcement and inspection of implementation of these regulations is not clearly reflected. This can be corrected by establishing provisions on monitoring and inspections, as well as specific requirements on submission of self-monitoring reports by the operators and waste handlers to the Authority – and what the Authority's Course of Action shall be. In this particular case of self-monitoring, the role and responsibilities can be reflected by establishing some of the following requirements or provisions;
  - ❖ On receipt of the self-monitoring reports from the operator or waste handler, the Authority shall within a period not exceeding 2 weeks formally acknowledge receipt of the submitted reports;
  - ❖ And where necessary, the Authority may run independent tests to verify and corroborate the sampling results and reports received from the operators or waste handlers.

All in all, the role and responsibilities of the Authority needs to be reflected across the different sections of the regulations as appropriate.

- vi. The legal status of the operational guidelines for oil and gas waste operations, 2012; and the practice of waste consolidation are not known as the draft amendments are silent on these issues. The draft Petroleum (Waste Management Regulations), 2016 should clearly pronounce government position on the legal status of the operational guidelines for oil and gas, 2012. Thus, it is important to clarify which of the two (i.e. the guidelines and the regulations) takes precedence during enforcement.

Besides the summary issues and observations here-listed, there are more specific comments and recommendations presented under section II of this position paper for consideration in review of the draft Petroleum (Waste Management) Regulations, 2016.

## 1.0 INTRODUCTION

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This is a Position Paper with major comments and suggested recommendations by the Civil Society Coalition on Oil & Gas in Uganda (CSCO), on the Draft National Petroleum (waste management) regulations, 2016. The paper was generated through various methods and approaches which included: meetings and presentations from the legal department of NEMA on the process and content of the draft petroleum waste regulations; Review of relevant literature, such as Draft National Environment Bill, 2016; the National Oil and Gas Policy, 2008; Petroleum (EDP) Act, 2013; CSCO<sup>1</sup> Report on the state of oil and gas waste management facilities in the Albertine Graben, 2015; NEMA Issues Paper on Oil and Gas Waste, 2013; the OAG<sup>2</sup> Report (2014) on the enforcement of Environment Regulation and Monitoring of Drilling Waste Management in the Albertine Region by NEMA; as well as other Country's Oil and Gas Waste Regulations (OGWR), and related international industry best practices and standards.

This position paper has 3 major sections; i) a summary of key comments; ii) a section on General Comments and Content Analysis of the different sections of the draft petroleum (waste management) regulations, 2016. Recommendations are suggested on each of the issues identified for improvement of the draft regulations; and (iii) the position paper ends with section 3 that entails a conclusion on CSCO's general view on the importance of the establishment and development process of the National Petroleum (Waste Management) Regulations for Uganda.

### 1.1 Background and Rationale

The discovery of commercially viable Petroleum resources in Uganda in 2006 has seen the country take strides in different aspects towards better management of these resources. Among these has been the review of the legal framework pertaining to the Oil and Gas sector, to bring it up to speed with recent developments and especially cater for those aspects that are new to the country. Key among these efforts has been the establishment of the National Oil and Gas Policy for Uganda, 2008, The Petroleum (Exploration, Development and Production) Act, 2013, and The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013.

The, "National Environment Act, Cap 153,"; and "The National Environment (Waste Management) Regulations 1999," established under sections 51, 52, 53, 54, 55, 56 and 107 of the Act have for long remained silent on the issue of oil and gas waste management. These sections bring into focus activities concerning storing and keeping, handling, classification, labelling and transportation of waste, including hazardous waste and radioactive waste. Under these, the operator is required to make sure that all waste handling, including that of hazardous waste, is done in compliance with prevailing regulations as stipulated in accordance with the Act and the Waste Regulations.

It is recognized that in view of the above and other related reasons, Government through NEMA has since 2009 embarked on the review process of a number of environment laws, policies and regulations key among which include the National Environment Management Policy, National Environment Act, Cap 153 and the National Environment (Waste Management) Regulations.

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<sup>1</sup> Civil Society Coalition on Oil and gas in Uganda (CSCO)

<sup>2</sup> Office of the Auditor General (OAG)

It is noted that in the same spirit NEMA spearheaded the process for development of the draft Petroleum (Waste Management Regulations), 2016. It is also recognized as stated in the Draft Petroleum (Waste Management Regulations), 2016 that these regulations are applicable to a person involved in:

- a. the production, transportation, storage, treatment or disposal of waste arising out of petroleum activities or midstream operations; and
- b. the construction and operation of petroleum waste management facilities

CSCO commends and applauds NEMA for having rolled out the development processes of the different legislations (i.e. the National Environment Management Bill, 2016; the principle Regulations on Waste Management, 2016; and the draft Petroleum [Waste Management Regulations], 2016) at the same time. This is because such approach creates an opportunity for reconciling content in the respective draft documents thereby avoiding possible contradictions. NEMA is as well commended for demonstrating coordination of these processes and working closely with other government lead agencies such as Ministry of Energy and Mineral Development. Furthermore, the collaboration between NEMA and the Civil Societies on Oil and Gas is very much appreciated particularly on the Development process of the petroleum (waste management) regulations.

Thus, as civil society organizations working on Oil and Gas issues in the country, have accordingly developed comments and recommendations presented in this position paper aimed at contributing towards the improvement of the draft Petroleum (Waste Management) Regulations, 2016.

## SECTION II

This section presents specific observations and comments about the key missing links, including concerns that are either not addressed in the draft Petroleum (Waste Management Regulations), 2016 or issues that are not clear and related recommendations on how they should be integrated in the subsequent drafts of the regulations.

### **2.0 GENERAL OBSERVATIONS AND CONTENT ANALYSIS (COMMENTS AND RECOMMENDATIONS)**

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**Generally**, the Draft Petroleum (Waste Management) Regulations, 2016 incorporated several core issues of oil and gas waste management. Some of these were effectively addressed in the amendment waste regulations, 2014 as they are also effectively addressed in the Draft Petroleum Waste Regulations, 2016. Some of these issues include; Disposal, Land filling, Treatment and segregation, management of hazardous waste, offences and penalties, and decommissioning of waste among others. It is believed that if further strengthened and well enforced, the issues addressed in the draft petroleum waste regulations, 2016 will contribute to resource use efficiency, pollution prevention, environmental protection and sustainable economic development in Uganda.

It is in this spirit that the Civil Societies Coalition on Oil and Gas in Uganda are making the following observations and proposals to further improve and strengthen the draft petroleum waste regulations, 2016.

#### **A) Pronouncement on the legal status of the operational guidelines for Oil and Gas waste operations, 2012**

It is observed that the Draft Petroleum (waste management) Regulations make no reference whatsoever to the operational guidelines for oil and gas waste operations that have been in existence since 2012. It is also noted from the Auditor General's Report (2014) on the enforcement of Environment Regulation and Monitoring of Drilling Waste Management in the Albertine Region, that with new evidences resulting from the experience of implementing the operational guidelines for oil and gas waste, 2012, NEMA has been revising many of the provisions therein to minimize environmental risk especially on the sensitive ecosystem of the Graben.

That being the case, it is not known what the current government position is on the legal status of the operational guidelines for oil and gas waste operations, 2012.

#### **Recommendation**

- ❖ There is need to provide clarification on government's position on the legal status of the operational guidelines for oil and gas waste operations (2012) and the practice of waste consolidation in the country (Albertine Graben). This can be done by highlighting in the Draft Petroleum Waste Management regulations which of the two (i.e. the guidelines and the regulations) takes precedence during enforcement.

## **B) The application of the regulations (regulation 2)**

- ❖ As presented in the current draft under Regulation 2 about, '*Application,*' (Page 4) it is indicated that the Regulations apply to a person involved in the production, transportation, storage, treatment or disposal of waste arising out of petroleum activities or midstream operations. This means that the regulations cover the midstream and some upstream activities of the petroleum value chain which is indeed relevant and appropriate, however, the draft regulations seem to indicate that the regulations shall apply to the midstream activities. This confusion needs to be addressed. Further still, CSCO believes there are other downstream activities that may lead to production of hazardous waste such as decommissioning, spills and leakages that may arise out of abandoned and suspended wells; hazardous waste that may emerge from restoration activities all of which needs to be addressed and/or covered by these regulations.
- ❖ It is also noted that recovery and recycling which are important practices of waste management are not covered and as such not encouraged thus limiting the possibility of the potential investors, persons, and companies that would be competent and interested in petroleum waste recovery or even recycling.

### **Recommendations**

- Furthermore the draft petroleum waste regulations, 2016 should be applied to all activities that are associated with the production of hazardous waste, spills or leakages in the entire petroleum waste management chain including the upstream and downstream operations
- The statement in 2(1) on page 4 of the draft petroleum waste regulations should be reviewed to include recovery and recycling such that the regulations can also be applicable to potential investors, persons, and companies involved in recovery or recycling of petroleum waste.

### C) Interpretation(regulation 3)

**Table 1:** Summary of key issues and recommendations on regulation 3 of the draft petroleum waste regulations, 2016

Observation/Issue	Justification/Implications	Recommendation/s
<p>It is observed that some key terms have not been defined, yet they are used in the draft regulations. These include:</p> <ul style="list-style-type: none"> <li>--<i>Intractable petroleum waste</i>;</li> <li>--<i>Decommissioning waste</i>;</li> <li>--<i>Emergency planning zone</i>;</li> <li>--<i>Hazardous waste</i>;</li> <li>--<i>Radioactive waste</i>;</li> <li>--<i>currency point</i>.</li> </ul>	<p>While it is recognized that some of these words may be defined in other national laws, it is worthwhile making the consideration that; This is a standalone regulation whose interpretation and application may not require the user especially the non-technical constituency to search for other laws (which may not easily be accessible to some people) with a mere intention of understanding technical words entailed in a separate regulation (in this case, the petroleum waste regulations);</p> <p>Besides the definitions provided in other related laws, the specific technical words used in these regulations need to be interpreted in the context of the subject matter that these regulations seek to address;</p> <p>Therefore, if such words are not accordingly defined in these particular regulations, and the user draws their interpretation from another separate law, their application may be out of the intended and required context. If effectively addressed, this will make the application and enforcement of Petroleum Waste Regulations easy especially at the different levels of governance and/or the Ugandan society.</p>	<p>The key words highlighted and other technical words not listed in this paper but have been used in the draft petroleum waste regulations should be defined to ease interpretation and application of the regulations.</p>

#### D) Compliance with environmental principals (regulation 4)

Regulation 4 of the draft Petroleum (Waste Management Regulations), 2016 presents additional environment management principles in respect to waste management. Notable is that principle b), *'prevention of harm to human health and ensuring safety of human life; and animals,'* focuses on animals alone, which is a single component of biodiversity or wildlife for that matter, makes this provision so subjective and lacking.

#### Recommendations

- ❖ Principle b) should be re-phrased to read as, *'prevention of harm to human health and ensuring safety of human life; and wild-life.'*
- ❖ There is need to introduce a third internationally recognised environmental principle in the management of petroleum sector. This principle is biodiversity protection, which can be combined with another principle on resource efficiency. Thus, this proposed third principle c) should be phrased as, *'Ensuring biodiversity protection and resource efficiency.'* This is because the cost of managing this type of waste should not exceed the benefits accruing from biodiversity resources protection – Resource Efficiency.

#### E) General responsibility of licensee

Regulation 5 of the draft Petroleum (Waste Management Regulations), 2016 presents the key responsibilities of the licensee. Notable is that some equally important responsibilities that may be within the economic interest and/or capacity of the licensee, have been omitted. These include: *recovery* and *recycling*.

Furthermore, the word, *'technically fit,'* as used in Regulation 5 (6) (c) should be defined or clarified. Thus, the intended meaning for its application in the draft regulations is ambiguous. Is it meant to include the carriage capacity of the vehicle or vessel; adequate covering of the vehicle to prevent littering of waste, marking of the vehicle or vessel to indicate the type of waste or the hazard being transported?

#### Recommendations

- ❖ Re-phrase Regulation 5 (1) to read as follows,  
*"The licensee shall contract a separate entity to be licensed by the Authority in accordance with these Regulations as a petroleum waste handler to manage the transportation, storage, recovery, recycling, treatment or disposal of waste arising out of petroleum activities or midstream and upstream operations."*
- ❖ The word, *'technically fit,'* under Regulation 5 (6) (c) should be qualified by breaking it down into specific and more understandable language than leaving it general, confusing and closed. Certainly, in this respect reference should be made to the IFC EHS Guidelines for Waste Management on transportation of hazardous waste which recommends a break down based on:

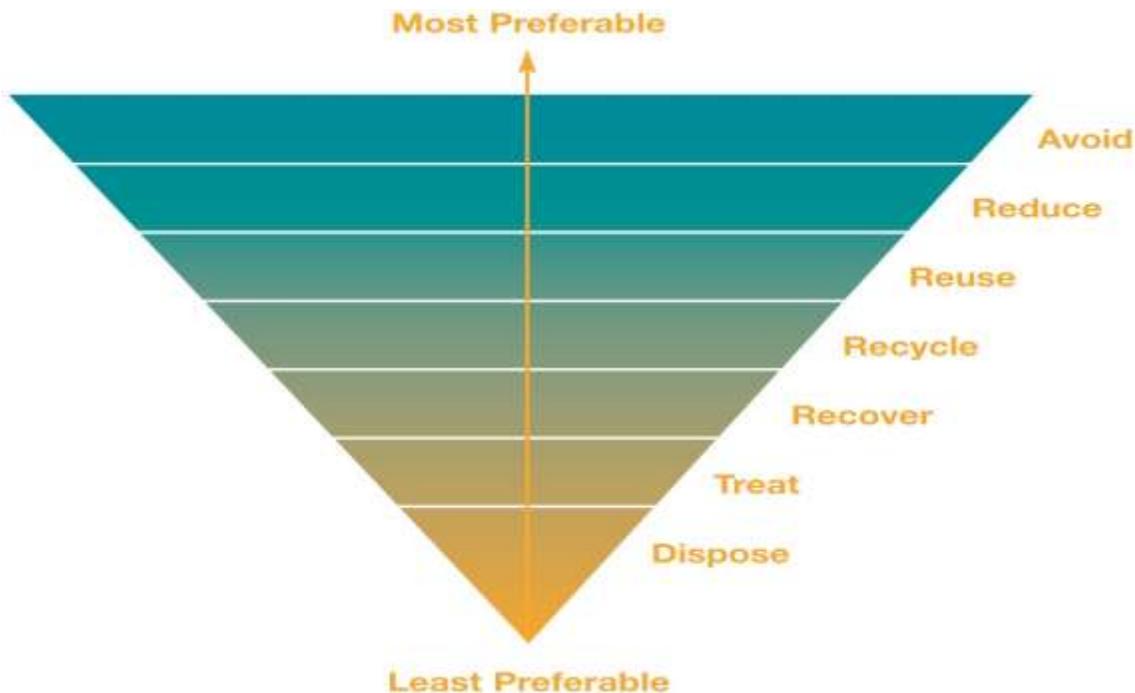
- Carriage capacity of the vehicle or vessel;
- Adequate covering of the vehicle to prevent littering of waste;
- And marking of the vehicle or vessel to indicate the type of waste or the hazard being transported.

#### F) The waste management hierarchy practices (regulation 7)

It is observed that in Part II, ‘on general provisions relating to Petroleum waste management in regulation 7 about the hierarchy of the petroleum waste,’ of the draft Petroleum (Waste Management Regulations), 2016; certain key practices such as *Treatment* is left out.

Secondly, the purpose of the waste management hierarchy which is to provide an indication of the most and least preferable practices with disposal being the least preferable option after treatment should come out clearly (see Figure 1 for illustration purposes). Once done, this will help to provide guidance on the order of most preferred and therefore encouraged option/practice by the regulations based on the hierarchical order.

Furthermore, the phrase, ‘*other recovery*,’ in Regulation 7 (1) (d) creates some confusion because recovery is a singular and standalone practice of waste management hierarchy. When captured as, ‘*other recovery*,’ it would imply that the entire hierarchy is, ‘*recovery*,’ indicating that other practices are part of it. This presents a wrong interpretation. Besides, recovery as a practice of the waste management hierarchy is about encouraging restoring some form of energy from the waste material.



**Figure 1:** The Waste Management Hierarchy Practices indicating Most Preferable and Least Preferable Options. *Source: NEMA, 2012<sup>3</sup>.*

<sup>3</sup> NEMA Operational Guidelines for Oil and Gas Waste Operations, 2012.

## Recommendations

- ❖ The word, '*other*,' should be deleted in Regulation 7 (1) (d). Thus, this regulation should be re-written as, '*recovery*.'
- ❖ The draft Petroleum (Waste Management Regulations), 2016 should address all the core practices of the waste management hierarchy so as to promote and encourage effective management of oil and gas waste, as well as minimizing the waste pollution footprint on environment, and harnessing the social economic opportunities that accrue out of effective waste management for the country. In this respect therefore, '*Treatment*,' as a key hierarchical waste management practice should be considered and included in reference to the illustration provided in Figure 1 of this position paper.
- ❖ Furthermore, the seven practices of waste management hierarchy should be captured in their internationally acceptable order of preference for waste minimization and pollution prevention as this will effectively guide the waste handlers and operators in line with provision 7(2) of the draft waste regulations.

**G) Waste management system (regulation 10)**

**Table 2:** Summary of key issues and recommendations on regulation 10 of the draft petroleum waste regulations, 2016

Observation/Issue	Justification/Implications	Recommendation/s
<p>Requirement 10 (2) (d) that requires the establishment of the waste management system, leaves out the social component of sustainability which if not included in the statement thereof, will likely compromise the desired application of waste management plans;</p>	<p>Waste management plans are applicable to both the ecological and social sustainability pillars of planning and management</p>	<p>❖ The word, ‘<i>society</i>,’ should be included in Regulation 10, in the text of requirement (2) (d). Thus, it should be re-phrased to read as, ‘…….include waste management plans which shall consider the choice of waste management options and their impacts on the environment and <u>society</u>, including the ecological sensitive areas.’</p>
<p>Secondly, one equally important International requirement of, ‘<i>regular medical examination of facility personnel</i>,’ in the Environment, Health and Safety of Waste Management Facilities has been omitted as one of the requirements for establishment of the waste management system by licensee and waste handlers.</p> <ul style="list-style-type: none"> <li>• The IFC EHS Guidelines and the WHO recommend <i>at least every after 2 years</i> for facility personnel to be examined;</li> <li>• The NEMA operational guidelines for oil and gas waste operations (2012) recommend <i>every after one year</i>.</li> </ul>	<p>Good ideas and decisions may remain mere ornaments if not adequately anchored in national laws, and subsequent regulatory frameworks. The development process of the Petroleum waste regulations provides the opportunity to anchor the national and international aspirations related to workers’ health especially those workers in the management of hazardous waste.</p>	<p>❖ Under Regulation 10, another requirement (i.e. regular medical examination of the facility personnel) for establishment of waste management system should be included and make a clear definition of how regular this should be done, that is to say, frequency of the medical examination, <i>for instance, every after one year</i>.</p>

<p>Therefore, the petroleum waste regulations should clearly and strongly bring out the issue of regular medical examination of the facility workers and the frequency of this examination so as to ensure facility workers' health.</p>		
<p>Thirdly, the word, 'suitable,' as used in Regulation 10 (3) requirement (e) for the waste management plans is ambiguous. If the current phrasing thereof is left the way it is, it could be interpreted in different ways by the licensee and waste handler and may be abused especially in the case of choice of waste management practices.</p> <p>Therefore, the word, 'suitable,' needs to be qualified.</p>	<p>It must be noted that the interest of a business person is profit maximization, therefore basing on the wording of this provision; one can easily choose an economically suitable but rather environmentally and socially costly practice,</p> <p>Hence, the need to qualify the word by adding environmentally, socially, and economically suitable practice.</p>	<p>❖ Regulation 10 (3) requirement (e) for the waste management plans should be re-phrased as, '<i>select environmentally, socially and economically suitable petroleum waste management practices.</i>' This will help bridge the gaps that may be left for exploitation during implementation and enforcement especially arising out of failure to address the social, economic, and environmental constructs of sustainable development.</p>

## H) Protection against exposure to noxious fumes

Regulation 29 of the draft Petroleum (Waste Management Regulations), 2016 focuses on protection against exposure to noxious fumes. The statement, *'The licensee or petroleum waste handler shall ensure that vapours emitted during filling, cleaning or storage of petroleum waste containers do not;.....'*, it leaves out key sources of noxious smells. Some of these sources include: the general operations, pits and facilities.

Furthermore, in Regulation 29, part (b) reference is made to the National Environment Act regarding air quality standards. However:

- Both the National Environment Act, and the Draft National Environment Bill, 2016 provide no limits and or specific standards nor parameters on air quality;
- The Draft Environment Bill only gives general provisions similar to the ones established in the draft petroleum waste regulations (*the Authority shall in consultation with lead agency establish criteria and procedure for measurement of air quality<sup>4</sup>*);
- The correct reference should be National Air Quality Standards, in accordance with standards made under the Air Quality Control standards. Because once finalized, the national air quality standards shall entail limits and standards on air quality, relevant parameters, and measurement procedure hence being the correct reference point for this particular regulation concerning *control of concentration of the vapours not to exceed the permissible levels established under....the National Air Quality Standards*.

### Recommendations

- ❖ The words operations, pits and facilities should be included in the statement which guides the licensee and the petroleum waste handler ensure protection against exposure to noxious fumes. Thus, this statement should be re-written as, *'The licensee or petroleum waste handler shall ensure that vapours emitted during operation, filling, cleaning or storage of petroleum waste containers, pits and facilities do not.'*
- ❖ In Regulation 29, part (b) the correct reference for air quality standards should be made i.e. in accordance with standards made under the National Air Quality Control standards.

## I) Requirements for short term storage areas

Regulation 31 of the draft Petroleum (Waste Management Regulations), 2016 provides the requirements for short term waste storage areas. Notable is that this regulation is silent on the requirement for establishment of effective drainage system at storage sites, the control of pollutants resulting from the stored waste both solid and liquid. The immediate implications for short term storage sites without an adequate drainage system is the risk of pollution and contamination of water sources and soil/land downstream/slope due to erosion and run off especially during the rainy season.

An effective drainage system includes the following:

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<sup>4</sup> Draft Environment Bill (2016): Final Draft of 28<sup>th</sup> Jan for consultation: Part X, Section 81.

- Wide enough drainage channels;
- Filter Barriers; and
- Settling Basin.

Besides, the operators of waste short term storage areas should regularly clean the established drainage system, and general monitoring of the storage sites. This is based on previous studies undertaken by CSCO, which indicated that some storage sites in the Graben had no drainage systems in place, while those that had the drainage system, the channels were not regularly cleaned posing a threat to the internal and external environment, especially during the rainy seasons.

Another issue of concern is on adequate covering of waste at the storage sites. This needs to be emphasised in these regulations. This is because field visits and a study undertaken by CSCO in 2015 on the status of waste management facilities in the Graben<sup>5</sup> revealed that most of the waste pits at storage facilities especially the liquid pits were inadequately covered while others were not covered at all. Poorly covered storage areas make it easy for the transfer of pollutants especially by the climatological forces such as wind and rainfall. Secondly, birds and reptiles can have easy access to the stored waste if such waste is inadequately covered and if there are no such regulatory requirements on adequate covering of waste at the storage sites.

In addition self-monitoring and submission of reports to NEMA and other relevant government agencies on a quarterly basis should be done by the operators and handlers of the short term waste storage areas. Independent monitoring of these waste storage areas on a regular basis by NEMA and other relevant agencies is critical because it helps in verification and validation of the self-monitoring results submitted to NEMA by the operators of the short term waste storage areas.

## **Recommendations**

- ❖ The following additional, requirements for short term storage areas should be added:
  - The waste storage areas shall have effective drainage systems to prevent the transfer of pollutants to sensitive ecosystems;
  - Liquid and solid waste at storage areas should be adequately covered to control spillage and other environmental risks.
- ❖ The operators of a waste storage area shall regularly carryout self-monitoring and submit self-monitoring reports to NEMA and other relevant government agencies in accordance with the terms of the contract (or on a quarterly basis).
- ❖ Establish requirements compelling NEMA and other multi-stakeholder groups referred to under the National Oil and Gas Policy, 2008 to conduct regular independent monitoring of the waste storage areas for validation of the self-monitoring reports by the operators of the short term waste storage areas.

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<sup>5</sup> CSCO (2015): The State of Oil and Gas Waste Management Facilities and Environmental Compliance in the Albertine Graben Region of Uganda

## **J) Petroleum waste landfills**

Regulation 38 of the draft Petroleum (Waste Management Regulations), 2016 provides guidance for management of Petroleum waste landfills. Notable is that there is an environmental risk in terms of infiltration of leachate with hazardous elements into the ground water systems and soil, eventually ending up in the food chain presenting serious health implications. This is possible especially for cases where the practices or techniques used in the petroleum land fill technology are ineffective to prevent this. The regulations are silent on the procedure/measures for construction and lining of petroleum waste landfills and waste storage pits for hazardous hitherto, petroleum waste.

- Lessons could be drawn from other countries for customizing within Uganda's context. For instance in the USA the Alberta State Government approved a Code of practice for Landfills (incorporated by the waste control regulation A.R. 192/96), which clearly stipulates the suggested procedure/measures for construction and lining of petroleum waste landfills and waste storage pits (See attachment 2 for a copy of the USA Alberta State Code of practice for petroleum Landfill).

### **Recommendations**

- ❖ An additional consideration should be included in Regulation 38 (1) for petroleum waste handler with a license to landfill petroleum waste to:
  - Apply appropriate and effective practices and techniques that prevent leakage of hazardous elements into the ground water systems and soil, so as to prevent the risk of environmental pollution;
  - Conduct regular monitoring of water, soil, and water quality in the surrounding areas in the landscape to establish the levels of the hazardous elements. Such reports should be submitted to the Authority on a quarterly basis.
- ❖ Likewise, where necessary, the Authority should be required in consultation with other lead agencies, to carry out Independent monitoring of water, soil, and water quality in the surrounding areas in the landscape to verify the results submitted by the operators and waste handlers.
- ❖ Besides, the regulations should provide guidance about the construction and lining of petroleum waste landfills.

## **K) Sitting requirements for petroleum waste management facilities and base-camps**

Regulation 40 of the draft Petroleum (Waste Management Regulations), 2016 provides minimum guidance on siting for Petroleum waste management facilities. The draft regulations are silent on the distance such facilities should be placed from residential communities, commercial areas, water sources, and base-camps (where workers of such facilities usually reside). The operational guidelines for oil and gas waste operations, 2012 (which are not referred to anywhere in the current draft petroleum waste regulations, 2016) recommend a distance of only 500 m away from these areas; while the principle waste regulations (1999) under section 14(3)(a) recommend a distance of 1000 m for the general waste.

- The Petroleum waste regulations should address this contradiction and while doing so efforts should be made to recognize that the type of waste (petroleum waste) that is being regulated is not general waste but rather hazardous in nature with a high potential for causing serious environmental, social and economic damage if not well regulated.
- Further still, while establishing the distances waste facilities should be away from base-camps, water sources, residential communities, and commercial areas. Particular Attention should be paid on the differences in the climatological characteristics of the various climatological zones of the Graben in reference to Rainfall intensity and frequency, wind behavior, Humidity and Temperature. These behave differently in the different zones of the Graben and each has different impacts on the waste management facilities, transportation, surface run-off to communities, and aerial transfer of pollutants
- A study undertaken in 2015 by CSCO on the state of oil and gas waste management facilities and environmental compliance in the Albertine Graben indicated that apart from the state of the art engineered treatment and disposal facility at Nyamasoga, the rest of the visited waste management facilities were placed at a distance close to either a base-camp, residential community, school or commercial area (see **Table 3**).

## **Recommendations**

- ❖ The draft petroleum (waste management) regulations should establish standard requirements on the distance oil and gas waste management facilities or operations should be away from residential areas, Base-camps, commercial areas, and water sources.
- ❖ Particularly, there is need to further guide on establishment of base-camps in relation to the Petroleum Waste Management facilities. If base camps are for storage of equipment only and placed near the waste management facilities, then this is Ok. However, if the base-camps are used as residential areas for the facility workers then this requires serious regulation to protect workers' health.
- ❖ As a principle, the sitting for the Petroleum Waste Management facilities should be based on the different characteristics of the various climatological zones within the Graben. This is because if demarcation of distances is made without this consideration, such limits/demarcations may not be applicable to some areas that do not share similar climatological characteristics within the Graben.
- ❖ Another requirement 40 (1) (h) which conditions the sitting of a waste management facility to be guided by Environmental sensitivity atlas for the Albertine Graben, 2010; Strategic environment assessment of the oil and gas activities in the Albertine Graben of Uganda, 2013 and social impact assessment reports should be included under regulation 40 (1) to guide waste management operators and handlers in the sitting of facilities, especially within the Graben.

**Table 3:** CSCO findings on selected waste management facilities in the Albertine Graben and their compliance with sitting requirements

PARAMETERS	KISINJA WASTE CONSOLIDATION AREA (WCA)	BUGUNGU WASTE CONSOLIDATION AREAS (WCA)	NYAMASOGA PLANT	National Operational waste management Guidelines for oil and gas operations, 2012	National Environmental (Waste Management) Regulations, 1999	International Finance Corporation (IFC) World Bank Group Environment, Health, and Safety Guidelines for waste management facilities, 2007
Distance from the nearest Residential Area/Commercial Area/ Water Source	<p><u>Community</u> (approximately 10-20 meters)</p> <p><u>Base Camp</u> (approximately 100-200 meters)</p> <p><u>Usable water source</u> (approximately 100 meters)</p> <p><u>Community School</u> (approximately 500 meters)</p>	<p><u>Community</u> (approximately 10-20 meters)</p> <p><u>Base Camp</u> (approximately 500 meters)</p>	<p><u>Community</u> (approximately 1,000 meters)</p>	500 meters	1,000 meters	250 meters

Source: Civil Society Coalition for Oil and Gas in Uganda (CSCO) Field Study, 2015.

## L) Petroleum waste disposal methods

Regulation 37 of the draft Petroleum (Waste Management Regulations), 2016 provides information and guidance about the methods applicable for disposal of Petroleum waste. Notable is that the information and guidance there-in is lean and not sufficient for adequate and effective decision making in this respect. Thus, various aspects of Petroleum waste disposal are silent and or not reflected. Some of them include: (i) Disposal and Management of Used Oil; (ii) Handling of waste water from cleaning equipment; (iii) Flaring and venting waste; and (iv) Handling of produced water. This has implications for effective implementation and enforcement of the regulations by both the waste handlers and operators, and other responsible duty bearers. These gaps have been analyzed and related recommendations for their integration in the draft Petroleum (Waste Management Regulations), 2016 are presented in Table 4.



**Figure 2:** A demonstration on Handling of used oil in other oil producing countries. Courtesy of [www.tank-depot.com/productdetails](http://www.tank-depot.com/productdetails)

**Table 4:** Suggested provisions for petroleum waste disposal methods for integration in the regulations

Issues	Justification/Implications	Recommendation
<p><b>(i) Used Oil management requirements</b> Used oil refers, <i>‘to any oil that has been refined from crude oil or any synthetic oil that has been used, and as a result of such use is contaminated by physical or chemical impurities.’</i></p>	<p>In other oil producing countries such as Canada, Used oil is regulated under the oil waste recycling program to test such used oil for halogen and other contaminants; and to determine whether the contaminants in such used oil can be managed for safe re-use; or otherwise properly store it onsite; package it for safe transportation offsite, including effective tracking during its transfer from the storage point to the final treatment and disposal site. If such a serious procedure is not established and follow ups made, temptation may arise of using used oil even when it is not tested or treated (whether it has been highly contaminated or not).</p>	<p>❖ There is need to establish in the draft Petroleum Waste Regulations, 2016 requirements for the management of used oil including establishment of schedules on the procedure for handling used oil.</p>
<p><b>(ii) Effluent discharge, parameters and limits</b></p>	<p>It is recognized that there exists standards on effluent discharges referred to as the NEMA (Standards for Discharge of Effluent into Water or on Land) Regulations, S.I. No 5/1999. However, the draft Petroleum (Waste Management Regulations), 2016 is silent on parameters, standards and limits for effluent discharges, and no reference whatsoever is made to the NEMA standards for effluent discharges.</p>	<p>❖ The draft Petroleum Waste Regulations should establish and/or include effluent discharge parameters, standards and limits for oil and gas waste or otherwise introduce a schedule concerning such standards or make recognition and reference to the existing NEMA standards for discharge of effluents into water or on land, 1999.</p>
<p><b>(iii) Handling of waste water from cleaning equipment</b></p>	<p>It is important to recognize that any Water that has been utilized for equipment washing in the oil and gas operations may contain hydrocarbons, degreasers, detergents, and other compounds that make it unsuitable for discharge. The draft Petroleum Waste Regulations, 2016 do not provide for the discharge of waste water from equipment cleaning. Wash water must</p>	<p>❖ There is need for the draft Petroleum (Waste Management Regulations), 2016 to recognize waste water that has been used for oil and gas equipment washing as a separate form of waste from drilling waste, and</p>

	<p>be handled separately from the normal accumulated runoff water and kept separate from drilling waste and must be disposed at an authorized disposal facility. Similar regulations in other Oil producing countries and states such as Canada, USA, Alberta, and Michigan all address this issue separately from normal drilling waste</p>	<p>therefore, provide for such waste separately as other oil and gas producing countries have done.</p>
<p><b>(iv) Flaring and venting waste, and emissions</b></p>	<p>The draft Petroleum (Waste Management Regulations), 2016 seem not to operationalize section 100 (1) of the Petroleum (EDP) Act, 2013 which prohibits a licensee from flaring or venting petroleum in excess of the quantities needed for normal operational safety. The Petroleum waste regulations are meant to set the desired limits on flaring and venting quantities or quantities of air emissions desired for normal operational safety, however, no such limits are being set or any particular reference made to any form of standards in this regard. The NEMA Oil and Gas Waste Issues Paper, 2013 suggests recommendations on Air emissions, venting and flaring waste Some of which need to be adopted in the new oil and gas waste regulations.</p>	<ul style="list-style-type: none"> <li>❖ Require the operator to provide meteorological data on the prevailing wind roses for the site, Wind speeds, Temperature ranges, and Rainfall (intensity and frequency) that will be active in dispersing the emitted pollutants in the area. If adequately provided, such data is the first step in designing and implementing measures aimed at controlling the extent and severity of the would-be effect of air emissions on both the internal and external environments;</li> <li>❖ As such, require the operator and waste handler to provide a management plan for the control of noxious gases before commencement of operations.</li> <li>❖ The petroleum waste regulations should operationalize section 100 (1) of the Petroleum (EDP) Act, 2013 by spelling out the quantities of air emissions needed for normal operational safety by the oil and gas operations;</li> <li>❖ Require frequent air sampling and records of the emissions to be submitted to NEMA;</li> <li>❖ Impose a pollution licensing fee or tax for each time flaring and or venting is done beyond the set limits and make the tax high enough to discourage the practice.</li> </ul>

<p><b>v) Handling of produced water</b></p>	<p>The draft Petroleum (Waste Management Regulations), 2016 does not explicitly address the issue of Produced Water<sup>6</sup>. Produced water is the most significant liquid waste associated with exploration and production of oil and gas. For every tone of oil produced, there are 0.6 tons of produced water to be discharged into the environment and 1.0 tons of produced water to be re-injected or pumped into the ground. Currently, Uganda is planning on the basis of established reserves that Uganda will be able to support production of over 100,000 barrels of oil per day for the next two decades (NEMA, 2013)<sup>7</sup>. Produced water as a waste will correspondingly be huge. This type of waste is associated with numerous effects on land and marine ecosystems if contaminated as documented by several authors<sup>8,9</sup>. Standards for handling this type of waste need to be explicitly spelled out</p>	<p>❖ Include standards in the draft Petroleum (Waste Management Regulations), 2016 on how produced water from development and production activities of oil and gas shall be handled.</p>
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### M) Emergency response plans

Regulation 42 of the draft Petroleum (Waste Management Regulations), 2016 provides considerations for emergency response plans by licensee and the petroleum waste handler. It is however noted that the word “*action*” in Regulation 42 requirement (2) is ambiguous. Thus, it should be qualified by making reference to the nature of action that needs to be taken under this particular situation. This could be done by making reference to an earlier provision or requirement in these petroleum waste regulations, or any other relevant law. Otherwise, if not well defined or qualified, the word “*action*” may mean anything to the licensee or waste handler who may do anything under the disguise of this unqualified or unreferenced provision including dismissal of workers even when it is unwarranted for as long as it is within the phrasing of taking action. Therefore, for clearance of any doubt on this particular requirement, there is need to clarify the necessary action to be taken by a licensee and the petroleum waste handler in respect to management of emergencies.

<sup>6</sup> Produced water is water brought to the surface during routine production operations or injected water which is used to increase the pressure in oil wells and maximize oil and gas recovery. It includes formation water, condensed water, brine, injection water and other technological wastes which usually consist of oil, natural hydrocarbons, inorganic salts and technological chemicals

<sup>7</sup> NEMA (2013): Oil and Gas Waste Issues Paper: Situation Analysis/Inception Report

<sup>8</sup> Valeur, J. R. (2010): Environmental Impacts of Different NORM Disposal Methods. *Middle East Health, Safety, Security, and Environment Conference and Exhibition. 01/01/2010*, Manama, Bahrain, Society of Petroleum Engineers.

<sup>9</sup> Douglas A, H. (2002): The acute and chronic effects of wastes associated with offshore oil and gas production on temperate and tropical marine ecological processes. *Marine Pollution Bulletin*. 44 (3), 185-203.

## Recommendation

- ❖ The type of actions to be taken by the licensee and the petroleum waste handler as indicated in emergency response requirement (2) under Regulation 42 should be clarified.

### N) Precautionary measures

Regulation 43 (b) of the draft Petroleum (Waste Management Regulations), 2016 requires a waste handler to put in place measures that will prevent fire or explosions, or uncontrolled releases of hazardous substances at the waste management facility. **However**, this seems ambiguous and rather shifting responsibility which will make implementation and indeed effective monitoring rather unrealistic. If a waste handler is given the mandate to come up with their own measures, the following questions emerge:

- What will then be the basis for measuring such scattered (non-uniform) measures especially during independent inspections and monitoring by the Authority?*
- How will the qualitative and quantitative parameters be established to guide during auditing and monitoring?*
- How will uniformity in reporting on the implementation of self-designed measures be ensured?*

This will indeed make implementation, monitoring, and reporting very difficult. It is better that measures required for effective prevention of fire and explosions at the facility are defined in the regulations. Some of the Practical measures in this respect and in reference to the IFC EHS Guidelines for Management of Waste Management Facilities, (2007) may include the following:

- Placing the no smoking signs within the facility;
- Placing the no eating or drinking signs within the facility;
- Installing smoke detectors and alarms that are both audible and visible;
- Placing fire extinguishers within the visible and accessible areas of the facility;
- Placing first Aid Boxes within visible and accessible areas of the facility;
- Placing of lightening arresters within the facility.

If no specific measures are provided in these regulations on the control of fires and explosions, the operators and waste handlers are likely to come up with their own measures. It is possible that such measures are not environmentally or socially effective as it's currently the case in most of the existing waste consolidation facilities in the Graben.

## Recommendation/s

- ❖ Regulation 43 (b) should be clarified by including practical measures required for effective prevention of fire and explosions, and response to uncontrolled hazards at the facility. Reference should be made to the International requirements on setting uniform and effective measures on the prevention of fire, explosions and control of hazardous substances at the waste management facilities.

- ❖ Better still, some of the requirements established under schedule 11 (2) can be adopted and added to those proposed under this position paper to adequately provide for management of potential fires, explosions and uncontrolled hazards at the waste management facility;
- ❖ To further strengthen the fore-going recommendation, an additional provision should be added requiring waste handlers and operators to establish any other relevant precautionary measures in addition to those provided in the petroleum waste regulations for the prevention of fire, explosion or uncontrolled hazards at the waste management facility.

### O) Waste Monitoring, Inspection and Reporting requirements

The National Oil and Gas Policy for Uganda, 2008 recognizes the importance of monitoring and inspection of the different oil and gas activities and by the different stakeholders. Despite this, the draft Petroleum Waste Regulations, 2016 are silent on monitoring and inspection of oil and gas waste management activities.

A recent report by the Auditor General (2014) on the enforcement of Environment Regulation and Monitoring of Drilling Waste Management in the Albertine Region by NEMA reveals that Oil and Gas Waste Management is part of the recoverable expenditures/ costs as per Uganda's Production Sharing Agreements (PSAs). The report further indicates that from 2010 to 2013 alone, the total expenditure on drilling waste management activities by Oil and Gas production companies amounted to UGX 26.3 billion. One of the ways to minimize both environmental and socio-economic cost of oil and gas waste management is through regular and effective inspections, monitoring and reporting. CSCO makes a number of specific observations and proposes several recommendations in Table 5 in respect to inspections, monitoring and reporting on oil and gas waste operations are concerned:

**Table 5.** Suggested provisions for waste monitoring, inspection and reporting requirements for integration in the regulations

Issues	Justification/Implications	Recommendation/s
<b>(i) Set requirements for Submission of Self-Monitoring Reports by the Operators</b>	<p>In the absence of self-monitoring reports, NEMA might not be aware of the actual waste generated or transported from the generation points to the storage areas or treatment and disposal sites. As the OAG report (2014) puts it, If NEMA cannot account for all the waste generated and transported in the Graben, it becomes very difficult to rule out dumping of waste. This may have negative consequences on the sensitive eco system of the Graben.</p> <p>The Petroleum (EDP) Act, 2013 stipulates under section 3(2) that a licensee shall ensure that the management of production,</p>	<p>❖ The draft Petroleum (Waste Management Regulations), 2016 should operationalize section 3(2) of the Petroleum (EDP) Act, 2013 and be in tandem with the new provision on monitoring under the Draft Environment Bill, 2016 by requiring oil and gas operators and waste handlers to do self-</p>

	<p>transportation, storage, treatment and disposal of waste arising out of petroleum activities is carried out in accordance with environmental principles and safeguards prescribed under the National Environment Management Act and other applicable laws. Although the 1995 National Environment Act did not address the issue of self-monitoring, the Draft National Environment Bill, 2016<sup>10</sup> introduces a new provision under Section 109 (4) that requires the developer to monitor his or her own project against the measurable actions and targets of the plans. The petroleum waste regulations should operationalize the different sections of the existent sector laws by setting requirements for self-monitoring by the oil and gas operators.</p>	<p>monitoring of their operations and regularly submit the monitoring reports to NEMA. This will promote consistence between the proposed petroleum waste regulations and other sector laws.</p>
<p><b>(ii) Reporting</b></p>	<p>The annual reporting provided for in the draft petroleum waste regulations, 2016 is unrealistic in the context of waste management, especially of hazardous nature. It is noted through the OAG report (2014) that according to the nature of the contracts held by the operators for the waste consolidation Areas in the Albertine Graben, operators and transporters have since 2012 been providing quarterly reports to NEMA while transporters have been submitting bi-annual reports as per the terms in their specific contracts. It is therefore not clear why this practice is being changed from quarterly reporting to annual reporting. Effective Management of such delicate waste requires frequent short term reporting arrangements to keep track of inflows and outflows of wastes, as well as designing and implementing on-spot mitigation measures based on results of the quarterly monitoring reports. Reporting only at the end of the year is likely to result into unprecedented environmental, social and consequently economic costs on the country.</p>	<ul style="list-style-type: none"> <li>❖ Require waste handlers and operators to submit self-monitoring reports to NEMA and other relevant lead agencies on a quarterly basis</li> <li>❖ Require waste transporters to submit self-monitoring reports to NEMA and other relevant lead agencies bi-annually as earlier stated in the Amendment waste regulations, 2014.</li> </ul>

<sup>10</sup> CSCO (2015): The State of Oil and Gas Waste Management Facilities and Environmental Compliance in the Albertine Graben Region of Uganda

<p><b>(iii) Establish sanctions against non-compliance to regular submission of self-monitoring reports</b></p>	<p>A report by the Auditor General (2014) on enforcement of Environmental Regulation and Monitoring of Drilling Waste Management in the Albertine Region by NEMA indicates that Oil exploration and production companies did not prepare and submit self-monitoring reports against set parameters as per requirement in their contracts. A review of their self-monitoring reports for the FYs 2010/11, 2011/12, 2012/13 revealed that out of the expected twelve (12) self-monitoring reports as required per their contracts, Tullow (TUOP) had submitted 7 reports (58%) while Total (TEP) and China National Offshore Oil Corporation-Uganda (CNOOC-Uganda) were each expected to have submitted six (6) self-monitoring reports but Total (TEP) submitted 3 (50%) and CNOOC-Uganda none (0%) respectively. The report further reveals that even the licensed waste transportation firms too, did not regularly submit bi-annual reports on the quality and quantity of waste to NEMA as required. The report concludes that despite the repeated noncompliance of the companies, <i>NEMA did not impose any sanctions or penalties on them.</i></p> <p>Whereas the draft regulations present good provisions on penalties concerning non-compliance to a number of standards, practices and regulatory frameworks that relate to oil and gas waste operations, still, the draft petroleum waste regulations set no sanctions or penalties against non-compliance to regular submission of self-monitoring reports by the operators.</p>	<p>❖ There is need for the draft Petroleum (Waste Management Regulations), 2016 to consider sanctions or penalties on failure or non-compliance to regular submission of quarterly self-monitoring reports by the waste management operators; and bi-annual self-monitoring reports by the waste transporting companies.</p>
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<p><b>(iv) The need for independent verification of laboratory tests by NEMA and DWRM</b></p>	<p>Several studies by different agencies and organizations key among which include CSCO's field report (2015)<sup>11</sup>; and the OAG (2014)<sup>12</sup> have all noted that it might be very difficult for NEMA to provide assurances that the oil and gas waste management practices have not adversely affected the surrounding environment, especially if it only depends on sample collection and laboratory testing reports submitted by the operators.</p>	<ul style="list-style-type: none"> <li>❖ There is need to provide for Independent verification of tests of solid and liquid waste samples generated from the drilling, production, and refining activities to corroborate the results NEMA receives from the self-monitoring tests carried out by the oil companies and/or oil and gas waste management operators.</li> <li>❖ The verification of tests should be done by NEMA alongside other concerned Lead Agencies such as Directorate of Water Resources Management (DWRM), Petroleum Exploration and Production Department (PEPD), and Uganda Wildlife Authority (UWA).</li> </ul>
<p><b>v) Promote inspections by the District Environment Officers (DEOs)</b></p>	<p>Currently, the District Environment Officers (DEOs) are not conducting regular inspections in the Graben despite the fact that they have been trained to do so by NEMA especially on aspects of monitoring and inspection of oil and gas activities (OAG, 2014).</p> <p>A report by the Auditor General (2014) further indicates that Inspections on oil and gas operations (including monitoring of activities related to drilling waste) for the period 2010/11, 2011/12, and 2012/13 were only carried out by the District Environment Officers when NEMA or the oil companies were involved and/or facilitated them.</p>	<ul style="list-style-type: none"> <li>❖ There is need to establish provisions in the draft Petroleum (Waste Management Regulations), 2016 requiring and empowering DEOs to conduct independent spot checks and inspections of oil and gas waste management activities in areas of their specific jurisdiction and share the results with NEMA</li> </ul>

**P) Security and Safety at the Petroleum waste handling facility**

It is recognized that the draft petroleum (Waste Management) Regulations, 2016 stipulates under regulation 43 and specifically under schedule 11 that security and safety at the petroleum waste handling facility shall entail; (i) a twenty-four-surveillance system that continuously monitors and controls entry to the facility; (ii) using television monitors or an approved system or a surveillance guards present at the facility; (iii) a barrier of a 2.13 meters high chain link fence topped with 3 strands of barbed wire.

<sup>11</sup> CSCO (2015): Field Report on the state of oil and gas waste management facilities and environmental compliance in the Albertine Graben

<sup>12</sup> OAG (2014): Report on the enforcement of Environmental Regulation and Monitoring of Drilling Waste Management in the Albertine Region by NEMA

It is clear that the measures for security and safety as stipulated in regulation 43 are more suitable for human beings than wild life. Thus, wild life such as birds and reptiles which can access the facility through uncovered open space at the top and on sides of the facility remains a big challenge considering that their lives would be at great risk. Besides, several studies that have been undertaken on the state of waste management facilities in the Albertine Graben have continued to indicate that birds and reptiles have had free access to most of the facilities established in the Graben due to absence of adequate barriers that can prevent birds and reptiles from accessing the facilities. See Figure 3.



**Figure 3:** A bird drinking from an open solid waste pit at Ngara Waste Consolidation Facility.  
Photo by Office of the Auditor General: Picture taken by OAG at Ngara WCA on 06/Dec/2013 at 1:59 pm

### **Recommendation/s**

- ❖ There is need to provide for covering of the entire waste management facilities using materials that allow for evaporation to take place so as to prevent reptiles and birds from accessing the facilities.
- ❖ There is need to borrow a leaf from the IFC World Bank EHS Guidelines for waste management facilities on details concerning adequate covering of facilities to prevent access by birds and reptiles.

### **Q) Abandoning of the Petroleum waste handling facility before decommissioning**

The draft Petroleum (Waste Management Regulations), 2016 in Part VII, Regulation 44 clearly describes the process and guidance to be followed by waste handler regarding decommissioning of the waste handling facility. However, they are silent on situations where the waste handler could abandon the waste handling facility before completion of the decommissioning process. Thus, in such a situation the abandoned facility presents great health implications for both the people/community and wildlife within the surrounding area.

Secondly, after decommissioning of the Petroleum waste handling facility, there are possibilities that some of the impacts of the waste on the environment and health of people/community and wildlife could manifest later after a long period of time when the waste handler has left. Who pays for the costs associated with these cumulative and synergistic impacts? The draft Petroleum (Waste Management Regulations), 2016 are silent on this issue.

## **Recommendations**

- ❖ The draft Petroleum (Waste Management Regulations), 2016 should establish similar prohibitive provisions on abandonment of a waste management facility and set a penalty or fee based on a specific criterion.
- ❖ Notable is that the criteria for establishing the penalty on abandonment of waste management facilities should be made different from that used to establish fees for abandonment of oil wells without proper plugging because, with waste management facilities, the environmental and socio-cultural impacts left behind as a result of abandonment may vary based on sensitivity of the site in relation to type and characteristics of the abandoned facility.
- ❖ The draft Petroleum (Waste Management Regulations), 2016 should include provisions in Regulation 44 for guidance on how synergistic and cumulative impacts of waste that may manifest years later after decommissioning of such facilities can be handled.

## **R) The offences and penalties**

The draft Petroleum (Waste Management Regulations), 2016 have included a section on offences and penalties (Part IX, Pg 28). This is good practice, indeed offenders should be penalized as part of enforcement of the regulations. However, the focus is more on the principle of punishment. Yet effective enforcement of policies and laws requires application of the carrot and stick principles. Thus, in this case the application of the carrot principle is not emphasized. This leaves out other stakeholders or players who could make a positive role in the implementation and enforcement of the regulations. These should be rewarded or recognized through provision of incentives. For instance, reporting of spillage from the oil pipeline or illegal dumping of petroleum waste to the Authority or Police.

Furthermore, the offenders of the regulations are liable on conviction to a fine not exceeding five thousand currency points or imprisonment not exceeding ten years or both. Despite this, the value of each currency point is not defined. Further still, it is not known what would happen in cases where the damage (both direct and cumulative) is beyond the established fine of 5,000 currency points, it would be unfair to charge less penalty for a cases where the cumulative impact is beyond the proposed 5,000 currency point. A case in point is the illegal dumping of waste in Purongo sub-county in Nwoya district (NEMA, 2013)<sup>13</sup>.

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<sup>13</sup> NEMA (2013): Oil and Gas Issues Paper

Despite this, the Petroleum (EDP) Act, 2013 set the maximum penalty at 100,000 currency points- Thus, the one set in the draft regulation 48 (1) seems too small especially in a lucrative and environmentally sensitive sector such as oil and gas considering the nature and type of impacts associated with oil and gas waste. These therefore, should be reconciled.

The word, 'office,' as used in Regulation 48 (1) appears misplaced and distorts the meaning in that statement. It should be replaced with the word, 'offence.'

### **Recommendations**

The draft Petroleum (Waste Management Regulations), 2016 should consider the following suggestions under the section on offences and penalties:

- ❖ Inclusion of the carrot principle through provision of incentives to support enforcement of the regulations. Where applicable cross reference should be made with other laws where this is already provided for.
- ❖ The maximum penalty for offenders should be reconciled with that set in the petroleum laws, 2013. Thus, should be raised to 100,000 currency points.
- ❖ Define the value of each currency point in this section or in Part 1 under regulation 3 on interpretation of the regulations.
- ❖ The word, 'office,' as used in Regulation 48 (1) should be replaced with the word, 'offence.'

### **S) Conditions of a license**

In Part II, 'about the license for petroleum waste management,' Regulation 17 of the draft Petroleum (Waste Management Regulations), 2016 clearly presents the conditions, which the Authority should impose before issuing a license for petroleum waste management. However, there is an oversight about the capacity and previous proven experience of the Licensee for implementing this assignment. Such experience should be backed by evidence of authentic certification that the Licensee successfully completed the assignment.

### **Recommendation**

- ❖ The draft Petroleum (Waste Management Regulations), 2016 should include, 'Previous experience and authentic certification that they have conducted similar assignments/tasks before,' as a key condition before issuing a license for petroleum waste management under Part II, regulation 17.

### **T) Schedules**

i) Schedule 7 of the draft Petroleum (Waste Management Regulations), 2016 under part B omitted requirement for inclusion of the carriage capacity of the vehicle or vessel to be used in

transportation of waste. Indicating this on the vehicle and the registration of the carriage capacity of the vehicle to be used are international requirements which help in;

- Benchmarking compliance to the set limits,
- Gives an indication of the type of vehicle that should or should not carry a given quantity of waste.
- It also helps to check the quantities that were carried viz-a- viz the actual vehicle/vessel's registered carriage capacity hence minimising risks of overloading, and potential littering of the waste during transportation, hence, helping in effective tracking of the transportation process.

Likewise, in Part C, 3 in schedule 7, indication of the source of the waste (i.e. where the waste has been collected to the point of storage) was omitted.

### **Recommendations**

- ❖ Include the carriage capacity of the vehicle or vessel to be used in transportation of waste as one of the requirements in schedule 7 of the draft Petroleum (Waste Management Regulations), 2016 under part B.
- ❖ The source of the waste (i.e. where the waste has been collected to the point of storage) should be included in Part C, 3 in schedule 7.

ii) Schedule 12 of the draft Petroleum (Waste Management Regulations), 2016 under Form II, the Table below the sub-heading, '*Any other information, omitted columns on amount of waste recovered and amount of waste recycled. These columns should be included to meet the requirements of the waste management hierarchy and its intentions as stipulated under Regulation 7. This will consequently help to track the specific practices of the hierarchy that are being adopted, and their effectiveness in the petroleum sector in Uganda. Furthermore, it informs subsequent regulations concerning waste management hierarchy practices in the petroleum sector for the future.*

### **Recommendation**

- ❖ Introduce columns on *amount of waste recovered and amount of waste recycled* in Table below the sub-heading, '*Any other information in schedule 12, under Form II.*

### **U) Missing schedules in the draft Petroleum (Waste Management Regulations), 2016**

A closer scrutiny of the draft Petroleum (Waste Management Regulations), 2016 indicates that specific schedules different from the ones provided in the principle regulations need to be established. Key among which may include:

- Schedules on management of used oil;
- Schedules on waste water management;
- Specific effluent discharge parameters and limits; and
- Schedules on the quarterly and bi-annual reporting formats by the operators among others as discussed in section I of this paper.

## **Recommendation**

- ❖ The draft Petroleum (Waste Management Regulations), 2016 should consider inclusion of the following schedules on: Management of used oil; Management of waste water; Management of specific effluent discharge parameters and limits: and the quarterly and bi-annual reporting formats by the operators.

## **SECTION III**

### **3.0 CONCLUSION**

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The draft Petroleum (Waste Management Regulations), 2016 are very critical in ensuring that oil and gas waste does not cause significant impacts on the environment and socio-economic wellbeing of Uganda or that of the neighbouring countries. We are optimistic that the issues highlighted therein will contribute to harmonious development of the Oil and Gas sector. The comments contained in this paper are geared towards contributing to a good national regulatory framework for Petroleum waste management so that environmental protection and socio-economic sustainability are maintained. Overall, there is need to incorporate a number of issues within the draft Petroleum Waste Regulations, 2016 as well as schedules on the different technical and non-technical aspects of oil and gas waste.