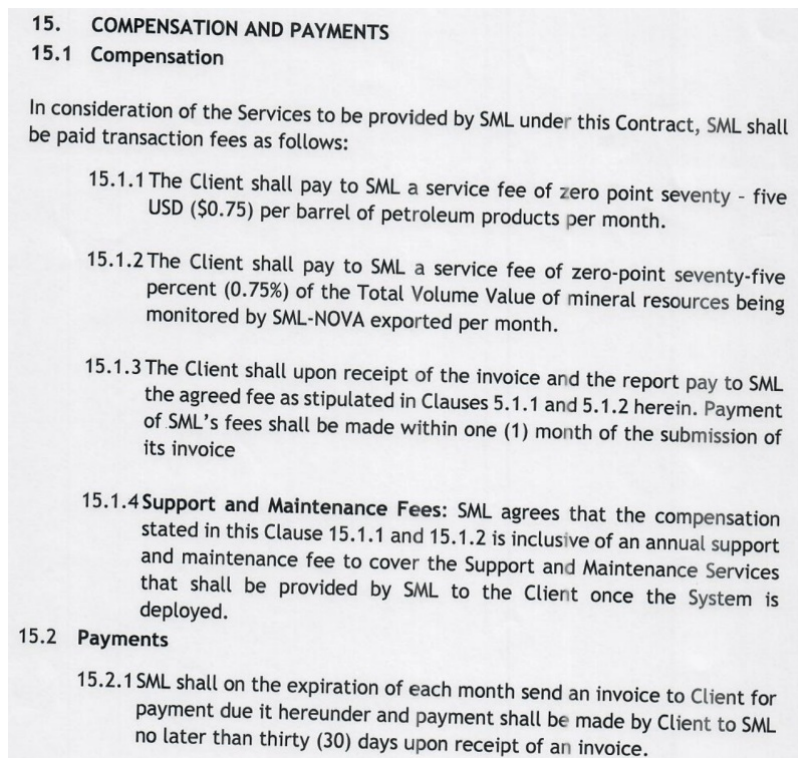


KPMG's Reputation is at Stake in SML Ghana Probe

On the 22nd of June, 2023, the Ministry of Finance initiated moves to massively expand the scope of a [revenue assurance contract](#) between the Ghana Revenue Authority (GRA) and a company founded by a timber merchant and his relative.

Two activist think tanks in Ghana, IMANI and ACEP, have [extensively reviewed this contract](#), following a [documentary](#) by one of Ghana's leading investigative journalists, and concluded that the beneficiary of this contract, SML, stands to earn **up to a billion dollars** over the life of the contract.



Extract from SML – government of Ghana contract

Such a large sum of money must correspond to serious value creation. Unfortunately, this is not the case in this situation because the design of the program for which SML is to be paid these large sums of money is extremely flawed. It guarantees SML a percentage of Ghana's earnings from its scarce natural resources, including petroleum and gold, without any well-defined process of determining how SML's work contributed to increasing the revenues, and thus taxes, from these resources.

The underlying logic of SML having instruments to prevent the likes of Newmont, Tullow and Goil from lying to the government about how much oil, gold or diesel they produce or sell has never been subjected to any serious, independent, evaluation. At any rate, as far as production of gold and oil are concerned, it is not volume underdeclaration that poses the greatest risks but profit understatement, which is not within the scope of SML's services.

There is simply no sound technical basis to award SML or any company a billion-dollar contract on the back of such poor revenue assurance logic.

In fact, [work done by IMANI and ACEP](#) shows that SML's current contract to monitor gasoline (popularly called "petrol") and diesel sales in retail outlets has no discernible impact on fluctuations in total volumes consumed, and thus tax collected. It can be shown that the volumes consumed and taxes paid before the SML contract was signed in 2019 and thereafter exhibit no clear pattern from which can be deduced positive effects due to SML's skills and technology. And, yet, SML is mechanically paid a

proportion of the taxes collected on these products based on volumes consumed, as if their mere existence is what causes people to buy petrol and diesel for their cars in Ghana.

Serious questions have also been raised about the procurement processes leading to the award of the contract to SML. There are many companies with the technical capacity and track record to offer monitoring software and auditing services related to revenue assurance in Ghana. Neither SML nor its founder is in that league. How did the government find them and why was it deemed necessary to award them such contracts without competitive tender? How did the government conclude that only this entity possess the necessary skills and technology to execute such a critical assignment?

As a direct consequence of the uproar, the President of Ghana tasked KPMG, one of the Big Four professional services firms [to undertake a special audit](#) of the SML's ongoing and upcoming engagement with the Ghana Revenue Authority (GRA). IMANI, ACEP, and the Fourth Estate, an investigative journalism initiative backed by the Media Foundation for West Africa (MFWA), have [expressed grave doubts](#) about the independence of KPMG given its multiple entanglements via public sector consulting in Ghana.

The terms of reference and timeline (just two weeks) given to KPMG by the President suggested limited interest in a serious, thorough, probe. It seemed as if the government wanted a perfunctory assessment and a quick whitewash. In the circumstances, KPMG pushed back a bit and the President [extended the deadline](#) for the delivery of their report to today, the 23rd of February, 2024.

There are many aspects of the SML contracts that are incurably bad. Several independent analysts have pointed out the [fundamental absurdity](#) of a contracting method that pays the contractor a percentage of revenue generated from an outcome that is influenced by so many factors independent of whatever the contractor does. How much gasoline/petrol is consumed in Ghana (and the resultant taxes paid) and how much gold is produced in the country (and the resultant royalties paid) are determined by such a wide range of factors that isolating the contribution of any contractor requires highly sophisticated models to tease out and price appropriately in a value-for-money engagement.

The public is extremely keen to evaluate the precise mechanism that will be proposed by KPMG to handle this challenge.

Then there is the issue of investment, based on which a "fair return" can be computed for the contractor on the assumption that the service is value-adding. Here too, analysts have reviewed the claims made by SML and accepted by the government as key assumptions in the expanded and consolidated contract. SML says it will be spending nearly **\$74 million on software and hardware** on this assignment.

Schedule 6: Hardware Platform Environment

For upstream Petroleum Audit

1. Establishing of a Wide Area Network of physical connection between all the offshore and the GRA Offices.
2. Normal Windows operating system computers required for using software modules at the designated GRA offices. System would be deployed on the main server.
3. Normal Windows operating system computers required for using software modules at the designated offices. Technology would be deployed on the main server at the SML Data Warehouse.

For Minerals Audit

4. Establishing of a Wide Area Network of physical connection between all the mining companies and KIA and SML Data warehouse.
5. Computer with web browser would serve as the default general interface for access data and generating reports.
6. Normal Windows operating system computers required for using software modules at the designated offices. Technology would be deployed on the main server at the SML Data Warehouse.

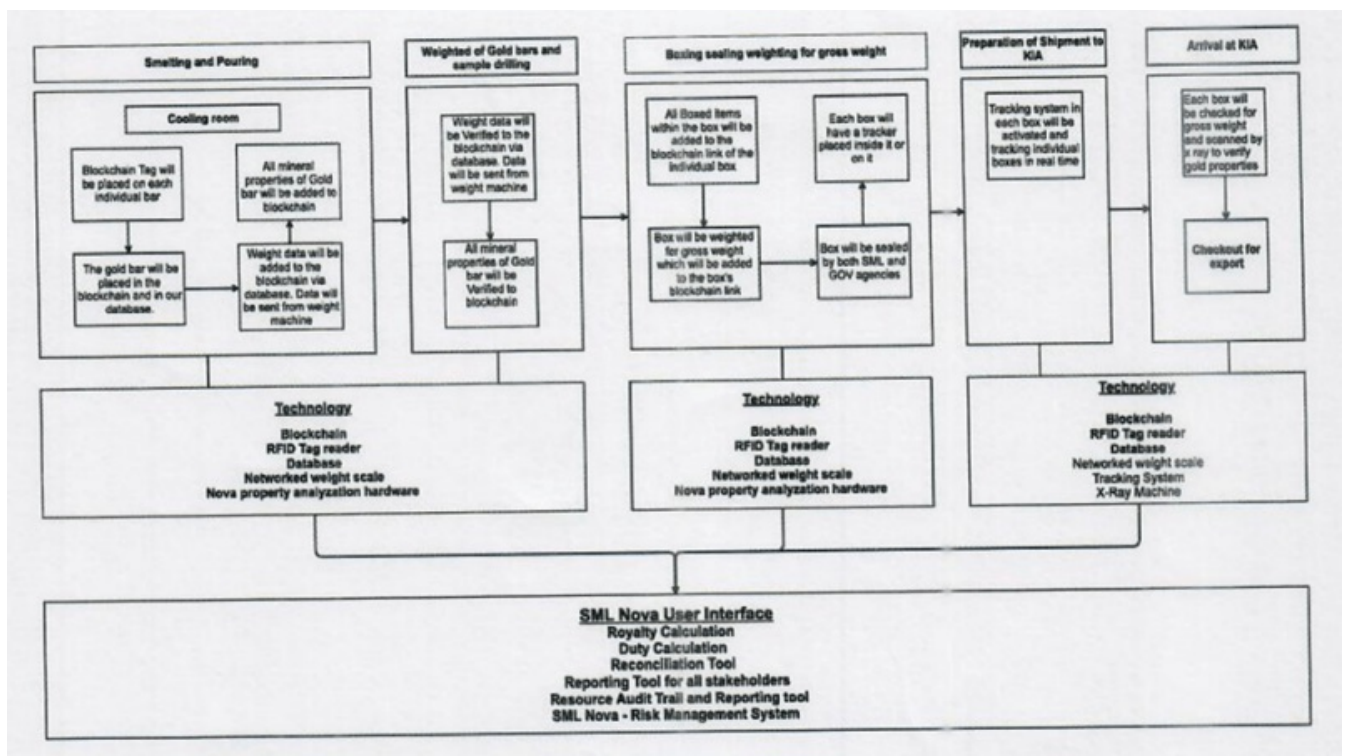
Extract from SML – government of Ghana contract appendices

Of course, objective reviewers doubt the very economic logic behind the proposed arrangement, but KPMG must still show evidence of thorough evaluation.

For those of us in the activist think tank space, the SML proposals are fundamentally misconceived and even incompetent.

How to prevent AngloGold Ashanti from cheating Ghana according to a certain timber merchant.

For the solid minerals leg of the work, SML proposes to apply “blockchain tags” on gold bars in the “cooling room” where the bars are moulded. “Sample drilling” will then be performed and the resulting data added to the “blockchain database”. Thereafter, the bars will be placed in boxes on and in which secondary tags and sensors have been embossed and inserted. The boxes will then be tracked in real-time all the way through the export terminals, complemented by x-ray data in as yet indeterminate fashion.



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The entire concept is riddled with signs of fundamental ignorance about how gold supply chain security is currently handled. For example, no “sample drilling” is relevant at the point of cooling or moulding. All the testing, assaying, and property measurement work that is currently done in the presence of GRA personnel generates data that is of as much importance to the mining company as it is to the government. That is to say, the bosses of the mining companies are as worried about gold being stolen/under-declared as the government, and they already invest in the most hardened technologies available in the market to prevent theft and diversion. Gold room [auditing](#) has, for that matter, always been a heavily regulated affair.

It is said that in the early days of diamond mining, workers would be [compelled to take laxatives](#) and visit special loos before they leave the premises.

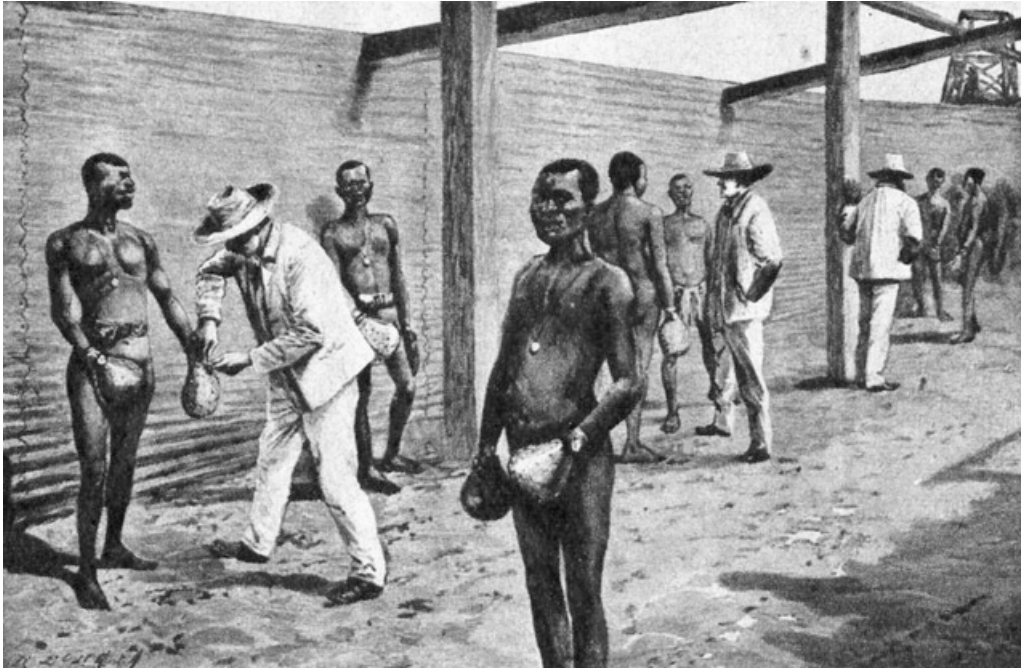


Image Source: J.E. Middlebrook

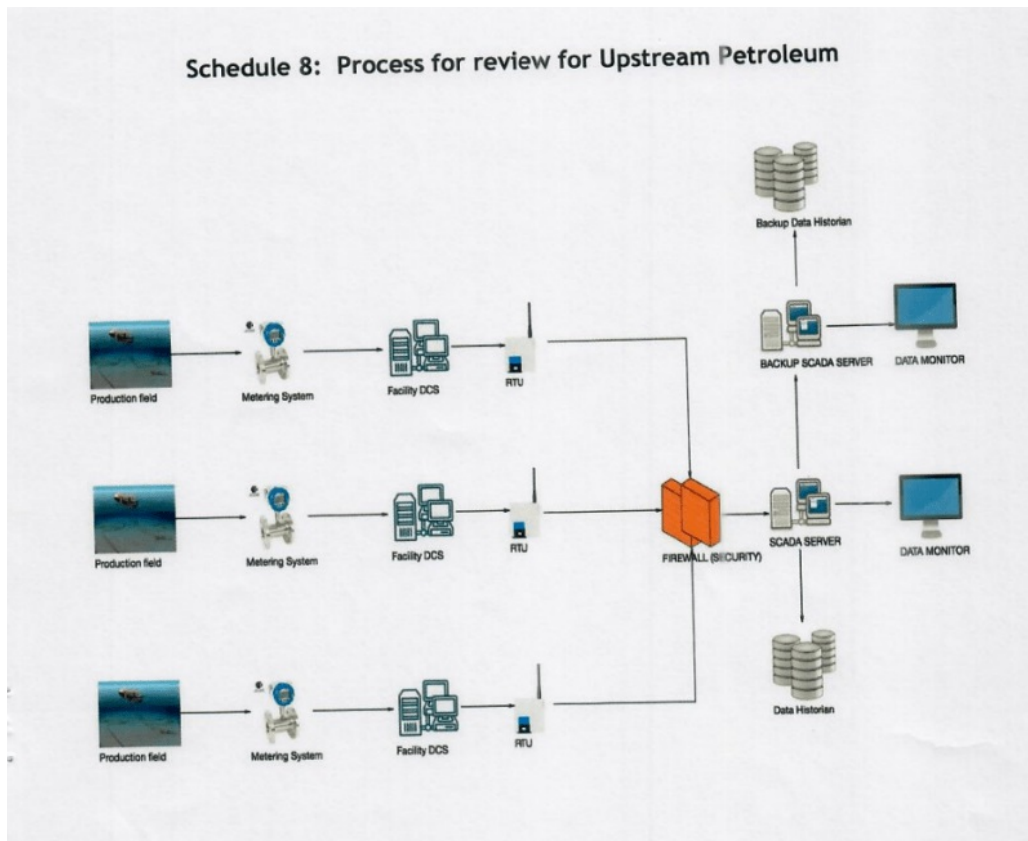
That is the level of paranoia in this industry. Thus, there is no need to create a parallel tracking and security system at a cost to be passed on to Ghana.

What is needed is GRA’s complete and unrestrained access to the same stream of data used by the mining company for their own internal assurance. As well as enhanced management and personnel integrity training, incentive plans, and rotation mechanisms to prevent the corruption of the GRA personnel assigned to gold rooms.

How to prevent Tullow Oil from cheating Ghana according to a certain timber merchant.

Regarding the proposed petroleum upstream auditing solution, the same misconceptions and misguided notions are present. SML does not have the capacity to go to the well-head on the seafloor and install their own monitoring instruments. And indeed their design doesn’t claim any such capacity. Instead they intend to install Remote Terminal Units (RTUs) on the FPSO and other observation decks of the oil companies. So, invariably, they will be relying on the critical data flows generated by the instruments of the same oil companies.

Schedule 8: Process for review for Upstream Petroleum



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At any rate, even a rudimentary understanding of the petroleum production ecosystem would have told the folks who approved the contract that besides the operator of the field (such as Eni or Tullow), there are other companies who have financial stakes in production but are not directly involved in operating the infrastructure (such as Ghana's own GNPC, Vitol, Kosmos and Occidental).

All these companies have an equal interest in making sure that only the most accurate data is churned out for reconciliation purposes. None of these parties have installed their own RTUs on the FPSO to create parallel auditing workstreams. **Simply because that would be ridiculous.** Tullow's bosses in Chiswick High Road, London, overseeing the company in its capacity as the unit operator of some of the country's major oil fields, are equally in need of the most accurate data on production as the GRA from their faraway perches. **For this reason, what is important is the GRA ensuring that they have similar levels of configured access to the monitoring suites and conducting regular system audits to detect and prevent any tampering.** It does not require investment to create their own parallel stream of data.

Otherwise, GRA might as well visit all manufacturing companies in Ghana and implement parallel ERP software and product unit counters on their production lines to prevent them from lying about their production output, and any other thing that has implications for revenue and thus for government's tax take.

At a very minimum, attentive publics in Ghana expects to see thorough analysis of these factors in KPMG's report.

1. System description / Software Broad Specifications

Item	Description
Software for Digital Metering	
1	SP-EBLDR1 - Control Edge Builder Client License
2	SP-EMD151-ESD - Control Edge Builder R151 Media Kit
3	SP-MCALC1 - Gas Liquid Metering
4	SP-MRUN01
5	MS-OSLW10Note 5 - Windows 10 Enterprise 2016 LTSC version
6	MZ-SQLCL4 - Windows SQL Runtime CAL
7	Customized Application Development
SIMPLEX RTU2020	
8	SC-UCMX01 - RTU2020 Non-redundant Controller
9	SC-UMIX01 - RTU2020 Mixed IO module
10	SC-TEPR01 - Expansion End Plate, Right
11	CS5.241 - PULS Power Supply
12	Wireless Field Device Access Point
13	SCE-36EL3612SSLP -Enclosure, 36H X 36W X 12D S.S. NEMA 4
14	SCE-36P36 - Subpanel, 33H X 33W X 0.88D
15	Terminals, fuse, etc. as required for power distribution and field connection
16	THHN wire, wire marker, ferrules, wire duct, nameplates, etc. as required for panel completion
17	Dell OptiPlex 5050 with Windows 10 Pro 64-bit Edition
18	Dell P2417H - LED monitor - Full HD (1080p)
Instrumentation: Clamp-On Versa Flow/Level Transmitter Pulsar Guided Radar/ Temperature Transmitter with Sensor	
19	SM10-4-200-7E-00-00V-10-00000 Nominal Diameter: Clamp On - VersaFlow Sonic 1000 - small
20	Magnetrol - R86 -511A-C22 with RB3-5300-A00-000 (Pulsar Radar Transmitter and Sensor) - Loop Powered 4-20mA/ HART (ATEX)
21	United Electric 1XTXSWT-R1 Loop Powered 4-20mA/HART (ATEX)

Extract from SML – government of Ghana contract appendices

But even if we were to relax professional scepticism and swallow the SML model hook and sinker, even though it is hard to make sense of it, we still have to grapple with the actual project budgeting and process design, which in the form accepted for the contract betrays shocking standards.

Schedule 9: Investment Outlay for Upstream Petroleum Audit			
	DESCRIPTION OF ITEM	USD	USD
TOTAL COST	SOFTWARE FOR DIGITAL METERING	25,350,110.00	44,706,453.00
	SIMPLEX RTU2020	5,510,001.00	
	INSTRUMENTATION	12,225,842.00	
	DIRECT EXPENSES	1,520,000.00	
	TRAINING	100,500.00	

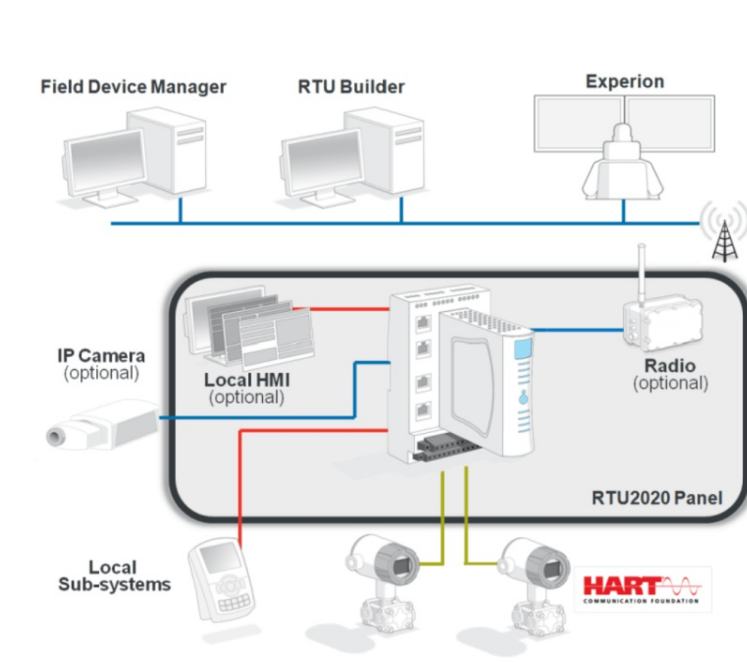
Investment Outlay for Minerals Audit			
	DESCRIPTION OF ITEM	USD	USD
TOTAL COST	SML NOVA - EXPERION SOFTWARE	14,141,151.00	28,595,778.00
	ANALYZERS	4,778,584.00	
	INSTRUMENTATION	8,625,043.00	
	DIRECT EXPENSES	1,051,000.00	

Source: SML – Government of Ghana consolidated contract

There is “software for digital metering” that is supposed to cost more than \$25 million. No idea what software specifically or how anyone on the government of Ghana side saw that line item and immediately felt informed enough to sign away hundreds of millions of dollars.

There is a “Simplex RTU2020”, which is just as poorly specified. Whilst there are many remote terminal platforms with various configurations, this mere description maps to no precise system on the market. For example, there are Honeywell RTU-2020s, which can be customised in a thousand ways with various ancillaries and auxiliaries into a turnkey platform.

Honeywell, if approached directly or through a reseller, will set up something like this for a client.



Copyright: Honeywell

A single RTU SCADA assembly would cost the client, assuming standard configuration, less than \$15,000 and the architecture (if it

can even be called that) deductible from the SML specification should, in a proper costing environment, not exceed \$250,000. SML claims its mysterious RTU2020 setup would cost \$5.5 million and the cost of ancillary instruments alone will exceed \$12.2 million. Incredible!

So, today, all eyes are on KPMG.

Independent analysts who have given serious time and thought to this whole affair are keen to see how, from whichever angle they come, such costs, and derivative fees/returns, are justified.

It is being suggested by some insiders that one of KPMG's methodologies in this assignment is benchmarking against other revenue assurance programs in Ghana. It is important to put on record that such an exercise would be pointless unless it is to underline the useless duplication of these schemes and to probe each one of them with the same level of diligence demonstrated above for SML. Any suggestion that because companies like Rock Africa are charging for similar services there is thus precedence in the industry would be shallow reasoning. The fact that some poorly designed policies slip through every now and then is never a good basis to cut any specific policy any slack.

As IMANI and ACEP have repeatedly argue, KPMG has a sterling opportunity to dispel the strong suspicions of lack of independence given its wide-ranging entanglements with GRA and in the broader public sector. It is entirely up to its Partners in Ghana to seize this opportunity or sacrifice its reputation for fees.