



IRAQ OIL REPORT

10 YEARS OF INFORMING, ENGAGING AND EMPOWERING STAKEHOLDERS IN IRAQ | SEPTEMBER 2018



A Basra Gas Company worker at the Nahr Bin Omar oil field takes part in the opening of a new pipeline sending gas to the national network on Jan. 12, 2017.

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Q&A: Brig. Gen. Ali Hussein Hilal al-Mayahi, director of
South Oil Police

Facing months of protests at key oil sites
in Basra, Mayahi details the network of
government forces providing security
and the challenges they have faced.

For two months this summer, Iraq's oil sector was on edge as protesters threatened to disrupt operations at major fields in Basra, in an effort to pressure the government to provide more jobs and basic services.

While most rallies were peaceful in front of government buildings and at oil fields, some got tense. Protesters shut down access roads to fields, and in multiple instances angry mobs penetrated security cordons, causing minor damage. Multiple protesters and security force members were injured, and at least one demonstrator was killed at a field protest.

Brig. Gen. Ali Hussein Hilal al-Mayahi is the director of the South Oil Police, a part of the Interior Ministry's Energy Police

Iraq capitalizes on OPEC quota adjustment

The Oil Ministry is unleashing latent capacity from state-run fields, and is eyeing further production increases in the next year.

Iraq's production rose by over 100,000 barrels per day (bpd) in July, following an OPEC meeting in which members paved the way for production increases.

Combined, fields under control of the federal government and the Kurdistan region produced about 4.697 million bpd in July, well above this year's previous high-water mark of 4.598 million bpd in May, according to an Iraq Oil Report analysis

based on data gathered monthly from each of the country's producing fields.

The Iraqi Oil Ministry confirmed a large increase in disclosures published in the August edition of OPEC's Monthly Oil Markets Report, claiming a total of 4.460 million bpd in July, up from 3.360 million bpd in each of the previous nine months.

The production increase appears to be the direct result of orders from the Oil

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DELIVERING THE FUELS THAT ENERGIZE PROSPERITY

Iraq capitalizes on OPEC quota adjustment

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Ministry in Baghdad - issued on July 1, days after the most recent OPEC meeting - which instructed the Basra Oil Company (BOC) to tap into latent capacity at state-run fields, according to ministry correspondence obtained by Iraq Oil Report.

"According to the oil minister's instructions... we would like to report that we have achieved an additional 105,000 bpd of production at fields being developed through the national efforts since the end of June," said Ihsan Ismaeel, the director general of BOC, in a July 25 letter to the Oil Ministry.

The Luhais, Ratawi, Nahr bin Omar, and Tuba fields had been producing a combined 143,000 bpd, Ismail wrote, but have now reached a total output of 248,000 bpd.

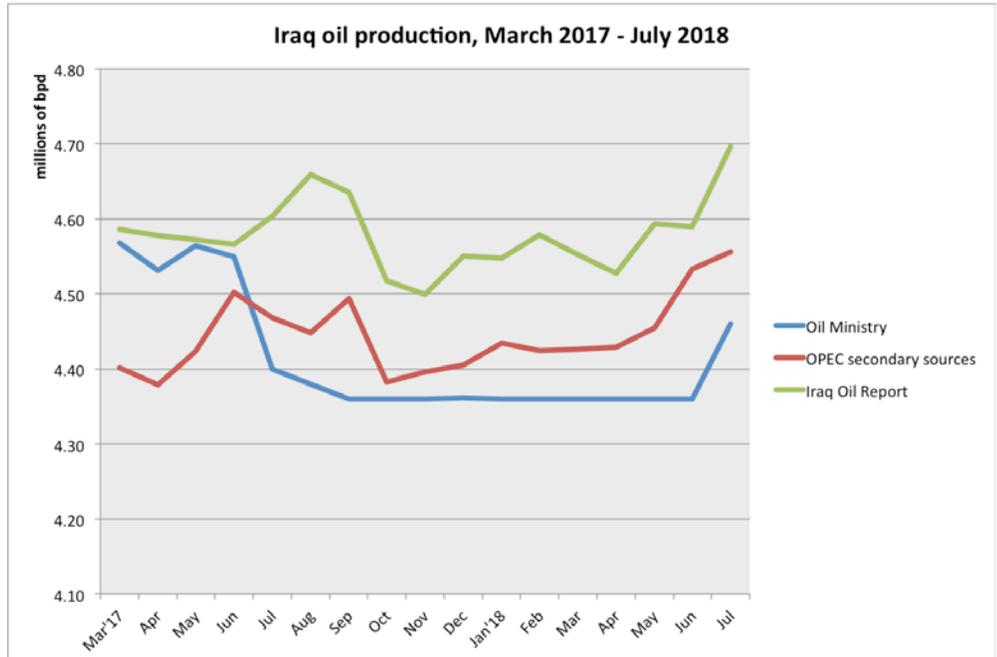
Iraq Oil Report corroborated those numbers with officials working on each field, and with a senior BOC official who said the state-run fields had achieved their new targets within a week of the oil minister's July 1 order.

The overall production of federal Iraqi oil fields rose from 4.222 million bpd in June, according to the Iraq Oil Report analysis, up to 4.283 million bpd in July.

Production would have been even higher, but for protest-related disruptions which caused output to fall at the West Qurna 1 field, which had been producing over 450,000 bpd since March. It averaged just 400,000 bpd in July.

Iraq's overall production also rose, despite the protests, because of increases at fields controlled by the autonomous Kurdistan Regional Government (KRG), which produced a combined 414,000 bpd in July, according to the Iraq Oil Report analysis, up from 368,000 bpd in June.

The KRG's production fell dramatically after October 2017, when the federal government launched a military operation to reclaim control of Kirkuk province and its oil fields. The KRG had been putting a combined 280,000 bpd into its independent export pipeline from the Bai Hassan field



and the Avana Dome of the Kirkuk field; those assets are now back under the control of the state-run North Oil Company (NOC).

NOC has not been able to fully exploit those fields because of inadequate routes to market. The only pipeline connected to those fields is controlled by the KRG, and that is currently off limits to Baghdad because of political disagreements.

Bai Hassan and Avana have both come online partially in recent months, reaching a combined output of more than 70,000 bpd in July, according to an Iraq Oil Report estimate based on accounts from multiple industry officials in northern Iraq. Output from the two fields increased further in August, officials said, to as much as 115,000 bpd.

That production is being transported to refineries in Kurdistan, under a commercial agreement designed to provide fuel to areas that are rebuilding after being occupied by the self-proclaimed Islamic State (IS) militant group.

Iraq's surging production in July could mark the beginning of a bigger increase in the coming months.

If leaders in Baghdad and Erbil are able to strike a deal for NOC-produced oil to flow through the KRG's pipeline, that would

unlock more than 200,000 bpd of capacity that is currently stranded.

And, if the federal government is able to quell the protest movement in southern Iraq, scheduled increases at other fields are likely to come online as well - including new initiatives to raise production from other state-run fields.

Oil Minister Jabbar al-Luiebi announced at the end of July that the state-run Dhi Qar Oil Company (DQOC) has been allocated \$140 million to conduct a 20-well drilling program that will raise production at the Nassiriya field from 90,000 bpd to 200,000 bpd within a year.

Multiple DQOC officials said they did not expect that additional production to come online until 2020, however, because of the additional surface facilities needed to process and transport additional production.

The Subba field, also operated by DQOC, is expected to add about 35,000 bpd, as soon as the company is able to install equipment needed to treat the high salt content in the crude, according to multiple DQOC officials. Production is expected to increase further after a six-well drilling plan in 2019. ♦

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Q&A: Abdul Mahdy al-Ameedi, head of Iraq's oil contracts

The Oil Ministry's contracting chief discusses prospective agreements to achieve progress in oil and gas fields awarded to foreign oil companies.

As the director general of the Oil Ministry's Petroleum Contracts and Licensing Directorate (PCLD), Abdul Mahdy al-Ameedi is at the center of Iraq's evolving relationship with international oil companies.

The ministry is currently in the process of finalizing new contracts that were awarded just before the country's May 12 elections - but which still need to be formally approved by the Cabinet before signing.

Ameedi spoke with Iraq Oil Report about the process he is overseeing to amend previously awarded contracts and flesh out detailed final development plans for the country's largest oil fields.

Some of the previous bidding round contracts have been tweaked over the years. Where is each one now, in terms of production plateau targets, timeframe, contract length and remuneration fee?

For the four previous licensing rounds, there's no changes so far, except for changes and amendments we made previously for the five contracts, which are Rumaila, Zubair, West Qurna 1, West Qurna 2 and Halfaya.

No further changes, no further amendments to the contracts. Except for the final development plans for the second licensing round [projects] are the, what we call, enhanced redevelopment plan for the first licensing round. For the first - Rumaila, Zubair, West Qurna 1 and Missan oil fields.

What are the major changes that have been agreed to in the final development plans?

The final development plan envisages that the plateau will be reduced in some of these fields. In Rumaila, in Zubair, West Qurna 1, Missan oil fields, and the other fields, except for Garraf.

In Garraf field, the plateau is always maintained the same, 230,000 bpd. But for the other fields, the plateau is under discussion with Basra Oil Company and contractors, or Missan Oil Company and their contractor.



Abdul Mahdy al-Ameedi, the director general of the Oil Ministry's Petroleum Contracts and Licensing Directorate, at a May 23 press conference following the signing of a development contract for the East Baghdad oil field with ZhenHua and the Midland Oil Company.

So far, in Zubair, there is an agreement to reduce the plateau from 850,000 to 750,000 bpd. In Rumaila they are discussing reducing the plateau from 2.1 to maybe 1.8 million bpd. But so far there is nothing final. The final development plan was not approved yet.

So this is the situation regarding the first round and the second round fields.

In the third round, there was nothing except for Siba, in which the production will be started in July, I think.

You know that we have the performance factor. The performance factor in our previous contracts will be applied during the plateau period. When the plateau target is not achieved, then we will apply the performance factor to reduce the remuneration fee.

Now, when we will change the plateau or reduce the plateau and approve the final development plan of the fields, there will be some change to the concept of the performance factor.

The performance factor will be applied on a quarterly basis, only on the production that will be agreed between our companies and the contractors in the annual work program. The budget and work program is on an annual basis. So on the work program we will agree with companies on a level of production - say it is, for example, in Rumaila, 1.5 million [bpd]. If the contractor will not achieve 1.5 million in each quarter, and say it is 1.4, we will reduce the remuneration fee by the ratio of 1.4 and 1.5 - the ratio between the actual production to the planned approved production.

So this is another change to the contracts. And this will be applied to the remaining period of term of the contract rather than during the plateau period only.

The Oil Ministry has recently renewed and expanded the agreement with BP for its technical study of Kirkuk oil fields. What is the long-term vision for BP's relationship with North Oil Company and its activities in Kirkuk?

There is no long-term deal between them. They have signed a Letter of Intent, in January this year, and it is for 18 months. During this period of time, there should be some kind of discussion or negotiation between North Oil Company, and the [Petroleum] Contracts and Licensing Directorate, and BP, regarding a service contract for the redevelopment of Kirkuk oil field and some other oil fields, which are Bai Hassan, Khabbaz and Jambour. But so far it has not been negotiated.

For gas fields, is the Oil Ministry close to any agreements with the operating companies to re-start work at Akkas or Mansuriya?

You know, these two fields are in very risky security situations. And there is a difference between the two.

Mansuriya is better than Akkas in terms of security. Kogas is ready to resume petroleum operations [at Akkas] when the security situation in Akkas is settled and stable. But the security situation in that area is not so stable so far. The Ministry of Oil requested to provide security measures

in the fields, and when security will be stable, Kogas will resume operations.

In Mansuriya there is another problem: it is not the security issue but the financing issue of the companies constituting the contractor. TPAO, Kuwait Energy and Kogas. And we had a meeting with them, the three companies, and I informed them to send a letter to the Ministry of Oil expressing their position clearly, whether they are interested in the project, keen to continue and resume operation in the field.

And without any further demands, actually, they would like to amend the contract. They are requesting to the Ministry of Oil six or seven points to be changed in the contract. We agreed on three, and I told them we will not grant them anything more except these three, and if they don't like or accept we will have another position with them regarding Mansuriya.

What elements did they want changed?

The term of the contract, the R-factor to be flat, increasing the ceiling of cost recovery, reducing the state partner share,

increasing the remuneration fee - one more. These are the main things.

Of those, what are you willing to accept?

Actually, it is not now, but more than one year we told them we can accept to extend the term of the contract for the period, for the holding period, because of the force majeure, because of the security situation, in the order of five years to compensate for this period of instability and insecurity.

And we accept to make the R-factor flat, and this means that the remuneration fee will be flat - will not be reduced during the term of the contract - and to fix the ceiling of cost recovery at 60 percent rather than 50 percent.

If you know that - we have two ceilings in the contract, 50 percent cost recovery and another percentage up to 10 percent, then total 60, for the supplementary cost. So we will assume the ceiling is 60 percent. ♦



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IRAQ OIL REPORT

Q&A: Brig. Gen. Ali Hussein Hilal al-Mayahi, director of South Oil Police

AL-MAYAHI, cont'd from **page 1**

Directorate, responsible for securing energy infrastructure in the provinces of Basra, Missan, Dhi Qar, and Muthanna.

He spoke with Iraq Oil Report about the ongoing challenges posed by the protests, as well as the government's broader efforts to secure an industry that provides about 90 percent of state revenue.

What kind of a security threat did you see in the protests at oil sites?

We have dealt with the protests based on their nature. Some are a peaceful type that doesn't seek to shut down roads that lead to the oil sites. The other type, which we've had to be firm with, are the saboteurs who try to take advantage of the protests.

Note that some employees of Basra Oil Company and even the Oil Police elements were among the protesters at the oil sites.

But the saboteurs have injured 50 security elements in our headquarters alone, when they attempted to break into it for a whole week [in mid-July]. They threw rocks and flaming bottles at our units, who managed to arrest 70 of the rioters.

How are responsibilities for oil sector security divided between the Oil Police and the other security elements?

The South Oil Police Department's task is to protect the Oil Ministry's sites: wells, pipes, stations, and staff. Our job is at the gates and inside the sites, while outside of those sites is not our job but other security forces', such as the [field] operations and police department. We have lots of coordination with these formations.

So, bottom line is that we are in charge anywhere there is oil. We are responsible for protection, and we have about one battalion of policemen in each field.

The South Oil Police Department is deployed in four provinces - Basra, Nassiriya [Dhi Qar], Amara [Missan], and Muthanna - and those sites account for about 90 percent of Iraq's production and exports.

The oil sites are mostly located near poor areas, where services are most lacking.

What other security forces are responsible at the oil sites that have seen recent protests? We have heard that reserve forces, including Counter-Terrorism Service (CTS) forces, have been deployed to Basra.

There are no military units inside the oil sites, but they are at the entrances of Zubair, West Qurna 1, and West Qurna 2.

What has been the Oil Police strategy in dealing with protesters?

When the protests started to increase, we took up positions 800 meters away from the entrances to oil sites, to be between those sites and the protesters.

We do not deal with the protesters directly, as this is the job of other security forces. We just stop those who attempt to enter the oil facilities, as this is our duty. And we have advanced to other positions



Brig. Gen. Ali Hussein Hilal al-Mayahi, director of South Oil Police, in his Basra office on July 29, 2018.

For example, West Qurna 2 was provided one battalion of special forces to hold the gate, as it was destroyed by some protesters, and also to hold some of the main roads which protesters had used to get close to the fields. This is in coordination with Basra Operations Command. Inside the field, the Oil Police and Strike Force provide protection.

There are no Counter-Terrorism Service units near oil fields in Basra. Yes, they are present in the province as reserve forces, but they haven't participated in any security mission until now.

as a proactive action, in coordination with the other security forces.

How much discretion is given to commanders at each oil site, and which decisions have to run through you?

A battalion commander has limited authority in the case of protests, especially near the oil sites operated by international oil companies.

My presence as director is necessary to support those battalions - to assign more forces from other battalions, or to coordinate with the operations command to send us reinforcements.

As a director, I can hold negotiations with the protesters and give them promises to reduce the tension, whereas a battalion commander has jurisdiction only within the area he is assigned to.

How many battalions of Oil Police are there? Is it true that some units will be merging?

Our department has 19 battalions. Four of them in Basra, two in Amara [Missan province], two in Samawa [Muthanna province], and one in Nassiriya [Dhi Qar province]. We have submitted a plan to the Energy Police department to merge four battalions in Basra [to form the] West Qurna Battalion, to reach the perfect size of a battalion in terms of manpower: 750 elements.

The Oil Police exists in a directorate of the Interior Ministry, guarding facilities of the Oil Ministry, alongside military forces organized under the Basra Operations Command. Where do your orders come from?

We exist within the command structure of the Energy Police, [a directorate of the Interior Ministry] in Baghdad. But to determine our movement, we follow orders from the Basra Operations Command.

The protests have actually improved our relations with Basra Operations Command and we are in constant meetings and coordination, as it is our backbone of support, especially since these protests began taking place outside the oil sites.

What are your rules of engagement when dealing with protesters? Are there any situations where you are authorized to use force?

No commander or official can give orders to open fire at the protesters, unless saboteurs use weapons to break into the oil sites. Then we can use force to defend ourselves and the oil facility, which we are assigned to protect.

It seems like a big challenge to guard infrastructure like wellheads and pipelines that stretch over a very large area. Do you have enough resources to do the job well?

We still use primitive methods in our job as Oil Police, relying on human resources without benefiting from technology the

rest of the world is now using, such as cameras and drones.

In terms of human resources, what we have is not enough to secure all the sites, nor can we prevent acts of vandalism like what happened to the [electricity] tower that was blown up near the West Qurna 2 field. If we had better technology, we could limit the vandalism of towers, wellheads, and pipelines.

Another problem is not just related to protesters and saboteurs but also smugglers. Does South Oil Police have the capacity to prevent smuggling?

Smuggling is a complicated matter because it requires special capabilities. When I was appointed as director of South Oil Police, I did not find a force involved in this matter, so I worked to create a special company to fight smuggling. We have chased many networks that have better capabilities than we do. We arrested tens of people who are being investigated, and some were submitted to the courts already.

There are conditions that allow the smugglers to smuggle oil. Pipelines cover a very large area. Some pipelines go through cities. Controlling all of that is a challenge, despite the constant monitoring we do.

We have petitioned the Oil Ministry to help us in monitoring tanker trucks movements by using GPS tracking and computers at checkpoints.

Where do smugglers sell their oil?

The smuggled oil is sold to brick factories and tar factories, while the oil products are sold to the gas stations, companies, and factories.

Do you have enough resources to protect oil sites in light of the recent protests?

The last thing we were expecting is the protests to target the oil fields, since those fields are the main source of revenues for Iraq, owned by the people. If they stop, Iraq's lifeblood will stop, too.

These protests gained in size suddenly, but our units have done their duty and protected the oil sites despite the lack of enough forces. We also don't have riot police.

I spoke personally with the prime minister in his last visit to Basra and

suggested to form Oil Riot Police, which happened - as an order was now made to form a riot company within each battalion, to be equipped and trained. BOC has bought all the necessary equipment for a company's size and the rest of companies in those battalions will be equipped gradually.

Do you think international oil companies have confidence in Iraq's ability to keep them safe?

At Majnoon field, the Chinese company Anton has just come to replace Shell on June 30th, and this company stopped working in Majnoon field, which forced us to intervene, comfort them, and persuade them to resume their role at the field. As for the rest of international companies, they already know the situations near the oil sites.

Our message to all the foreign international investment companies is that there is no reason to fear. No one will be allowed to violate these companies.

We tell them that these protesters are for general demands, and the government is handling the implementation of these demands. Some are demands on a personal level, and we are firm and will prevent them from reaching the companies.

We have also started to develop our capabilities further. We have confidence that these companies trust our capabilities to protect them more than their security companies. The recent protests have corrected some of our weaknesses, and we are in the process of making precautionary actions soon. So we urge the investment companies to improve their relations with the areas around them and care for them by making projects according to the social benefits funds, in order to increase the trust of the people in these companies.

I also urge the protesters to use peaceful methods, and to protect Iraq's fortunes. As long as the protests are peaceful, security forces will cooperate and demands will find their way to the government authorities. ♦

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Before turbulent election, Iraq ignored key warnings

Iraq's election commission failed to act on detailed UN warnings about serious problems, precipitating a crisis of confidence in the country's May 12 election results.

Iraq's electoral commission neglected to heed a series of pre-election warnings by the UN about serious flaws in its new electronic voting systems, according to official letters obtained by Iraq Oil Report.

The documents do not provide any evidence that the results of Iraq's May 12 national elections were fraudulently manipulated, but they do show that the Independent High Electoral Commission (IHEC) was aware of - and failed to address - technical problems that contributed to a crisis of confidence in the electoral process.

UN, IHEC, and Iraqi government officials. In some cases, legitimate ballots were improperly invalidated; in other cases, the technical problems likely caused accidental miscounts; and IHEC never fully addressed UN concerns about data security.

Such problems helped fuel widespread allegations of vote-tampering in the days after the election. The uproar resulted in Parliament legislation requiring a manual recount, which has complicated the already volatile period of post-election government formation.

October of 2017 and March and April of this year. The authenticity of the letters was confirmed by both a senior UN official and a former IHEC commissioner.

The letters from 2017 outline a rigorous process for selecting and implementing a new voting system - key elements of which IHEC does not appear to have followed.

The 2018 letters show the UN's mounting concern that IHEC was lacking the capacity to use its selected technologies and was failing to conduct tests that would help iron out problems ahead of election day.

"UNAMI offered advice to IHEC throughout the electoral process," said Alice Walpole, head of UNAMI, in a written response to questions from Iraq Oil Report. "That advice was followed in some but not all cases."

Warnings ignored

The problems began in early 2017, when IHEC - under the leadership of its previous slate of commissioners - decided to adopt electronic vote-counting technology for the first time, framing it as an effort to improve the integrity of the process while speeding up the counting of votes.

UNAMI's Electoral Assistance Office soon expressed its view that technology alone could not address concerns that frequently accompany elections in Iraq, such as lack of transparency and vulnerability to fraud. When a new board of IHEC commissioners was appointed in October 2017, the UN produced an advisory letter emphasizing that position.

Writing to IHEC commissioner Muhsen Hassan al-Musawi on Oct. 18, 2017, Arain said the UN was especially apprehensive after observing a recent training session held by Miru Systems, the Korean company that IHEC had contracted to provide vote-counting machines.

One key problem was that the Miru machines had a tendency to "identify and stamp valid ballots as invalid," Arain wrote



Riyadh al-Badran, the head of Iraq's Independent Higher Election Commission, speaks during a news conference in Baghdad on May 31, 2018.

The risks posed by IHEC's chosen voting systems were so great, the UN warned, that they could "significantly damage the credibility of the technology and undermine public trust in the whole electoral process," according to a letter sent on Oct. 18, 2017, by the United Nations Assistance Mission to Iraq (UNAMI).

Many of the technical issues raised by the UN were left unaddressed and created major problems on election day, according to Iraq Oil Report interviews with

The elections results have now been recounted and certified, but the crisis has still given Iraqis occasion to doubt the integrity of their elections. And it likely could have been avoided.

"When I look at the advisory [letters from UNAMI], I see it like a crystal ball," said a senior UN official.

Iraq Oil Report has obtained copies of four such letters, authored by UNAMI's principal electoral advisor, Aamir Arain, which were sent to IHEC in February and

to IHEC. Because the machines marked the paper ballots themselves, the UN was also concerned this flaw would end up “resulting in issues during recount and audit.”

That problem was left unresolved, according to a UN official, who said that a “significant” number of ballots cast in Iraq’s national elections were improperly marked invalid, and therefore not be counted. The precise number cannot be known, the official said, without a full manual recount.

Iraq conducted a manual recount of ballots that were subject to formal complaints – about 5 percent of the total votes cast.

“Only during the recount are we seeing the number of ballots that were determined as invalid by the machines incorrectly,” the UN official said. “Judges have made many decisions to change invalid ballots to valid.”

Musawi and several other former IHEC commissioners did not respond to repeated requests for comment. Miru did not respond to requests for comment.

Miscounting

Another key problem the UN reported in 2017 was that the Miru vote-counting machines had a tendency to miscount valid ballots.

The technology was supposed to work by scanning paper ballots, which voters marked with a special pen, and recording images of each one. When the polls closed, software was supposed to interpret those images and automatically translate the raw data into election results.

But the system did not always provide accurate tallies, and IHEC did not have a backup plan that accounted for the kinds of problems the UN was observing.

“Current IHEC procedures stipulate that if a technical failure occurs, the re-scanning will be conducted using a backup device, which might not address the initial issue if it is related to technology,” Arain wrote in October 2017.

To verify the accuracy of the vote-counting machines, UNAMI suggested that IHEC decrease its reliance on technology by performing a manual recount in 20 percent of polling stations on election day, before releasing any initial results. One former

IHEC commissioner said he supported that proposal, but that other commissioners ignored the recommendation.

“Current focus seems to be on fast delivery of the election results, overlooking backup procedures,” Arain wrote in October 2017.

These problems went largely unaddressed, the UN official and former IHEC official said, and caused irregularities on election day.

For example, most polling stations used Miru machines known as Precinct Count Optical Scanners (PCOS). But in some places, where PCOS machines were malfunctioning, another Miru machine was used, known as a Central Count Optical Scanner (CCOS).

Many political parties alleged the PCOS machines were tabulating results that seemed suspiciously skewed, while the backup CCOS machines were yielding results that generally aligned with their pre-election expectations. On this basis, some claimed the PCOS machines had likely been hacked to produce a false, predetermined result.

In light of the concerns expressed by the UN before the election, it now seems that such irregularities could be a product of technical problems rather than deliberate fraud - though fraud can’t be entirely ruled out. In either case, the problem raises legitimate doubts about the accuracy of the published results.

The extent of the potential miscounting remains unknown.

Lack of security

The UN also raised concerns about what measures, if any, IHEC was taking to secure its data.

Arain’s October 2017 letter recommended that IHEC get more information about the satellite system used to transmit voter data results to IHEC’s main computers in Baghdad, in particular asking whether the system was encrypted. These queries were never addressed, according one UN official and the former IHEC commissioner.

A letter sent to the president of IHEC two weeks before the election suggests

that Miru was resisting pressure from the UN to clarify technical issues related to the security of its machines.

“Unfortunately, the [UN] team was unable to provide consultation to improve the results management program because our team doesn’t have all the information related to the electoral management system (EMS) or the electoral survey system (ESS) or the electoral data archival system (EDAS) designed by Miru,” Arain wrote to IHEC on April 30, 2017. “The experience we had with Miru and its lack of readiness to discuss technical matters in the presence of the UN doesn’t indicate a good outcome or give the impression of credibility and openness.”

Instead of investigating the encryption issue, IHEC tried to compensate for the potential hacking vulnerabilities by having each polling station record its data in USB flash drives. That way, IHEC could check any data received by satellite against the flash drives, according to Sayed Kakei, who was an IHEC commissioner during the elections.

In most provinces, especially in Kirkuk, Sulaimaniya, Ninewa and Anbar, the data did not match, said Kakei. In Kirkuk he attributed the problem to many USBs not being delivered to IHEC headquarters from the province because parties suspected the commission would tamper with the results.

The size of the discrepancies and their cause remain unknown, though the ongoing manual recount could potentially help solve the mystery.

No auditing

As the election approached, the UN also expressed its alarm that IHEC had not taken basic steps to audit the integrity of its voting systems.

Miru’s refusal to disclose information about their election system had raised suspicions within the UN that the company knew that close scrutiny would expose major flaws in its technology.

“The Koreans, for whatever reason felt we were competitors - but that was [just] their excuse,” said the UN official. “We were asking them more critical questions, which IHEC staff didn’t have the ability to ask.”

The UN made several requests for IHEC to compel Miru to cooperate with UNAMI's IT advisory, according to the UN official. When Miru effectively rejected the offer, the UN focused on recommending a third-party audit.

It was a recommendation that "IHEC systematically slowed down," said the UN official. "They never did the audit."

Kakei, the former IHEC commissioner, confirmed that his fellow commissioners had been fearful an audit would expose problems that had arisen from their and the previous IHEC board's negligence.

"Why IHEC was not able to get a contract [with an auditor]... is because the president of the electoral department was afraid that if we negotiate or sign a contract with a third party to come in and conduct an audit, and this audit company finds any discrepancies or holes or issues with the source code and with the function of the devices, then we will be in big trouble," Kakei said.

IHEC announced a tender for the audit on Jan. 16, 2018, according to a statement and a sample of bid documents for the process found on the commission's website. Companies had until Feb. 12 to place a bid.

But the terms of the deal were seemingly designed to discourage qualified companies from bidding.

"We told them, 'If you use this language, no audit firm in the world will apply,'" said the UN official. One especially problematic provision, the official said, stipulated that "the audit firm is completely responsible for the effective operations of these machines in Iraq on election day. No reputable company can do this job."

The UN also questioned the qualifications of the companies IHEC had identified as finalists to compete for the auditing contract.

"There is no record confirming that these four companies have ever provided electoral IT system audit services, including process and source code audit - which UNAMI understands is the main aim of IHEC," Arain wrote to IHEC.

Reflecting an apparent loss of confidence in IHEC, the UN appealed to the Iraqi Cabinet to get involved. In response, in February 2018, the Cabinet formally asked the UN to

identify different companies to perform the IT audit.

"But IHEC didn't get on board," the UN official said. "They just kept slowing it down and waited so time would pass and the election would come. It's why today there was never an audit done. The technology IHEC utilized was without a third-party guarantee."

Kakei said IHEC did end up negotiating with one audit firm that was also on the UN's recommended list, but by that time, at the start of May, the commission had allotted just four days for the work to be done, a timeframe the company could not comply with.

Iraqi Prime Minister Haider al-Abadi confirmed in a July 4 press conference that his Cabinet had advocated for third-party auditors, and implied that the political independence of IHEC had been compromised.

"We insisted on finding a [auditing] company to run the tests. It is not our responsibility, but we did it," said Abadi. "Some political blocs encouraged IHEC not to do so. They wanted something else, and got us to where we are now. They elected an IHEC board through the ugly political consensus process - each elected one [member] for themselves, thinking they can achieve something."

The contract between IHEC and Miru is now the subject of an ongoing investigation by the federal Board of Supreme Audit (BSA). Kakei said he went to Korea to purchase 10,608 additional machines on top of the 46,000 purchased by the previous board of commissioners. Since his signature was in the annex of the initial contract, BSA investigators have interviewed him.

Heads in the sand

A simulation of the election was conducted at the end of April across Iraq's governorates, but it failed to meet the expectations of UNAMI.

"When we realized they don't want to do an audit, or a 20 percent manual recount [on election day], or listen to advice, we said, 'At least let's have a dry run, where you simulate election day and you run your machines and then try to transmit the results,'" the UN official said.

A full dress rehearsal could have potentially revealed problems that ultimately plagued election day, the UN believed. But IHEC's efforts were perfunctory at best.

"I would say it was a simulation in name only," the UN official said. It "should have included mock balloting, transmission of results, and reception of these results at the data center" in Baghdad.

But in reality, Miru tested parts of the system rather than the entire system.

"Crucial steps were ignored," the UN official said. "It was never a full dress rehearsal."

The Iraqi Parliament received documentation of the UN's pre-election warnings, which ultimately helped convince legislators to pass an amendment to the election law in June. The amended law replaces the nine commissioners of IHEC with a panel of judges and calls on them to oversee a full manual recount.

"We presented the UN report as evidence against IHEC in our quest for the amendment to the election law," said Zana Rotayi, an MP with the Komal party who served on the Legal Committee until July 1, when the Parliament's term ended.

That amended election law largely survived a challenge brought by several political parties in Iraq's Supreme Court, in early July. The court narrowed the recount significantly, however, to include only ballots that were affected by formal complaints.

Rotayi said the Parliament Legal Committee only received documentation of the UN warnings after the election.

But the UN official said the Parliament Legal Committee was alerted well before the election and also failed to take action, and politicians didn't listen because they were counting on technology to improve confidence in the electoral process while ignoring the steps necessary to achieve that result.

"Political parties," the UN official said, "were looking at the technology as a savior." ♦

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