

Briefing note on the final report of the OPCW Fact-Finding Mission on the alleged chemical attack in Douma in April 2018

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11 April 2019

(Comments and input with respect to this briefing note can be provided here)

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1 Summary

This briefing note reviews the Final Report of the OPCW Fact-Finding Mission on the alleged chemical attack in Douma on 7 April 2018, released on 1 March 2019. We focus on the methods and the conduct of the investigation.

- The FFM report attributes all relevant observations to a chemical attack, **without considering any competing explanation**. The report's handling of evidence raises several concerns:
 - The report states that new interviews were undertaken with witnesses in October 2018, six months after the initial interviews had been completed. No explanation is given for how the witnesses were identified or why these new interviews were undertaken. The report merges all witness testimony into a single account, without any analysis of gaps and discrepancies.
 - The FFM sought assessments in October 2018 from unidentified experts on the "trajectories" of the gas cylinders assuming they had been dropped from the sky, without considering alternative routes of delivery such as stairs. No explanation is given for why, if these assessments were necessary, they were not obtained in April 2018 when the experts could have inspected the sites.
 - The report excludes media files without timestamp metadata, but includes files with timestamps that are incorrect. A serious analysis of this material would have combined all available evidence to infer the timing and sequence of images with or without metadata.
 - The FFM declined to proceed with exhumations which might have allowed victims to be identified.
- Key observations that favour a managed massacre over a chemical attack are ignored, or evaluated without considering any alternative explanation to a chemical attack:

- The report is written to make it appear as if the witnesses who reported that the hospital dousing scene had been staged were never formally interviewed by the FFM, downgrading their testimony to “other open-source video material”.
- The report ignores the visual evidence that the fire in the room below the cylinder at Location 2 had been lit before the cylinder had discharged its contents.
- The report attributes the visual evidence that the victims at Location 2 had made no attempt to escape to “an agent capable of quickly killing or immobilising”, without considering the possibility that the victims had been killed elsewhere.
- The report records, without explanation, that the Team Leader was “redeployed for information-gathering activities from all other available sources” three days after arriving in Damascus. This decision could have been taken only by the Director-General.
- OPCW’s conduct of the investigation of this alleged chemical attack **violates rules laid down in the Chemical Weapons Convention**, which do not empower the Director-General to interfere with the investigation once the inspectors have been dispatched, and stipulate that the final report must be produced within 30 days of the inspection team’s return to base.
- From the contrast between the shortcomings of this anonymous report, and the professionalism of a report on another investigation by the Fact-Finding Mission that was signed by the Team Leader Kalman Kallo and released in July 2018, it is reasonable to infer that Kallo did not write this Final Report. A proposal that all members of the FFM team should give a briefing on the Final Report was voted down by the OPCW Executive Council on 14 March 2019.
- The apparent removal of the Team Leader, the exclusion of evidence that the hospital dousing scene was staged, the delay in producing this anonymous report and the refusal to allow a briefing by the FFM team raise concerns that criminal activities – the staging of a chemical attack using the bodies of civilians – have been covered up. In most jurisdictions, **the duty to disclose such a cover-up would override the confidentiality agreements that OPCW employees are required to sign**.
- This report discredits OPCW as a source of impartial investigation and undermines it as an international institution that is fit to be entrusted with maintaining the prohibition of chemical weapons, let alone with the remit to “identify the perpetrators of the use of chemical weapons” assigned by a resolution of the Conference of States Parties in June 2018.

2 Introduction

From the Director-General’s statement to the OPCW Executive Council on 16 April 2018, the Interim Report released on 6 July 2018, and this Final Report, we can reconstruct the timeline of the FFM. The Interim Report states that “Three FFM subteams were deployed to two locations at different time intervals to conduct activities relevant to the respective mandates.” An FFM team led by Kalman Kallo investigating alleged chemical attacks on the Syrian Army in Aleppo in 2016 had just completed its fifth deployment to Damascus between 29 March and 7 April 2018. For the investigation of the Douma incident, an FFM team of nine inspectors was formed on 9 April. On 10 April the names of the team members were notified to the Syrian delegation to OPCW, and on 14 April the team arrived in Damascus where they met with officials of the National Authority, a Syrian government agency that had been set up to oversee Syria’s compliance with the Chemical Weapons Convention. The team began conducting interviews on 15 April, began on-site inspections on 21 April and remained in Damascus till 2 May. A second “element” of the FFM was deployed on 16 April to “conduct further interviews and sampling activities in ‘Country X’”. The date that this second element returned is not given, but the last samples were dated 30 April. Evidently OPCW was not satisfied with the results of this first round of interviews in Country X, as the Mission Timeline records for 9–15 May that “FFM redeploys to conduct interviews”. This can only be the third subteam, returning to the location in Country X where the second team had conducted interviews. We can reasonably

assume that the neighbouring country denoted “Country X” was Turkey, and that those interviewed in Country X were people affiliated to the opposition who had relocated to Idlib under the evacuation agreement reached on 8 April.

The Mission Timeline given in the Final Report records that on 17 April, three days after the FFM team had arrived in Damascus but before on-site inspections began on 21 April, the Team Leader was “redeployed for information gathering activities from all other available sources”, leaving the Deputy Team Leader in charge in Damascus. This decision, which could have been made only by Ahmet Üzümcü, the OPCW Director-General and head of the Technical Secretariat, is surprising: why was the Team Leader suddenly redeployed from on-site inspections to take charge of information gathering activities that would have far less evidential value? The procedures laid down in the Chemical Weapons Convention (Part XI of the Verification Annex, “Investigations in cases of alleged use of chemical weapons”) do not empower the OPCW Director-General to micro-manage an investigation in this way. The Director-General is responsible only for selecting the leader and members of the inspection team, briefing them, dispatching the team, and transmitting the team’s reports to the Executive Council and States Parties.

There is no record in the timeline that the Team Leader ever returned to Damascus. Although the FFM report on alleged chemical attacks in Aleppo in 2016 that was released on 2 July 2018 was signed by Kalman Kallo as Team Leader, neither the Interim Report nor the Final Report on the Douma incident identify the Team Leader.

As described in our earlier briefing note, OPCW Fact-Finding Missions from 2015 onwards had been split into Team Alpha which worked with NGOs to investigate alleged chemical attacks in opposition-held areas, and Team Bravo which worked with the Syrian government to investigate alleged chemical attacks on Syrian government forces. No explanation is given for why a third subteam was formed for the Douma investigation and deployed for a second round of interviews in Turkey during 9-15 May.

There is no information about how conflicts of interest were managed by OPCW. For instance, Lt-Col Leo Buzzerio, the head of the OPCW Information Cell with responsibility for collection and analysis of open-source materials, is a US military intelligence officer. Clearly Lt-Col Buzzerio would have been in a difficult position if he had presented evidence that this incident which provoked a US-led missile strike on Syria had been staged.

The report invokes “epidemiological principles” in the form of criteria for establishing whether an association between exposure and outcome is causal. These criteria are irrelevant to the investigation as no association between exposure (to the contents of the cylinders) and outcome (death) was demonstrated. The report does not establish where or when the victims died. A more fundamental methodological error is that the report examines only one possible explanation – a chemical attack – without considering alternative explanations such as staging. A maxim taught to a generation of epidemiologists emphasized: “You can’t exclude the explanation you haven’t considered”. Evidence can be evaluated only by comparison of competing explanations.

The report does not reach a definite conclusion, but states that there are:

reasonable grounds that the use of a toxic chemical weapon has taken place. This toxic chemical contained reactive chlorine. The toxic chemical was likely molecular chlorine.

and that it is:

possible that the cylinders were the source of the substances containing reactive chlorine

3 Handling of evidence

3.1 Witnesses

The Final Report provides no information about how witnesses were selected. Earlier FFM reports that interviewed witnesses in Turkey mentioned organizations that had selected these witnesses. For the report on the alleged chemical attack in Khan Shaykhun in April 2017 these organizations included: a Belgian non-profit company named Same Justice / Chemical Violations Documentation Centre Syria that has never complied with the legal requirement to file accounts; the UK government-funded White Helmets; and the Syrian Institute for Justice coordinated by Jamal Juneid who had been in charge of external relations for the “Free Governorate of Aleppo” till 2016.

The Final Report records that between 14-22 October the FFM redeployed to conduct interviews: no information is given about why these additional interviews were conducted, or where and with whom they took place. As there is no record of another deployment of the FFM to Syria after 2 May 2018, we can infer that they were conducted outside Syria with people affiliated to the opposition, and (by comparing the interim and final reports), that they included five individuals not interviewed during the first deployment to Turkey in April and May. The FFM does not reveal whether any of the 21 individuals interviewed during the first deployment to Turkey were re-interviewed in October, or whether their stories had changed between May and October.

The information obtained from all interviews is summarized in 26 paragraphs, without any distinction between information obtained from those who had remained in Damascus and those who had relocated to Idlib under the evacuation agreement (who would have been opposition supporters), and without any effort to establish whether the presence of each witness at the scene was corroborated by other evidence. For instance this paragraph reports contradictory testimonies without any attempt to establish which of these accounts is compatible with the images recorded at the hospital:

*Some witnesses stated that **many people died in the hospital** on 7 April as result of the heavy shelling and/or suffocation due to inhalation of smoke and dust. As many as **50 bodies were lying on the floor** of the emergency department awaiting burial. Others stated that there were **no fatalities in Douma Hospital** on 7 April and that **no bodies were brought to the hospital** that day.*

3.2 Environmental and biomedical samples

The report states that:

All the environmental samples from Douma were collected by the FFM team on Syrian territory in the presence of representatives of the Syrian Arab Republic.

The Annexes record that the FFM also received environmental samples from witnesses on 18, 21 and 22 April. If the statement above is correct, these samples can only have been received outside Syrian territory. The Annex lists four items received on 21 and 22 April: pieces of timber, scarf from basement, stuffed animal from basement, piece of clothes from victim. It is not clear what evidential value these items could have had, with no chain of custody, when samples from the sites of the alleged attacks could be taken directly.

The samples were analysed in two batches:

The results of analysis of the prioritised samples submitted to the designated laboratories were received by the FFM team on 22 May 2018 and 8 February 2019.

No explanation is given for why “prioritised samples” collected in May 2018 should have taken more than eight months to analyse.

3.3 Images

The Annexes list 206 media files without any key to content, upload times or metadata, of which 113 were reported to contain metadata. The report stated that only files that contained metadata were evaluated:

*Understanding that many of the same sources of information are available online, material reviewed by the FFM was provided to the FFM by casualties, witnesses and medical staff. **Only digital information that contained metadata was evaluated for the purposes of this report.***

A description of images from the hospital dousing scene appears to contradict this by stating that only “some videos” contained metadata:

Some videos contained metadata and were recorded approximately three hours after the reported time of incident.

A natural reading of this sentence, interpolated into a description of the scene, is that this description is based on videos with and without metadata. There are more contradictions between the main body of the report and the Annexes. The report states that:

Videos taken inside Location 2 were recorded between 13 and 16 hours after the reported time of the incident, based on retrieved metadata (Annex 11)

This is contradicted by a chart in the Annex showing that the first images of “decedents” were timed to shortly after 10 pm on 7 April, consistent with other reports that the timestamp of the first video from Location 2 was 10:06 pm. This is three hours, not “between 13 and 16 hours” after the time of 7 pm that the FFM gives as “reported time of the incident”.

A note in the Annex states that:

From an examination of the metadata, the videos and photos provided by witnesses in relation to Locations 1, 2, and 4 were created at the reported time of the alleged incident.

This contradicts the statements in the main body of the report that videos of the hospital dousing scene “were recorded approximately three hours after the reported time of incident” and that videos at Location 2 were recorded “between 13 and 16 hours after the reported time of the incident”.

Thus although the report has excluded files without metadata (though even this is ambiguous in the description of the hospital dousing scene), it has included files from Location 1 and Location 2 for which the timestamps do not match the reported times of the incidents, and it makes what appears to be an unequivocally false statement that the timestamps match the reported times. The FFM was well aware that timestamps cannot be relied on, having concluded that the content of four files timestamped 12 June 2015 was nevertheless “related to the incident on 7 April 2018 in Douma”,

Timestamps of media files may be incorrect for various reasons: the device may have had its clock set incorrectly, the file may have been edited and saved, or the metadata may have been deliberately altered. A serious analysis of this material would have included all media files with or without timestamps, and would have tabulated for each file the timestamp if any, the earliest record of an uploaded image (which gives a latest bound on the time of recording), and the evidence of timing contained in the images. This visual evidence would include visible clocks/watches, calculation of solar time from shadows or twilight stage, and arranging images of the same scene in sequence based on continuity.

3.4 Failure to proceed with exhumations

The Interim Report of the FFM, released on 6 July 2018, stated that the intention to exhume bodies from mass graves was “communicated to the Syrian Arab Republic in Note Verbale NV/ODG/214827/18 and preliminary preparations were undertaken by the Secretariat for this eventuality.” The Final Report gives the date of this Note Verbale as 26 April, and states that:

The Syrian Arab Republic replied in Note Verbale No. 45 on 4 May 2018 and enumerated the conditions to be met in order to conduct the exhumation. With due consideration of the time elapsed since the alleged incident, the possibility was eventually not explored any further.

If the FFM had decided before July not to proceed, we might have expected this to be included in the Interim Report released on 6 July. If the FFM had not decided at this time whether to proceed, we might have expected some explanation for the delay in reaching this decision. Although the time elapsed might have limited the value of autopsies or tissue sampling for determining the cause of death, it would still have been possible to obtain DNA samples, which might have allowed victims to be identified through matching with living relatives and with each other. Other identifying information might have been obtained from clothing, items in pockets or X-rays. Establishing the identity of the victims would have been critical in determining whether those who came forward to give interviews reporting that their relatives had died at Location 2 were telling the truth.

3.5 Consultations with experts

The delay from October to December is attributed to consultations with unidentified toxicologists and engineering experts, with “reception of engineering studies” in December. There is no explanation for why, if the FFM had considered it necessary to obtain expert opinions on the possible trajectories of the cylinders found at Locations 2 and 4, they did not request on-site examinations while the FFM was deployed in Damascus in April/May, rather than six months later when inspection of the sites with cylinders in position was no longer possible. No information is given on how the experts were selected, how possible conflicts of interest were managed, or whether the opinions quoted represented the consensus of all experts.

The experts were asked to provide assessments on “the trajectory and damage to the cylinders found at Locations 2 and 4”. For Location 2 “the expert provided reports and numerical simulations on the impact of steel cylinders against reinforced concrete slabs”. For Location 4: “The team consulted experts in mechanical engineering, ballistics and metallurgy to provide qualified, competent assessments of the cylinder trajectory. A natural reading of this is that these experts were not asked to assess whether the holes in the roof and the positions of the cylinders could be accounted for by anything other than being dropped from the sky. No technical details of the simulations or calculations are given: the figures lack explanatory captions to describe what they show. Figures labelled “Computer modulation of the aperture and cylinder impact” and “Diagram demonstrating the possible movement of the cylinder at low speed” appear to model the deceleration of the cylinder at Location 4 during the first few milliseconds after impact. These models appear to be based on the cylinder striking the roof at 60 m/s, or on a fall from 150 metres. No basis for these modelling assumptions is given; a Russian expert has pointed out (at 25’30” in the video) that Syrian helicopters over a defended area would fly at an altitude of at least 1000 metres, and that a cylinder dropped from such a height would strike the roof at far higher velocity. To account for the size of the hole in the roof, the FFM postulates that the cylinder struck the roof with its long axis parallel to the ground, broke through and bounced sideways off the floor of the room on to the bed:

The studies further indicated that, after passing through the ceiling and impacting the floor at lower speed, the cylinder continued an altered trajectory, until reaching the position in which it was found.

No visual evidence of any impact on the floor is shown, and no explanation is given as to how a cylinder falling vertically on a flat floor would be deflected sideways. The cylinder is in a harness with fins, and the cylinder valve is still present. The FFM does not explain how the contents of this cylinder were discharged if the valve was intact and the cylinder was not ruptured. An expert opinion provided to us and to others noted that if the cylinder had broken through the roof with its axis parallel to the ground, the valve and the fins would have been sheared off.

4 Key observations that favour a managed massacre over a chemical attack

4.1 Staging of hospital dousing scene before alleged attack

One of the videos uploaded from Douma was a scene in a hospital where children were shown being doused with water, supposedly to decontaminate them after a chemical attack. The children in the video showed no signs of exposure to a toxic chemical. A briefing by the Russian Defence Ministry on

13 April 2018 showed a clip of an interview with two medical staff who were seen in this video, and reported their account of the scene:

those who had been brought to the hospital had no injuries caused by chemical agents. When civilians were receiving first aid, some unidentified people rushed in the hospital. Some of them had video cameras. These people started shouting, spreading panic, and dousing other people with water. They shouted that all people in the hospital were victims of chemical weapons use. Patients and their relatives started dousing each other with water. After the action was filmed, the unknown persons escaped immediately.

One of the children shown in this video was identified as 11-year old Hassan Diab, who with his father told his story in an interview with Rossiya 24 on 18 April 2018.

We were in the basement. Mama told me that we have nothing to eat today, we will eat tomorrow. We heard people shouting in the street – go to the hospital. And as soon as I walked in, they grabbed me and started pouring water on me. Here's me in the video.

His father added that “Militants gave them dates, biscuits and rice for participating in this film and released everyone to their homes.”

The OPCW Director-General stated on 16 April that the Syrian authorities had offered 22 witnesses who could be brought to Damascus. The Interim Report stated that 13 interviews with witnesses had been conducted in Damascus, but gave no further details : “Analysis of the testimonies is ongoing”. The Russian representative to OPCW reported that six of the 17 witnesses brought to The Hague by Russia for a press conference in 26 April had already been interviewed by OPCW:

Six of the Douma witnesses brought to The Hague have already been interviewed by the OPCW technical experts, Russia's permanent representative to the OPCW, Aleksandr Shulgin, said. “The others were ready too, but the experts are sticking to their own guidelines. They've picked six people, talked to them, and said they were ‘completely satisfied’ with their account and did not have any further questions.”

The Final Report appears either to deny that these witnesses had been formally interviewed by the FFM before they were brought to The Hague, or to have decided that their subsequent appearance at The Hague was a sufficient reason to exclude the testimony they had already given in formal interviews:

*The statements from **alleged** witnesses who came to The Hague (presented in some media, see Annex 2, second bullet point) were dealt with by the FFM as other open-source video material.*

From other paragraphs however it appears that the FFM has included interviews with some of the medical staff who testified at The Hague:

*A number of the interviewed medical staff who were **purportedly** present in the emergency department on 7 April emphasised that the presentation of the casualties was not consistent with that expected from a chemical attack.*

The report conveys doubt about whether these witnesses were present in the hospital by using the words “alleged” and “purportedly”, without reporting whether their presence was corroborated by videos or other evidence. The FFM reports that the hospital dousing scene was timed by witnesses to “shortly after” 7 pm, and quotes only one eyewitness account of this scene:

A witness reported that he was asked at the emergency department to help hospital staff to wash casualties and, while performing this task, a man who was not from the hospital entered, shouting “Chemical! Chemical!” and panic ensued. Bystanders then began undressing and washing people and proceeded to give inappropriate treatment.

The presence of “bystanders” and cameras is unexplained.

The report describes one or more videos showing the hospital dousing scene:

*A video taken at the medical treatment facility depicts approximately 20 people (males, females, adults and children) being treated in what appears to be a temporary facility. **Some videos contained metadata and were recorded approximately three hours after the reported time of incident.** Simple decontamination procedures (washing with water) are carried out on a number of adults and two to three children roughly three to five years of age. Any distress displayed is noted to be mild. There are three young children of approximately 12 to 18 months of age (one male, one female and one of unidentified gender), each of whom is displaying objective signs of respiratory distress manifesting as laboured breathing and accessory muscle use. None appear to be cyanotic. One (male) child is intubated and seen to be receiving manual ventilation and later mechanical ventilation. The other (unidentified gender) child is seated partially upright with an adult and is being treated with a simple oxygen mask. The third (female) child is unresponsive with accessory muscle use, sluggish pupils and miosis estimated to be approximately three millimetres in diameter. She displays no objective signs of hypoxia. Multiple children are seen being treated with an unknown medication via a metered dose inhaler or small volume nebuliser. The adults and remaining children being treated in the video show signs of mild respiratory distress and coughing. No critically ill patients are seen aside from those paediatric patients previously described. There are no visible signs of external trauma.*

This description is difficult to follow: the paragraph starts out by describing “A video taken at the medical facility ...”, then interpolates “Some videos contained metadata and were recorded approximately three hours after the reported time of incident” before continuing with a description

of what may or may not be the single video referred to in the first sentence. The description of the scene matches that in the uploaded video in which Hassan Diab was seen being doused with water except that the only individuals described as being washed with water are “a number of adults and two to three children roughly three to five years of age”. There is no mention of the older children, who included Hassan Diab.

The time of the alleged chlorine attack at Location 2 had been given as 8:22 pm by the White Helmets in a tweet at 5:42 am (local time) on 8 April, and as 9 pm by Dr Zaher Sahloul of the Syrian-American Medical Society. The video showing the cylinder apparently frosted by autorefrigeration was timed at 10:06 pm.

If it were established that the hospital dousing scene at about 7 pm was staged and that it was planned **before** the incident at Location 2, this would be strong evidence that the incident at Location 2 was staged. For clarity, we spell this argument out. Under the hypothesis of a real attack at Location 2, it would be a highly improbable coincidence for this attack to occur shortly after a staged casualty scene at the hospital. Under the hypothesis of a staged attack at Location 2, it would be highly probable that a casualty scene at the hospital would be staged at about the same time, possibly beforehand.

The FFM has distorted the evidence on several points:

- Hassan Diab’s testimony that he was lured to the hospital for the dousing scene has been excluded, and the description of the video recordings omits his role.
- Instead the report presents the statement of a single unnamed witness in such a way as to suggest that the dousing scene was a spur-of-the-moment panic.
- Without any explanation of why the earlier reports giving the time of the incident at Location 2 as after 8 pm were wrong, the FFM has brought forward the time of the incident at Location 2 to 7 pm, even though the first images from this site showing a cylinder still frosted were timestamped after 10 pm.

The effect of these distortions is to obscure the evidence that the hospital scene was staged and the implications for staging of the alleged incident at Location 2. This staging would most likely have been carried out by bringing to Location 2 the bodies of victims who had died somewhere else. This would imply either a managed massacre, or possibly an opportunistic staging, recycling bodies of civilians who had been asphyxiated elsewhere while sheltering from bombardment.

4.2 Fire lit before cylinder had discharged its contents

The Interim Report referred only obliquely to the visual evidence that a fire had been lit in the room below the cylinder at Location 2, listing “wipes taken from the burnt wall” among the samples collected. The Final Report makes clear that a fire was set, and reports an explanation given by a witness:

The FFM team noted the blackening of the ceiling and the rim of the aperture from the room immediately below the point of impact (see photo above). It also noted the blackened sooty walls in the corner of the room, as well as what appeared to be the ashen remnants of a small fire. One interviewed witness stated that a fire had been lit in the room after the alleged incident, reportedly to detoxify it of the alleged chemical.

The first video recorded at this site, timed at 10:06 pm, shows that the soot from the fire, no longer burning, has blackened the wall and the ceiling, but that the cylinder appears to be frosted from autorefrigeration. From this and subsequent images it is evident that the soot on the cylinder was beneath the frost: in other words the blackening of the cylinder preceded the autorefrigeration. The cylinder valve had been broken off or removed by the time that images of the cylinder in daylight were recorded. Its absence from the site is unexplained.

If the cylinder was lying on its side or tilted downwards when the valve was first opened, removed or broken off, it would have squirted out liquid chlorine until the level of liquid in the cylinder fell below the valve opening. As the cylinder released gas generated by boiling of chlorine, autorefrigeration would begin: to cool a steel cylinder weighing 64 kg from 24 °C (the recorded temperature at Damascus airport at 8 pm) to -34 °C (the boiling point of chlorine at atmospheric pressure) would have required evaporation of about 6 kg of liquid chlorine. After this, the rate of discharge of the remaining chlorine would have been limited by the rate of heat transfer to the cylinder from its surroundings. In a reported experiment to estimate the maximal rate of gas withdrawal from a 150 lb chlorine cylinder in still air at 21 °C, the rate of discharge after autorefrigeration had reached a steady state was about 4 kg/hour, implying a heat transfer rate of 0.32 kW across a 55 K temperature difference.

The witness's statement that the fire had been lit after the alleged incident is not consistent with the temporal sequence inferred from the images: fire causing blackening of the ceiling and the cylinder, followed by autorefrigeration. It has been suggested that the fire was lit in order to melt the fusible safety plug. Chlorine cylinders have such a plug on the rear of the valve, designed to melt and release pressure in a relatively safe manner if the temperature exceeds 70 °C.

4.3 Victims did not attempt to escape

The report notes that:

*videos taken inside the building indicate exposure to a rapidly incapacitating or a highly toxic substance. The victims do not appear to have been in the midst of attempting self-extrication or respiratory protection when they collapsed, indicative a very rapid or instant onset. This type of **rapid collapse is indicative of an agent capable of quickly killing or immobilising.***

As reviewed in our earlier briefing note, experts who commented in April 2018 had agreed that these images were compatible with a nerve agent but not with chlorine. In industrial accidents with chlorine those exposed do not drop dead on the spot but usually manage to escape. The build-up of gas in the apartments below would have been limited by autorefrigeration of the cylinder, as noted above, and by escape of gas through the windows of the stairwell; the report notes that "Each level on the staircase has a tall glass-shattered window facing onto the street."

In reported incidents of chlorine poisoning, non-fatal cases requiring hospital treatment typically far outnumber fatal cases. For instance the Annual Report of the American Association of Poison Control Centers for 2016 [Table 22(A)] shows that in that year 3845 cases of poisoning by chlorine gas were reported in the US, of which 1175 were treated in a health care facility and two were fatal. The case fatality rate of the incident at Location 2, with 43 on-the-spot fatalities documented by images but no reports of cases requiring prolonged hospital treatment, is unlike any recorded incident of chlorine poisoning.

The FFM notes that images at Location 2 showed that many victims had wet hair, which it tentatively attributes to diaphoresis (profuse sweating):

Many of the victims appear to have wet hair in what seems to be an otherwise dry environment.

The presentation of wet hair in an otherwise dry environment is difficult to assess and is possibly due to profound diaphoresis shortly before death.

This does not explain why only the faces and hair of the victims are wet, or why they remain wet after their supposedly sudden deaths which the report assigns to a time three hours before the images were recorded. Diaphoresis is not a feature of chlorine exposure. A possible explanation suggested elsewhere, consistent with the hypothesis that victims had been killed somewhere else, is that victims' faces were washed after death to remove signs of how they had been killed.

5 Conclusion

The most fundamental error in the Final Report is the failure to consider any hypothesis other than a chemical attack. There are many observations from the Douma incident – for instance the position of the bodies at Location 2, or the position of the cylinder at Location 4 – which are improbable under the hypothesis of a chemical attack, but probable under the hypothesis of a staged incident.

The report provides no explanation for the “redeployment” of the Team Leader from Damascus on 17 April, leaving the Deputy Team Leader in charge of the on-site inspections. Interviews with witnesses in Damascus had begun on 15 April. As witnesses who reported that the hospital scene had been staged had been identified by the Russian Ministry of Defence by 13 April, it is likely that these would have been among the first witnesses presented to the FFM to be interviewed. The Russian envoy to OPCW, Alexander Shulgin, reported on 26 April that six of the witnesses who later told their story in The Hague at a press conference had been formally interviewed by the FFM. Shulgin reported also that the inspectors had said that they were “completely satisfied” with the account given by these witnesses. It is probable that the witness testimony obtained by the FFM during the first two days of interviews in Damascus was reported to OPCW HQ. In the absence of any other explanation, it is possible that the report of this testimony was the basis for the Director-General’s decision to remove the Team Leader.

As interviews had been completed by 15 May and laboratory results had been received by the FFM on 22 May 2018, it should have been possible to produce a final report by mid-June. A Note by the Director-General dated 28 June 2018 made no mention of the impending release of an interim report, stating only that “the FFM continues to analyse all available information, including information gathered during the course of its deployments to the Syrian Arab Republic”. The Interim Report released on 6 July 2018 reported that environmental and blood samples had tested negative for nerve agent. but did not report any witness testimony even though all interviews had been

completed by 15 May. From the timeline, it appears that no further work on the investigation was undertaken till October. The new Director-General who took office on 25 July 2018, Fernando Arias, reported at each meeting of the Executive Council up to February 2019 only that:

The FFM continues to collect and analyse information with regard to the alleged use of toxic chemicals as a weapon in Douma and will provide a final report on its findings in due course.

This long delay in producing a final report contravenes rules laid down in Part XI of the Verification Annex of the Chemical Weapons Convention which stipulate that:

The inspection team shall, not later than 72 hours after its return to its primary work location, submit a preliminary report to the Director-General. The final report shall be submitted to the Director-General not later than 30 days after its return to its primary work location. The Director-General shall promptly transmit the preliminary and final reports to the Executive Council and to all States Parties.

The Mission Timeline indicates that efforts to complete the final report began in October, with new interviews outside Syria (most likely in Turkey with opposition activists), and commissioning opinions from “engineering experts” that the cylinders could have been dropped from the sky.

It is instructive to compare the final report on the Douma incident, in which there is no serious effort to resolve discrepancies between witness accounts, with the FFM report on the Aleppo incidents in October and November 2016, released on 2 July 2018. This report, signed by Kalman Kallo as Team Leader, documents in detail the methods used to evaluate evidence. For instance methods for combining information from different witnesses and resolving discrepancies are described as follows:

Next, the verbal content of each interview (the video, audio, and transcripts thereof) was carefully and separately reviewed by at least two FFM inspectors. A timeline-based analysis table was produced in order to organise the individual responses. This allowed each respondent’s description of locations, sights, sounds, smells, symptoms, and actions to be categorised according to relevant variables. During the interview review process, FFM inspectors matched the interviewees’ responses with their respective variables in the analysis table. The result for each interview was a unique description of the evolving, sequential event, from the perspective of interviewees. Once all the relevant narratives had been individually assembled, they were compared against one another. The final stage of interview analysis involved cross-checking all of the data to identify commonalities, gaps, and discrepancies.

Commonalities formed the basis for the prevailing narrative, and gaps were addressed and discrepancies were analysed to determine their significance. During the first three deployments and the subsequent initial analysis process, the FFM was able to identify a number of gaps and sought to address them. Furthermore, the FFM anticipated reasonable discrepancies in the events recalled from the interviewees, given that some of them were themselves casualties, that significant time had lapsed between the reported incidents, and that the interviews and combat operations in the areas of interest were ongoing. In cases where discrepancies were minor or of little consequence to establishing a prevailing narrative (i.e., the recollection of general timings and distances), they were disregarded. If reconciliation with the prevailing narrative was not possible, the discrepant narrative could be considered limited in value and therefore difficult to objectively address the FFM's mandated aims.

Neither the Interim Report nor the Final Report on the Douma incident identify the author, though the identity of the technical editor Reina van Nieuwkerk-Rácz can be inferred from the metadata. As noted above, the Final Report contains numerous contradictory statements for instance about metadata, and makes no attempt to reconcile evidence from different sources or to resolve discrepancies. The author appears to have lacked enough technical knowledge to add explanatory captions to the figures provided by the engineering experts. From the contrast with the evident technical competence and professionalism of Kallo's report on the Aleppo incidents, we can reasonably infer that the Final Report on the Douma incident was not written by Kallo.

The agenda for the Executive Council meeting from 13 to 15 March 2019 included an item "The Director-General is expected to provide an update in regard to the OPCW Fact-Finding Mission in Syria", with no mention of FFM team members. On 14 March the Netherlands delegation tweeted that a Russian proposal for "another Douma briefing with all involved of members of FFM" had been voted down by the Executive Council. No explanation was given for why this apparently reasonable proposal had been opposed. A commentary posted on 25 March by the Russian Ministry of Foreign Affairs noted that the Executive Council had blocked the proposal to hold a briefing with "all without exception experts of the OPCW Mission" and commented that "such a briefing could reveal very serious inconsistencies in the anti-Syrian conclusions in the Final Report". Evidently the Foreign Ministry believed that some members of the FFM Team would not have endorsed the report's conclusions if they had been given a chance to speak.

The apparent removal of the Team Leader, the exclusion of evidence that the hospital dousing scene was staged, the disregard of other evidence, the long delay in producing this anonymous report and the refusal to allow a briefing by the FFM team raise concerns that criminal activities – the staging of a chemical attack, using the bodies of civilians – have been covered up. In most jurisdictions, **the duty to disclose such a cover-up would override the confidentiality agreements that OPCW employees are required to sign.**

The conduct of this investigation by the past and present Director-General violates rules laid down in the Chemical Weapons Convention and brings OPCW into disrepute. On the evidence of this and the defects we have identified in previous reports of Fact-Finding Missions, OPCW is not fit to be entrusted with a remit "to identify the perpetrators of the use of chemical weapons in the Syrian Arab Republic", assigned by a resolution adopted by the Conference of the States Parties on 27 June 2018.

It is doubtful whether the organizations's reputation as an impartial monitor of compliance with the Chemical Weapons Convention can be restored without radical reform of its governance and working practices.

6 Acknowledgements

We thank Charles Shoebridge, Adam Larson and Michael Kobs for valuable discussions and input.

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