



THEMATIC REPORT

SMM facilitation and monitoring of infrastructure repair in eastern Ukraine

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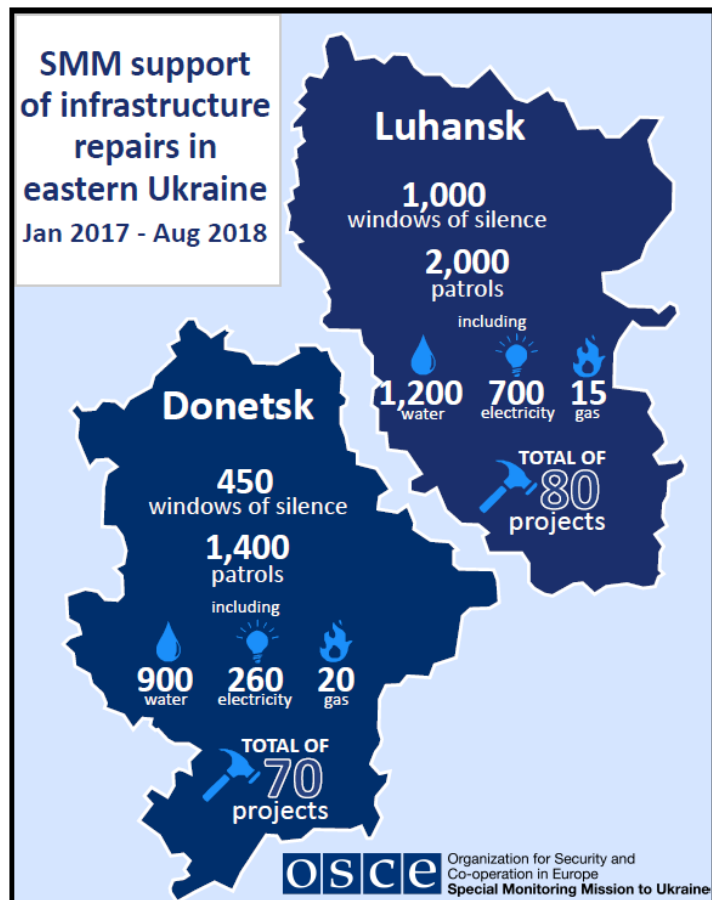
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Summary: Infrastructure in context

With the conflict in eastern Ukraine approaching its fifth year, the availability, adequacy and continuity of public infrastructure upon which civilians rely for electricity, water, fuel and sanitation remain a concern. Frequent conflict-related damage to infrastructure and conflict-related delays in maintenance and repair have left many people with intermittent interruptions, or entirely without access, to adequate water, sanitation, electricity and fuel. Many of the most essential infrastructure objects in Donetsk and Luhansk region are located on or near the contact line. Moreover, critical gas, water and electricity infrastructure are, in some cases, located right between the sides, often with military positions in the vicinity, exposing infrastructure to shelling and shooting. As a result, infrastructure is damaged, and often damaged once again following repair.

The mandate of the OSCE Special Monitoring Mission (SMM) to Ukraine is to contribute to reducing tensions and fostering peace, stability and security; and to monitoring and supporting the implementation of all OSCE principles and commitments.¹ The Mission is tasked by the OSCE Permanent Council to monitor and support respect for human rights and fundamental freedoms, among other tasks. In addition, the Mission is tasked to gather information and establish facts, as well as report on the security situation and facilitate the dialogue on the ground in order to reduce tensions and promote normalization of the situation. All OSCE participating States have committed to “respect and ensure respect for international humanitarian law, including the protection of the civilian population.”² In line with its mandate and the OSCE principles, the SMM has regularly facilitated dialogue with the Joint Centre for Control and Co-ordination (JCCC) and now supports the exchange of information between the Ukrainian Armed Forces side of the JCCC and the armed formations, with the aim to support the maintenance and repair of infrastructure.



The facilitation and monitoring of repair and maintenance of essential infrastructure is a Mission priority and has represented a substantial part of the SMM’s efforts and resources throughout eastern Ukraine for the benefit of the people living there. Throughout the reporting period, the SMM facilitated and monitored 1,450 “windows of silence” through deploying 3,200 patrols for a total of 150 repair projects (see maps in Annexes 1 and 2). Windows of silence are localized ceasefires which have been agreed upon by the sides. The Ukrainian Armed Forces and the armed formations provide security guarantees, which are a commitment to refrain from firing

¹ Deployment of an OSCE Special Monitoring Mission to Ukraine, Permanent Council Decision No. 1117, 21 March 2014.

² CSCE Helsinki Document: The Challenges of Change, Helsinki Summit, the Fourth Follow-up Meeting, Helsinki, 10 July 1992

during specific periods and in specific locations, often to allow repair work to be conducted. To support infrastructure repairs, the SMM has also established the practice of deploying mirror patrols (patrols simultaneously and visibly present on both sides of the contact line) to effectively monitor adherence to windows of silence, as agreed by the sides during repairs. More recently, the SMM has complemented its monitoring through the use of unmanned aerial vehicles (UAVs) near repair sites and included relevant findings in its reports (see image of South Donbass Water pipeline leakage below). Throughout the reporting period, the SMM regularly included information on infrastructure repairs in its daily and weekly reports.

Methodology and structure of report

This report focuses on the impact of the conflict in eastern Ukraine on certain types of infrastructure and the delivery of basic services to civilians from January 2017 to August 2018. Drawing on the Mission's experience from monitoring infrastructure repairs in Donetsk and Luhansk regions, and its facilitation of dialogue, this report will provide:

- An overview of selected water, electricity, gas and communications infrastructure, and their operations and service delivery, highlighting the relationship between different types of infrastructure there and the effects of armed violence in eastern Ukraine;
- SMM-supported mechanisms for ensuring the provision of basic services; and
- SMM contributions, including facilitating and monitoring windows of silence and facilitating dialogue in support of operations, repair or maintenance of infrastructure.

Political framework for facilitation of infrastructure repair

Working Group on Security Issues (WGSI)

The Trilateral Contact Group's (TCG) Working Group on Security Issues (WGSI), chaired by the SMM Chief Monitor in his capacity as Co-ordinator, focuses on the implementation of security aspects of the Minsk agreements, which have implications for civilians living in areas close to the contact line. Occasional recommitments to the ceasefire, discussed and agreed upon by participants in the WGSI, often result in temporarily decreased levels of violence, allowing brief respite to civilians caught up in the fighting. Additionally, issues such as mine action and protection of critical civilian infrastructure are regularly raised in the WGSI. Issues related to the provision of basic services across the contact line are also discussed in TCG's Working Group on Economic Issues (WGEI), which has aimed to develop working solutions.

The situation of the Donetsk Filtration Station (DFS), which supplies potable water to nearly 380,000 people on both sides of the contact line, has in the past featured prominently in these discussions, especially when it has been at risk of substantial damage as a result of shelling or when workers have been injured or put at risk by cross-fire (see below for more detail). As a temporary measure for reducing risk to essential infrastructure, the possible creation of protection zones around such sites has frequently been raised and considered. Despite an official statement to that end, this never materialized into action on the ground.³

WGSI participants have also shared information on challenges in demining activities around sites of civilian infrastructure and details about damages to other sites. This information, usually shared with interlocutors on the ground, has allowed the JCCC to take steps to facilitate necessary repair works.

³ <https://www.osce.org/chairmanship/330961>

Joint Centre for Control and Co-ordination (JCCC)

The JCCC was established in September 2014 by Ukraine and the Russian Federation. Each posted a representative to jointly head the Centre and a staff of officers to be co-located. Its headquarters were initially established in Debaltseve but then moved to Soledar after armed formations took over the former in February 2015. The JCCC also had two co-ordination and observation groups, and observation posts in Donetsk and Luhansk regions. To facilitate repairs of critical infrastructure near the contact line, the JCCC adopted a liaison role for obtaining security guarantees (i.e. guarantees provided by the sides to refrain from firing during specific periods and in specific locations) from the Ukrainian Armed Forces and the armed formations and assisting in maintaining the ceasefire during repair works.

The facilitation of repair work by the JCCC, however, was routinely undermined by mutual distrust and fears that windows of silence could be used as cover for military activities. To partly alleviate such fears, the sides at the JCCC would agree on a repair plan which would include the specific company permitted to conduct repairs, the timeline and even the number of personnel or vehicles allowed at each site.

In December 2017, Russian Federation Armed Forces officers withdrew from the JCCC and departed Ukraine. In line with its mandate, the SMM continued to facilitate dialogue on the ground, including on the exchange of security guarantees for the repair and maintenance of civilian infrastructure. The SMM continued liaising directly with the Ukrainian side of the JCCC in Soledar. The SMM also maintained contact with the armed formations in non-government-controlled areas of Donetsk and Luhansk regions.

Through its liaison team, the SMM shared information about security guarantees and infrastructure repair projects internally, raised key issues related to repair works during briefings with the JCCC in Soledar and facilitated security guarantees for the SMM. The SMM also followed up with the JCCC regarding any security incidents targeting the SMM, including when the Mission observes and monitors related to infrastructure repairs. The SMM has continued to facilitate dialogue on the ground to ameliorate the effects of developments in the JCCC. As one example, if a ceasefire violation were to occur, the SMM might act as a liaison on the ground to facilitate re-establishment of the ceasefire. However, the withdrawal of Russian Federation Armed Formations officers continues to pose challenges for issues such as effective mine action, implementation of ceasefires and SMM freedom of movement. As such, the SMM continues to look forward to the JCCC resuming its work in its original joint configuration.

SMM support for infrastructure maintenance and repair in eastern Ukraine

Overall SMM operational contributions

In Donetsk region, from January 2017 through August 2018, the SMM facilitated and monitored windows of silence in support of repairs, or maintenance, of essential civilian infrastructure on some 450 occasions. The SMM allocated nearly 1,400 patrols for this, supporting 70 repair works and infrastructure projects. The sites included water (about 900 patrols), gas (over 20 patrols) and power supply infrastructure (about 260 patrols).

In Luhansk region, during the same period, the SMM facilitated and monitored windows of silence in support of repairs, or maintenance, of essential civilian infrastructure on some 1,000 occasions. For these purposes, the SMM allocated just under 2,000 patrols, supporting

about 80 repair works and infrastructure projects. The sites included water (about 1,200 patrols), gas (15 patrols) and power supply infrastructure (about 700 patrols).

The SMM facilitated repairs to, maintenance and inspection of and the transportation of spare parts of a mobile communications network on nearly 30 occasions, deploying about 50 patrols in Donetsk and Luhansk regions.

Water supply in Luhansk region

Water supply in central and southern Luhansk region, until 2014, was provided by *Luhanskvoda*. The main water resources lie along the Siverskyi Donets river, with water distribution flowing north to south through three sub-systems for water supply in central and southern Luhansk region.⁴ All three of the sub-systems are connected north to south, and the vast majority (about 70 per cent) of water sources, consisting of pumped water and boreholes, are in government-controlled areas.

The contact line, which (in eastern Luhansk) runs along the Siverskyi Donets river, splits *Luhanskvoda* sites, with the main office in non-government-controlled Luhansk city and other offices in government-controlled Popasna and Stanytsia Luhanska. The armed formations continued to operate *Luhanskvoda* water supply infrastructure in non-government-controlled areas, while Popasna Regional Water Utility (*Popasna Vodakanal*) took control of water supply infrastructure in government-controlled areas. Nearly 90 per cent of the company's almost 1.3 million estimated water consumers, however, are in non-government-controlled areas.

One example of a cross-contact line water supplier is the Petrivske Water Pumping Station. This installation in government-controlled Petrivka provides water to an estimated 150,000 people in Luhansk city and settlements north-west of



Luhansk. At least twice in the spring of 2018, water supply to non-government-controlled areas was cut off, or severely reduced, owing to pipeline leakages. The SMM facilitated and monitored adherence to the ceasefire to enable repairs, and after about two months on the first occasion and two weeks on the second, water supply was restored. Additionally, the Petrivske Water Pumping Station draws on 17 nearby water wells, sourced from the Siverskyi Donets river, which require regular maintenance and repair work. Given the proximity to the contact line, the SMM regularly monitors windows of silence to support maintenance and repairs. During the reporting period, the SMM did so nearly 200 times, deploying some 400 patrols overall.

In western Luhansk region, water in government-controlled Popasna is provided through the Western Filtration Station through a water pipeline in Zolote-2/Karbonit. Located on the contact line, the aging pipe has frequent leakages, often on a monthly basis, which reduce water pressure through the water supply system. The SMM regularly facilitates and monitors windows of silence from both sides of the contact line when *Popasna Vodakanal* conducts maintenance and repair work. During the reporting period, the SMM facilitated and

⁴ There are several water companies operating in northern Luhansk region including, among others, *Starobilsk Vodakanal*, *Lysychansk Vodakanal* and *Svatove Vodakanal*.

monitored adherence to the ceasefire on about 65 occasions, deploying about 160 SMM patrols from both sides of the contact line.



Figure 1: SMM patrol monitoring repair work to a main water pipeline near the Petrivske pumping station in Artema, Luhansk region in January 2017

Due to Ukrainian legal restrictions on payments between entities in government- and non-government-controlled areas, there was no mechanism in place for payments to be issued between *Luhanskvoda* and *Popasna Vodakanal*. As a result, debts accrued for water supplied to non-government-controlled areas, which resulted in *Popasna Vodakanal* being unable to pay the government-controlled Luhansk Energy Association (LEO) for the electricity used by pumping stations for distributing water. On at least two occasions, LEO cut off electricity to some of the water distribution stations, which subsequently affected water distribution to non-government-controlled

areas. In the TCG's Working Group on Economic Issues, the sides agreed on a mechanism for transferring funds. On multiple occasions, the SMM has monitored – including through the use of UAVs – the transfer of funds from non-government to government-controlled areas in Luhansk region.

To compensate, in small part, for these and other potential water shortages, non-government-controlled *Luhanskvoda* has drilled several boreholes near Luhansk city and has rehabilitated other boreholes, for example near non-government-controlled Krasnyi Lyman and Yashikoho. These areas near the contact line have also been periodically subject to shelling that resulted in damage. The SMM has routinely facilitated dialogue at the JCCC, and with members of armed formations, to establish security guarantees for rehabilitation work and maintenance of infrastructure. Throughout the reporting period, the SMM facilitated and monitored windows of silence 80 times, deploying 160 SMM patrols.

Water supply in Donetsk region

In Donetsk region, the water supply remains connected across the contact line. As in Luhansk, the water system also relies on the Siverskyi Donets river as the primary water source, and the system is composed of both open water

“There is shooting and shelling around the DFS regularly. We are scared and aware of the risk, but we must not stop working. We did not leave this facility since the beginning of the conflict. Our neighbours, friends, family and all people on one or the other side of the contact line depend on us, and we will not stop our work.” – DFS employee, 2017

canals and pipelines that run north to south. There are critical pipelines, pumping stations and filtration stations crossing the contact line, ensuring that the sides remain interdependent for water supply. This also demonstrates the broad risk facing the entire region when one of the elements of the system is damaged or destroyed. For example, some major installations in non-government-controlled areas are sourced by water from government-controlled areas and provide water for civilians on both sides of the contact line. The Siverskyi Donets Donbass (SDD) Channel and the Vasylivka 1st Lift Water Pumping Station, both sourced from the Siverskyi Donets river, provide potable water to about 3.1 and 1.2 million people,

respectively, on both sides of the contact line. Moreover, as water infrastructure spans the contact line, damages in one area affect access to water in other areas. For example, if the Vasylivka 1st Lift Water Pumping Station is damaged or inoperative, civilians can experience water shortages in both government- and non-government-controlled areas within 1-2 days.

The DFS, sourced from the Siverskyi Donets river, provides potable water for about 380,000 people on both sides of the contact line, including in government-controlled Avdiivka and Verkhnotoretske, parts of non-government-controlled Yasynuvata,



Betmanove (former Krasny Partizan) and several districts of non-government-controlled Donetsk city. The station houses a chlorine storage facility, used for water filtration, with approximately 250 tons of chlorine stored in large tanks. If the DFS is not operational, Avdiivka and Yasynuvata are affected immediately, with the effect spreading to larger numbers of civilians the longer DFS remains non-operational. During an escalation in early 2017 in the areas of Avdiivka and Yasynuvata, the provision of potable water to 20,000 civilians in Avdiivka was suspended, and an estimated 325,000 civilians in non-government-controlled areas, primarily Donetsk city, were put at high risk of water supply shortage. SMM facilitation efforts were critical for the restoration of water supply through the resumption of operations at DFS. On several occasions in 2018, the SMM also followed up on reports that shooting and shelling impacted in the vicinity or on the territory of DFS, causing damage to powerlines and affection DFS operations. During interruptions of water provision in this area and elsewhere, the SMM observed that water is distributed by truck with the support of the Ukrainian State Emergency Services, international organizations or the armed formations.



Figure 2: SMM patrol near Donetsk Filtration Station, Donetsk region, April 2017

In addition to the risk of direct damage to infrastructure, the sides have established positions close to many operational infrastructure sites, including the DFS. The proximity of the Ukrainian Armed Forces and armed formations increases the risk of shooting or shelling, endangering workers and other civilians. In April 2018, five *Voda Donbassa* company employees working at the DFS sustained injuries as a result of small-arms fire while commuting to the facility. As a result, *Voda*

Donbassa suspended operations and evacuated their employees for five days, which led to water shortages for nearly 380,000 civilians, particularly in Avdiivka

and non-government-controlled areas of Yasynuvata, Betmanove and districts of Donetsk city.

The SMM engaged in dialogue facilitation on the ground to support resuming and sustaining operations at the facility, which included SMM daily monitoring in the area of the DFS. From April to August, the SMM dispatched almost 515 patrols over almost 130 days to facilitate the continuation of operations. Moreover, following the facilitation of access for the DFS workers with SMM support, the sides also agreed to continue discussing a sustainable solution to ensure safe operations at the DFS at the SMM's suggestion. Throughout 2017 and 2018, the SMM monitored adherence to the localised ceasefire in support of operations at the DFS on 169 occasions, deploying some 720 SMM patrols. Despite explicit security

guarantees, including commitments made by the sides in the TCG's WGS, the SMM continued recording ceasefire violations close to the DFS, at an assessed range of 1-2km.

The South Donbass Water Pipeline, providing potable water to 1.2 million people on both sides of the contact line and located near the DFS, was damaged during an escalation in the area of Avdiivka and Yasynuvata in late January 2017. The two parallel water pipes, each 1.4 metres in diameter, run close to the contact line in the area of Avdiivka. During the escalation, one pipeline was completely broken and became non-operational and the second was severely damaged, reportedly leaking an estimated 2 million litres of water an hour. Approximately 1.2 million people on both sides of the contact line were affected by the leakage. The South Donbass Water Pipeline previously provided about 70 per cent of potable water in government-controlled

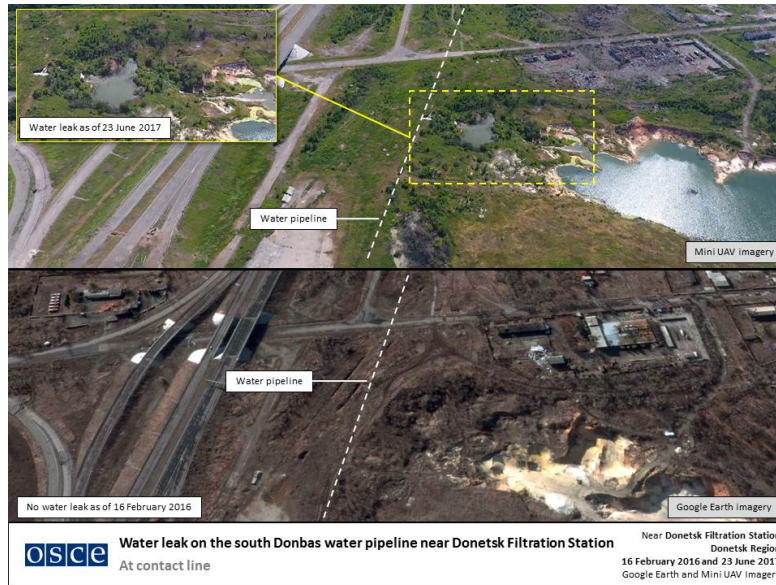


Figure 3: SMM UAV imagery of leakage of South Donbass Water Pipeline in Donetsk region in June 2017 compared with Google Earth image of the same area in February 2017

During the escalation, one pipeline was completely broken and became non-operational and the second was severely damaged, reportedly leaking an estimated 2 million litres of water an hour. Approximately 1.2 million people on both sides of the contact line were affected by the leakage. The South Donbass Water Pipeline previously provided about 70 per cent of potable water in government-controlled

Mariupol. Now, and to date, Mariupol receives the majority of its water supply from a reservoir in government-controlled Stryi Krim, although representatives of *Voda Donbassa* have voiced concerns about water supply sustainability with such heavy usage.

Following the damage, *Voda Donbassa* addressed the JCCC and the armed formations with requests to obtain security guarantees for repair work. The requests were unaddressed until August 2018, when the Ukrainian Armed Forces and armed formations issued security guarantees. On 30 August, the SMM started to facilitate demining activities in preparation for planned repair works on the leaking South Donbas water pipeline and for the assessment to be performed. Overall, including UAV usage, the SMM monitored adherence to the ceasefire on eight occasions (five in 2017 and three in 2018), deploying 40 patrols on the ground. The repair works to the South Donbass water pipeline near Yasynuvata were completed in mid-October.

Some commercial sites in Donetsk region, while not being public utility infrastructure, pose significant risks of contamination of water and soil, if not properly maintained. Near government-controlled Zalizne, a phenol plant deposits chemical waste from the plant into a nearby reservoir (sludge pond). The chemical waste reservoir has not been regularly maintained since the summer of 2016. The lack of maintenance increases the risks of contamination related to breaches of the reservoir's dams of the settlements on both sides of the contact line as well as the Siverskyi Donets and Krivoi Torets rivers, which supply drinking water across Luhansk and Donetsk regions. The sides have also established positions near the reservoir.



Figure 4: *The SMM visits the chemical waste reservoir near the phenol plant in Zalizne, Donetsk region, June 2018*

Beginning in 2016, despite requests from the Ukrainian side at the JCCC, the armed formations did not provide security guarantees through the Russian Federation Armed Forces officers at the JCCC. However, following many attempts by the SMM to facilitate dialogue, the sides provided security guarantees for performing necessary maintenance and repair at the reservoir in November and December 2017, and in January, July and August 2018. An additional phase of repairs is planned for September-November 2018 and may continue into 2019. Throughout the reporting period, the SMM monitored adherence to the localised ceasefire in support of repair works

at the chemical waste reservoir on about 40 occasions, deploying about 90 patrols on both sides of the contact line. As an additional monitoring measure during the summer of 2018, designed to build confidence between the sides, the SMM regularly flew a UAV in the area and reported on its findings through its public Daily Reports, paying close attention to any movement of positions near the reservoir.

The Bakhmut Agrarian Union runs a pig farm with a waste reservoir near government-controlled Novoluhanske and non-government-controlled Dolomitne. Reportedly, the reservoir should be emptied on a regular basis to prevent overflow and waste from seeping into the Bakhmutka river about 2km away, which flows into the Siverskyi Donetsk river. Additionally, the reservoir dam should be reinforced to prevent leaking. The Ukrainian Armed Forces officers at the JCCC have been raising these concerns since May 2016, and conveyed to the SMM the need to have repairs completed before each winter, so as to preempt any problems before the spring thaw, which would likely increase water levels in the waste reservoir. Following dialogue facilitation efforts by the SMM in 2017 and 2018, in August 2018 the sides provided security guarantees for repairs. The SMM dispatched mirror patrols to monitor the adherence of the local ceasefire from both sides of the contact line, and work was completed by 30 August.

Electricity supply in Luhansk region

Electricity supply in Luhansk region, prior to 2014, was connected to the unified power supply of Ukraine. The contact line split the offices of one of the energy providers, Luhansk Energy Association (LEO). The headquarters relocated from non-government-controlled Luhansk city to government-controlled Starobilsk, and the armed formations took over the infrastructure in non-government-controlled areas. The Ukrainian Government obliged LEO to provide electricity for non-government-controlled areas. However, due to the same legal restrictions on payments between entities in government- and non-government-controlled areas affecting water supply, debts to LEO for electricity distribution in non-government-controlled areas began to accrue. In April 2017, the Ukrainian Government required that LEO cease providing electricity in areas outside of government control due to lack of payment, which resulted in electricity being cut to three high-voltage power lines that cross the contact line.

Shortly after LEO cut electricity in April 2017, electricity flow was re-established in non-government-controlled areas of Luhansk region, from a substation in the Russian Federation

to a substation in non-government-controlled Luhansk, which delivered electricity through high-voltage power lines throughout non-government-controlled areas of Luhansk. The electricity provided, however, is of lower wattage, which has prevented several industrial plants from operating due to power shortages.

There are several settlements along the contact line that have continued to experience power shortages or a lack of electricity supply altogether. The government-controlled areas of Lopaskyne and Lobacheve had been supplied with electricity from power lines in non-government-controlled areas. However, due to a problem with one of the power lines from May 2017, Lopaskyne was left completely without electricity. In November 2017, following dialogue facilitation by the SMM to obtain necessary security guarantees for the work, the Luhansk military-civil administration constructed new power lines from government-controlled Trokhizbenka to Lopaskyne to re-establish electricity supply in the settlement.

In Novooleksandrivka, however, power lines that were damaged in 2014 have yet to be repaired and, as a result, the village has been without electricity for more than three years. Multiple requests from LEO to establish a local ceasefire regime to facilitate repairs have been denied.

Electricity supply in Donetsk region

In Donetsk region, by contrast, the electricity supply was provided by the privately owned electric company DTEK, which continued to function even after the onset of violence in eastern Ukraine. The two power plants in non-government-controlled areas, fueled by coal procured from both sides of the contact line, continued to operate. However, in March 2017, reportedly partially in response to a blockade against coal delivery across the contact line, those in control in non-government-controlled areas of Donetsk and Luhansk regions introduced “external management”, seizing assets not “registered” in non-government-controlled areas. The assets belonging to DTEK were seized and operations continued under a new name, “Regional Power Supply Company (REK)”.

Unlike in Luhansk, power plants and substations in Donetsk region are on both sides of the contact line. Despite legal limitations on purchasing coal from government-controlled areas, the power plants in non-government-controlled areas have allowed the armed formations to continue providing relatively uninterrupted electricity supply throughout non-government-controlled areas of Donetsk region.

Nevertheless, interdependence of infrastructure systems remains across the contact line. High-voltage power lines near the contact line have been repeatedly damaged, which create outages for residential areas and for industrial plants and other infrastructure. For example, the damaged power lines near non-government-controlled areas of Makiivka and Yasynuvata provide power to government-controlled Avdiivka and the Avdiivka coke plant, as well as the DFS. When they have been (repeatedly) damaged, power, and subsequently water supply, can be interrupted in all these locations. From January to July 2017, the SMM monitored adherence to the ceasefire to support repairs of power lines in this area on 44 occasions, deploying 210 patrols. During 2018, the SMM monitored adherence to the ceasefire in support of repairs to power lines between Avdiivka and Yasynuvata on eight occasions, deploying almost 60 patrols. Additionally, throughout the reporting period, the SMM facilitated and enabled repairs of the power lines supplying electricity to the Vasylivka 1st Lift Water Pumping Station on four occasions, deploying 16 patrols.

Natural gas in Luhansk region

In Luhansk region, the supply of natural gas was wholly interrupted following the beginning of fighting, and some settlements close to the contact line continue to face difficulties with natural gas supply in both government- and non-government-controlled areas. Moreover, as with water and electricity, the sides are inventing solutions that are increasingly independent of each other.

For example, the non-government-controlled areas of Sokilnyky, Znamianka and Pryshyb were previously connected to a gas supply pipeline from government-controlled Krymske. The pipeline was damaged by shelling in 2014, which caused a suspension of gas supply. Despite SMM facilitation, the sides could not come to an agreement on repairing the pipeline. In 2016, the armed formations constructed a 6.8km pipeline which connected non-government-controlled areas of Pryshyb and Znamianka to non-government-controlled Slovianoserbsk. Government-controlled Trokhizbenka, dependent on gas supply from the same pipeline, was connected to gas pipelines from another government-controlled settlement, Kapitanove. Moreover, Ukrainian authorities in Luhansk region constructed natural gas pipelines from Myrna Dolyna to Toshkivka and connected Nyzhnie and Krymske through existing pipelines. After 11 months of interruption, the restoration of gas supply benefited about 7,000 people.

Natural gas in Donetsk region

In Donetsk region, natural gas pipelines along the contact line have consistently sustained damage that led to partial or total interruptions in some settlements. As in Luhansk region, some of the damage and subsequent interruptions led to the separation of the pipeline network, when the sides built bypass pipe lines that do not cross the contact line.

For example, the Krasnohorivka Gas Distribution Station and the Marinka – Krasnohorivka gas pipe line are the longest-standing facilitation efforts in which the SMM has been engaged, dating back to 2015. The gas supply installation supplies natural gas for over

“We have had to find alternative heating, usually electric heaters. But the price of electricity is very high and practically unaffordable for us. We desperately need the gas supply to be restored.” –Three female residents of Krasnohorivka, 2017

20,000 people, at least five schools and a regional hospital in Krasnohorivka. The gas supply installation was damaged by shelling in 2014 and ceased functioning at that time, leaving the people, schools and hospital without gas. From late 2015 until mid-2016, the SMM facilitated and monitored adherence to a localised ceasefire to support repair of the gas supply lines. The repair project has since stalled, owing to a lack of security guarantees from the armed formations. The SMM continued to engage in rigorous dialogue facilitation, and in late August 2018, the Ukrainian Armed Forces and the armed formations issued security guarantees for the repair work.

Demining and an assessment of the damages of the station began immediately on 29 August, revealing that power lines connected to the gas distribution station were damaged, as was the station itself. The repair works at Krasnohorivka Gas Distribution Station are ongoing, and the SMM continues to engage in facilitation and monitoring at the site; repairs are expected to last through November. The SMM facilitated dialogue and monitored adherence to the ceasefire on seven occasions in total, including two in 2017 as well as on five occasions in

August 2018, following the resumption of repair works, and deployed 14 patrols on the ground.

In Avdiivka, residents have been without natural gas since June 2017, when gas pipelines were damaged during shelling. However, much of the damaged infrastructure was in non-government-controlled areas or between forward positions, increasing the complexity of the repairs and compounding the risks facing repair workers. Despite SMM dialogue facilitation efforts, the sides have not yet provided security guarantees. To restore gas supply to Avdiivka, the Ukrainian authorities constructed a new gas pipeline linking Avdiivka with gas pipelines in government-controlled Ocheretyne, which were completed in August 2018.

The main pipeline supplying gas from government-controlled Mariupol to non-government-controlled Pikuzy (formerly Kominternove) has remained shut off since 9 June 2017, when it was cut by the Mariupol-based gas company that owns the system, reportedly for lack of payment. The SMM has engaged in dialogue facilitation on the ground, but the sides have not yet found a solution, leaving the residents of Pikuzy not only exposed on to fighting near the contact line but also without gas supply.

Mobile communications in Donetsk and Luhansk regions

Following the onset of fighting, mobile communications service was disrupted primarily in non-government-controlled areas, with only partial or unstable coverage remaining for some providers in areas outside of government control. For example, the mobile provider LifeCell is available primarily near the contact line as well as in parts of non-government-controlled Luhansk city. Armed formations took over communications infrastructure formerly owned by mobile provider KyivStar and called it Lugacom in non-government-controlled parts of Luhansk region and Phoenix in non-government-controlled parts of Donetsk region. In both regions, there is unreliable provision of service.

According to Vodafone, approximately 1.5 million people in Donetsk and 700,000 Luhansk regions rely on the Vodafone communication network. In Luhansk region, Vodafone has three main fibre optic lines, all of which cross the contact line: from government-controlled Zolote to non-government-controlled Pervomaisk, from government-controlled Shchastia to non-government-controlled Vesela Hora and from government-controlled Stanysia Luhanska to non-government-controlled Luhansk city. In Donetsk region, Vodafone has at least three fibre optic cables that cross the contact line, including from government-controlled Volnovakha to non-government-controlled Olenivka.

In December 2017, near non-government-controlled Vesela Hora, a Vodafone fibre optic cable was damaged when the armed formations were digging trenches while fortifying a position. Mobile service, however, continued uninterrupted in non-government-controlled areas of Luhansk and Donetsk region. On 11 January 2018, Vodafone mobile coverage was disconnected in non-government-controlled areas of both Luhansk and Donetsk regions. From 17-20 January, the SMM facilitated and monitored the windows of silence to the damaged fibre optic cable near non-government-controlled Vesela Hora. Mobile coverage was restored for up to 700,000 subscribers, according to Vodafone, in non-government-controlled Luhansk region, but service remained interrupted in non-government-controlled areas of Donetsk region. In Donetsk region, between April and May, the SMM facilitated dialogue and monitored repairs and inspection of installations on at least seven occasions in non-government-controlled areas of Donetsk, Makiivka, Shakhtarsk, Snizhne, Torez and Khartsyzk, deploying up to eight patrols. Vodafone service was restored to 1.5 million subscribers in non-government-controlled areas of Donetsk region on 24 May. Additionally,

following the restoration of Vodafone service, the SMM facilitated crossing the contact line as well as traveling between non-government-controlled areas of Donetsk and Luhansk regions for Vodafone workers in order to deliver parts for mobile communications infrastructure and repairs. The SMM facilitated the repairs, maintenance, inspection and transportation of spare parts of the Vodafone network on nearly 30 occasions, deploying about 50 patrols in Donetsk and Luhansk regions.

During the coverage disruptions in both regions, civilians told the SMM that the disruption had prevented them from staying in contact with relatives and, in many cases, complicated the collection of pensions in government-controlled areas. Civilians relayed that they were not aware when pension payments had been put into their accounts and had not received messages from their banks with the request to come to the bank for identification in order to collect their pensions. If a pensioner missed the necessary date to visit the bank, payment of benefits was stopped. Some civilians looked for areas near the contact line where there might be a Vodafone mobile connection, particularly in non-government-controlled Horlivka in Donetsk region.

During Vodafone mobile coverage disruption in non-government-controlled areas of Donetsk region, the SMM confirmed that Phoenix SIM cards permitted calling to other non-government-controlled areas in Luhansk region as well as to the Russian Federation directly, while calling phone numbers in government-controlled areas of Ukraine was not possible. On several occasions, senior members of the armed formations in Donetsk told the SMM that Vodafone needed to submit payments to the armed formations to restore services. On 23 March, a senior member of the armed formations made the same statement publicly.

Conclusions

Civilians in eastern Ukraine continue to suffer the effects of the breakdown of infrastructure due to armed conflict. This leads to difficulties in accessing clean water, electricity and natural gas and impacts access to regular means of communication across the contact line. In addition to these hardships in daily life at home, these realities impair all aspects of public life, including, for example, economic growth, the provision of medical care and access to education.

To achieve sustainable solutions to the humanitarian problems in eastern Ukraine, the sides cannot continue to rely on ad hoc localised ceasefires that permit repairs to infrastructure, which are then damaged when fighting recommences. This approach is mere treatment of symptoms, when armed violence is the root cause. The sides continue to fail to adhere to a comprehensive and sustainable ceasefire, and fully withdraw heavy weapons. Fulfilling such actions would be part of a lasting solution for the repair and maintenance of infrastructure, which would then ensure that Ukrainians on both sides of the contact line can enjoy their rights to adequate standards of living, including access to water, housing, medical care, education and livelihoods. All OSCE participating States have committed to upholding these rights.

Following intensive dialogue facilitation, often over several months, the SMM has observed progress with regard to local solutions, including repairs at the Krasnohorivka Gas Distribution Station and the South Donbas water pipeline, as well as maintenance at two waste reservoirs in Donetsk region. The sides are responsible for maintaining this momentum and continuing to repair and rebuild damaged and destroyed infrastructure in eastern Ukraine.

The SMM remains committed to facilitating dialogue and to monitoring and supporting respect for human rights and fundamental freedoms, as outlined in its mandate. The SMM will

continue to raise issues for attention and action by the sides. This includes continuing to advance dialogue on sustainable solutions to these issues as well as monitoring and reporting on the sides' implementation of their commitments, which include cessation of fire, withdrawal of heavy weapons and, ideally, the establishment of protection zones around essential civilian infrastructure. The withdrawal of Russian Federation Armed Formations officers from the JCCC continues to pose challenges, and the SMM still looks forward to resuming its work in its original joint configuration. The Centre, at times, had proven capable of making substantial and positive contributions to the situation on the ground, particularly in ensuring the integrity of ceasefires, and in facilitating repairs to essential civilian infrastructure.

The SMM remains committed to supporting the repair of infrastructure through its mandated aims of facilitating dialogue and monitoring the ceasefire. The SMM will continue its practice of deploying mirror patrols to monitor windows of silence in support of repair works and will aim to improve its monitoring whenever possible, including through increased use of UAVs. Successful repair work improves the lives of civilians through access to basic services. It contributes to recovery and development, rather than damage and destruction. It can also serve as a confidence building measure and strengthen and reinforce efforts to restore normalcy. Through such engagement, the SMM aims to reduce tensions and foster peace, stability and security for the benefit of people throughout Ukraine.





Infrastructure repair facilitations - Donetsk

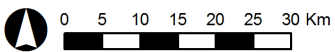
January 2017 - August 2018

Infrastructure repair type

-  Electricity
-  Water
-  Communications
-  Gas
-  Rail
-  Other

Other features

-  Estimated line of contact
-  National boundary
-  Regional boundary
-  Settlement



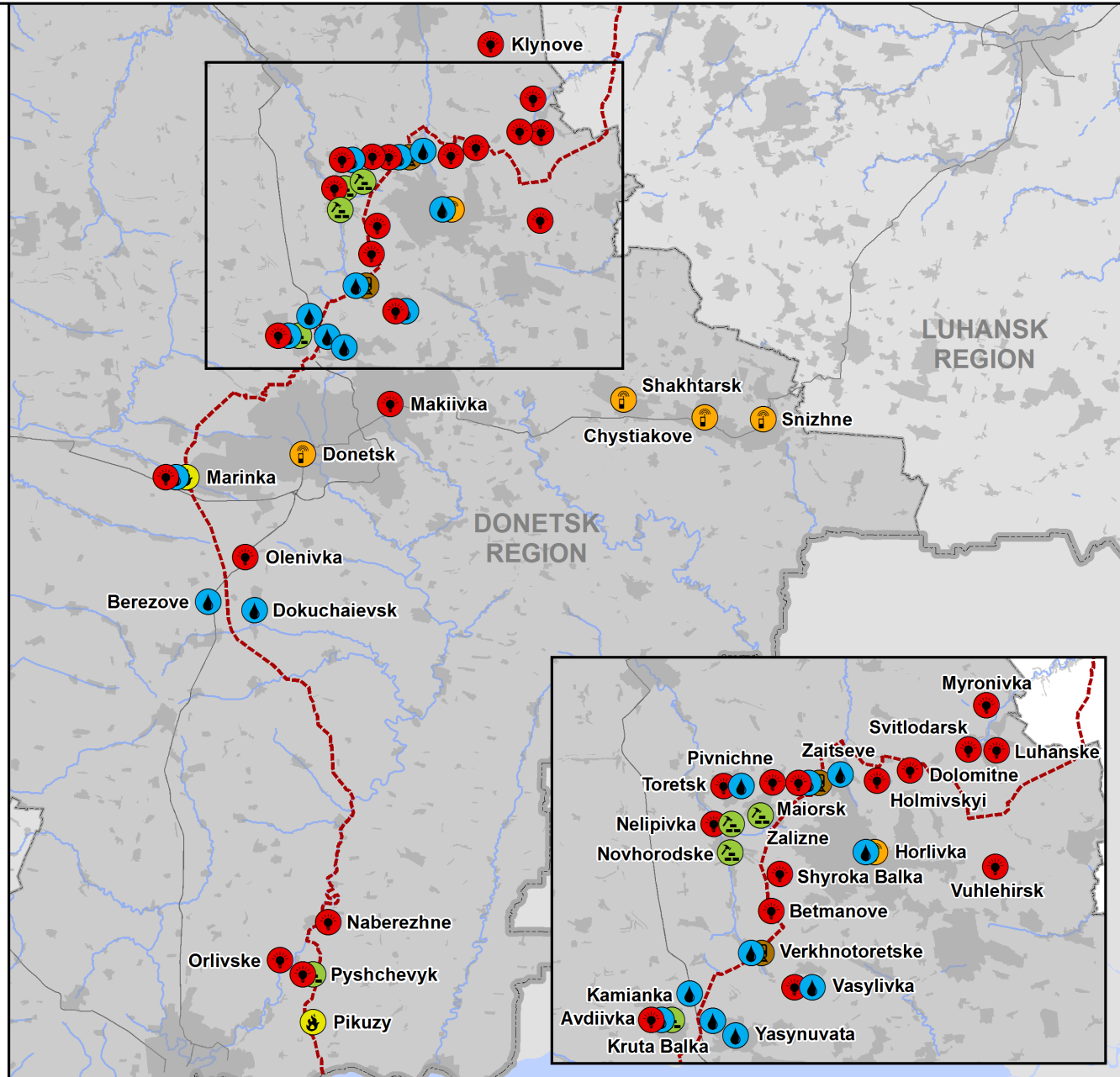
Sources: Administrative boundaries - OCHA; Roads,
Rivers - OpenStreetMap; Sea - VLIZ (2005), IHO
sea areas; Other - OSCE.

Coordinate system: WGS 1984 UTM Zone 37N

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Created: 23/11/2018







Infrastructure repair facilitations - Luhansk

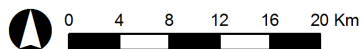
January 2017 - August 2018

Infrastructure repair type

-  Electricity
-  Water
-  Communications
-  Gas
-  Rail
-  Other

Other features

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