EXECUTIVE SUMMARY

The Ohio Department of Rehabilitation and Correction (“DRC”) is tasked with the responsibility of carrying out the Supreme Court of Ohio’s order of execution and maintains strict policies that allow it to fulfill that task in a humane, dignified and lawful manner.

On January 16, 2014, the execution of Dennis McGuire was carried out consistent with these policies. DRC’s execution protocol provides that the primary method of lethal injection is the intravenous (IV) administration of the drug pentobarbital. The protocol also provides that if a sufficient quantity of pentobarbital is not available, then the next option is the IV administration of two different drugs, midazolam and hydromorphone. For McGuire’s execution, there was not a sufficient available quantity of pentobarbital, so DRC used the new combination of midazolam and hydromorphone. Midazolam is a commonly used benzodiazepine which causes sleepiness and relieves anxiety. Hydromorphone is an extremely potent opioid given to relieve pain. Several minutes after the administration of these drugs, McGuire appeared to be unconscious and exhibited some irregular movements in his abdomen and mouth. As it does following every execution, DRC undertook a complete and thorough review of its execution policies and procedures following the McGuire execution in order to better understand the use of the new drug combination and to obtain an explanation of the bodily movements that were observed.

As part of that review, DRC examined accounts from eyewitnesses, including nearly twenty (20) DRC employees, and family members and media representatives. DRC and its attorneys reviewed McGuire’s medical records generated during his twenty-three (23) years of incarceration with DRC. This information was shared with DRC’s expert witness, Dr. Mark Dershwitz, a board-certified anesthesiologist with the University of Massachusetts Memorial Medical Center who also has a Ph. D. in Pharmacology. Prior to the execution, Dr. Dershwitz had testified in federal court for DRC at an evidentiary hearing on McGuire’s motion to stay.

As a result of this review, DRC believes that the two drugs used in the McGuire execution had their intended effect and that McGuire did not experience any pain or distress. The massive doses of drugs given to McGuire rendered him unconscious before any of the irregular bodily movements were observed. The bodily movements that were observed were consistent with the effects of the drugs, his obesity and other body characteristics, and involuntary muscle contractions associated with the ending of respiratory function. There is no evidence that McGuire experienced any pain, distress or anxiety. DRC therefore remains
confident in its belief that the McGuire execution was carried out consistent with DRC’s policies and constitutional requirements.

Also as part of its post-execution review, DRC analyzed the use of the combination of midazolam and hydromorphone. DRC’s attorneys and its Assistant Attorneys General discussed the events and observations of the McGuire execution with its expert witness, Dr. Mark Dershwitz. DRC reviewed the sworn testimony given by Dr. Dershwitz at the McGuire stay of execution hearing in federal court and prior signed declarations which he submitted to the federal court. DRC also extensively reviewed and considered the execution policies and procedures that have been adopted by other death penalty states, including states that have changed their lethal injection drug regimes in recent months. Next, DRC carefully reviewed and considered the sworn testimony and declaration given by David Waisel, M.D., on behalf of McGuire at his hearing.

As a result of this review, DRC has decided to increase the dosage of the two drugs that are given by intravenous administration. DRC’s revised policy increases the dosages of the midazolam and hydromorphone that are a mixed in a single syringe if those drugs are used and administered. The revised policy increases the dosage of midazolam from 10 mg to 50 mg, and increases the dosage of hydromorphone from 40 mg to 50 mg.

DRC remains confident that its current drug regimen is sufficient to conduct a humane and constitutional execution, but also sees no reason not to increase the dosage levels to reaffirm that the drugs will, without doubt, cause profound general anesthetic and ventilatory depressant effects, consistent with the prior testimony and declaration of McGuire’s expert, Dr. Waisel, and consistent with the prior testimony and declarations of DRC’s expert witness, Dr. Dershwitz. The new dosage amounts are also consistent with those amounts used in execution protocols of other states.

It is DRC’s intention to carry out future scheduled executions according to its current, revised execution policy, 01-COM-11.

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AFTER-ACTION REVIEW

On January 16, 2014, pursuant to a warrant of execution issued by the Ohio Supreme Court, the Ohio Department of Rehabilitation and Correction (“DRC”) carried out the capital sentence imposed upon Inmate Dennis McGuire, #A305-892. Inmate McGuire was sentenced to death by the Preble County Common Pleas Court on December 23, 1994 for the murder of Ms. Joy Stewart on February 11, 1989. At the time, Ms. Stewart was 22 years of age, newly married and eight months pregnant.

Inmate McGuire’s sentence was carried out pursuant to DRC’s written execution protocol, DRC Policy 01-COM-11 (effective October 10, 2013) (“the Policy”). Under the Policy, the primary method of lethal injection involves the intravenous (“IV”) administration of a single drug, pentobarbital. Two syringes of 2.5 grams of pentobarbital are prepared by withdrawing the drug from vials provided to DRC from the pharmaceutical manufacturer or distributor of that drug, or from a vial or vials obtained from a compounding pharmacy. If used, the two syringes are separately injected into intravenous lines connected to IV sites established in the inmate’s arms or other suitable sites. Two additional syringes, each containing 2.5 grams of pentobarbital, may be withdrawn and used if needed.

The Policy also provides that about fourteen (14) days prior to the scheduled execution date, the Warden of the Southern Ohio Correctional Facility (“SOCF”) shall determine whether DRC will have a sufficient quantity of pentobarbital to use at the scheduled execution. If the Warden determines that DRC will not have a sufficient quantity of pentobarbital available for use, then the Warden may proceed with the scheduled execution using an alternative combination of drugs for IV injection, provided there are sufficient quantities of those other drugs stocked at SOCF. If the Warden elects to proceed with the alternative IV method, he provides notice of that decision to the inmate fourteen days before the execution.

Specifically, the Policy provides that the alternative method for lethal injection consists of the preparation and IV administration of a single syringe containing a mixture of ten (10) milligrams of midazolam and forty (40) milligrams of hydromorphone. A second syringe of the two drugs, in the same dosages and concentrations, may be prepared and administered, if needed.

Beginning in December 2009, DRC began carrying out capital sentences using a lethal injection of one drug. From December 2009 through February 2011, capital sentences were carried out on ten inmates using an IV injection of sodium thiopental. From March 2011

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1 The single syringe combination of 10 milligrams of midazolam and 40 milligrams of hydromorphone was originally added to the Policy in 2009, as an alternative, back-up method of an intramuscular injection, to be used if intravenous administration is not feasible. In October, 2013, the Policy was amended to also add the midazolam-hydromorphone single syringe combination as an alternative intravenous injection.
through September 2013, nine capital sentences were carried out by DRC prior to Inmate McGuire’s sentence using the primary IV injection method, i.e., five grams of pentobarbital. However, on December 30, 2013, the SOCF Warden notified Inmate McGuire that DRC did not have available a sufficient quantity of pentobarbital to use the primary lethal injection method at his January 16, 2014 execution. Therefore, the Warden notified inmate McGuire that DRC intended to carry out his death sentence using the alternative method of IV administration of a combination of midazolam and hydromorphone.

DRC’s proposed use of this alternative method of an IV administration of this combination of drugs to carry out Inmate McGuire’s sentence was the subject of litigation before U.S. District Court Judge Gregory R. Frost in the case of In re: Ohio Execution Protocol Litigation, Case No. 2:11-CV-1016 (S.D. Ohio). On January 10 and 12, 2014, Judge Frost held a court hearing concerning the alternative method of the use of IV administration of this combination of drugs. Copies of the transcripts of that two-day hearing are attached as Attachments 1 and 2.

During that hearing, inmate McGuire’s public defenders proffered as his expert witness David D. Waisel, M.D., a board-certified anesthesiologist from Boston Children’s Hospital. Prior to the hearing, Dr. Waisel offered a signed Declaration, a copy of which is attached as Attachment 3. In response, DRC proffered as its expert witness Mark Dershwitz, M.D., Ph.D., a board-certified anesthesiologist from the University of Massachusetts Memorial Medical Center. Dr. Dershwitz also submitted a signed Declaration, a copy of which is attached as Attachment 4.

During the two-day hearing, there was no disagreement between Dr. Waisel and Dr. Dershwitz that the combination of 10 mg of midazolam and 40 mg of hydromorphone would cause respiratory depression and death. But rather, the primary area of disagreement between the two doctors was the timing of the effects of this combination of drugs (ventilatory depression and pain relief) and whether inmate McGuire would be aware of those effects.

At the hearing, Dr. Waisel testified that there would be up to a five minute window before the drugs would alleviate any awareness of their effects, in which time McGuire was at a substantial risk of experiencing an urge to breathe, but would not be able to breathe. (Tr. Vol. 1, Pg. 12). Dr. Waisel testified that even if a patient is sedated, that sedation might be overcome by noxious stimuli. With McGuire, Dr. Waisel testified that the 10 mg of midazolam, even in combination with the 40 mg of hydromorphone, was insufficient to cause general anesthesia, creating a substantial risk that he would experience the distress of air hunger during the first five minutes of the procedure. He premised this opinion on the belief that the effect of hydromorphone—ventilatory depression—begins before the pain-relieving effect. (Tr. Vol 1, Pg. 31-35).

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2 On October 31, 2013, Dr. Dershwitz also submitted a Declaration to the Court addressing the pharmacological effects of the combination of midazolam and hydromorphone, which combination was added as an alternative for intravenous administration in DRC’s Policy, which had been amended and made effective October 10, 2013. A copy of that prior Declaration is attached as Attachment 5.
In both his signed Declaration and his hearing testimony, Dr. Waisel stated that the drug package insert, containing written information, gives clear guidance on what dose of midazolam is needed to produce anesthesia. According to Dr. Waisel, for someone of McGuire’s comparable weight of 250 pounds or 115 kilograms, the package insert states that you would need roughly 0.25 milligrams of midazolam per kilogram of weight to induce general anesthesia, when midazolam was given mixed with another drug. Using the 115-kilogram weight, multiplied by 0.25 mg/kg, Dr. Waisel testified 29 milligrams of midazolam would have been necessary to cause unconsciousness. (Tr. Vol 1, Pg. 46-49).

At the hearing, Dr. Dershwitz testified that the pain-relieving effects of the drugs would occur earlier then stated by Dr. Waisel. Indeed, he believed the pain relief effects would occur rapidly, within the first two minutes. This massive onset of pain relief would occur as respiration gradually decreases and stops, such that McGuire would not experience any awareness of distress, but rather would possibly experience euphoria. And even in the event of a possible airway obstruction, he would likely be unconscious by the time that happens. He specifically testified that given these doses (10 mg of midazolam and 40 mg of hydromorphone, which he described as enormous), an individual would not experience distress of air hunger during the first five minutes after administration. (Tr. Vol. 2, Pg. 28, 40). He explained that the reason for this conclusion is that the effect of these drugs decreases the drive to breath. And as the drive to breath decreases, the ability to perceive air hunger goes away. (Tr. Vol. 2, Pg. 43).

On January 11, 2014, Judge Frost issued an Order denying inmate McGuire’s motion for stay of execution. A copy of Judge Frost’s ruling is attached as Attachment 6. The following are some of the Court’s key findings:

- “[T]his Court concludes that McGuire has failed to persuade that he is likely to experience this condition [air hunger].” (Order at 10).
- “The evidence before this Court fails to present a substantial risk that McGuire will experience severe pain.” (Order at 11).
- “The Court also credits Dershwitz’s more credible testimony on the timing of the drugs involved and his estimates of the effects of their doses, while concurrently rejecting Waisel’s conclusions regarding the timing of the drugs and their likely effects within the 5-minute window upon which McGuire relies.” (Order at 10).
- “his [Dr. Waisel’s] opinions are inherently flawed so as to undercut the reliability of his ultimate conclusions.” (Order at 10).
- While recognizing the uncertainty of using the new intravenous combination of drugs and voicing concerns over what could transpire, the Court permitted the State to proceed with carrying out McGuire’s sentence as scheduled on January 16, 2014, finding “that the degree of risk that Ohio’s protocol presents is acceptable within the contours of the Constitution.” (Order at 11-12).
On January 16, 2014, inmate McGuire’s execution proceeded in accordance with DRC’s Policy. A drug administrator prepared a single syringe containing a combination of 10 mg of midazolam and 40 mg of hydromorphone. Members of the medical team, including drug administrators, established viable IV sites on inmate McGuire’s arms. After McGuire gave a last statement, the Warden signaled for the intravenous administration of the drugs to proceed. At 10:27 a.m., the previously prepared syringe was injected into the IV line. In accordance with the Policy, the SOCF Warden and the Execution Team Leader remained in the execution chamber standing in close proximity to inmate McGuire, to observe any problems, unusual signs or other symptoms associated with the IV administration. The Team Leader stood directly at the head of the bed, immediately above the inmate’s head, while the Warden stood beside the right side of the bed, near the inmate’s right arm. From these vantage points, the Team Leader and Warden observed inmate McGuire closely the entire time.

According to reports, after the single syringe of drugs was administered into the IV lines, inmate McGuire appeared to slightly lift his head and turn his head to the left, toward his family, and made a brief statement. Immediately after, his head turned back toward the center, his eyes closed and he became unconscious. Several minutes later, according to reports, some irregular physical movements in the stomach area were observed. Next some irregular movements of the mouth were observed and several snorting-like sounds were also heard. After a few minutes, these movements and sounds ended. At 10:48 a.m. one of the medical team members entered the chamber to make an assessment. At 10:52 a.m. the medical team member reported no heart or lung sounds. At 10:53 a.m., the Coroner entered the chamber and made an independent assessment. After the Coroner exited, the Warden pronounced the time of death as 10:53 a.m.

DRC routinely conducts an after-action review following every execution to identify any issues or concerns, and to identify possible areas of adjustment or improvement. For this execution, because it was the first time DRC had used an intravenous administration of a combination of midazolam and hydromorphone, and because the occurrence of irregular physical movements had not been observed at the recent executions using pentobarbital, DRC also decided that the effects of these two drugs should be studied in more depth. In particular, DRC wanted to determine whether Inmate McGuire was conscious, in pain, or in any distress when these movements occurred.

DRC began by speaking with the nearly twenty (20) DRC employees who witnessed all or part of the McGuire execution. Next, DRC went back and reviewed all of inmate McGuire’s medical records generated during his 23-year incarceration with DRC were gathered and reviewed. Additional research was conducted regarding the two drugs, including the history of their use and their possible side effects. DRC also extensively reviewed the written declarations of Dr. Waisel and Dr. Dershwitz, and their sworn testimony from the two-day McGuire hearing. Finally, DRC spoke with its expert witness, Dr. Dershwitz about the observations and events at the McGuire execution.
After gathering, reviewing and considering all of these sources of information, DRC has reached the following conclusions:

1. Inmate McGuire was asleep and not conscious beginning a few minutes after the two drugs were administered. The doses of 10 mg of midazolam and 40 mg of hydromorphone are doses much, much larger than what is typically used in a clinical setting (midazolam, 1 to 2 mg, and hydromorphone, 0.5 to 1 mg).

2. Pharmacologically, hydromorphone is most commonly administered for its analgesic (pain-relieving) effects. In addition, hydromorphone causes ventilatory depression as a primary adverse effect. High doses of hydromorphone cause apnea (cessation of breathing), and opioid-induced apnea is the most common mechanism of accidental death in persons given it for pain relief. Hydromorphone is similar to the more commonly-known drug morphine, but it is substantially more potent than morphine. According to Dr. Dershwitz, it is 6 to 8 times more potent. (Tr. Vol. 2, Pg. 23-24).

3. Midazolam is the most commonly used benzodiazepine administered by injection. Its desirable pharmacological effects include sedation (sleepiness) and anxiolysis (relief of anxiety). It is commonly administered to patients prior to uncomfortable procedures as well as prior to the induction of general anesthesia for surgery. The most common adverse effect of midazolam is ventilatory depression. When a benzodiazepine is given in combination with an opioid, they act synergistically in producing ventilatory depression. This means that the combined ventilatory depressant effect is much greater than that caused by either drug by itself.

4. After thoroughly reviewing and examining the observations and events at the execution and the testimony and statements of medical experts, DRC is confident that Inmate McGuire was not conscious beginning a few minutes after the drugs were administered. He did not experience pain, distress or air hunger after the drugs were administered or when the bodily movements and sounds occurred. Therefore, his execution was conducted in a constitutional manner consistent with the Policy.
DRC has concluded that the McGuire execution was properly conducted in a humane and dignified manner, but DRC is always striving to enhance its ability to carry out capital sentences in a humane manner, consistent with its written policy and the law. To that end, DRC has gone back and reviewed many of its past executions, including the most recent McGuire execution. DRC has completely and thoroughly reviewed the proceedings at the McGuire hearing and analyzed the expert medical testimony and declarations of Dr. Waisel, McGuire’s expert witness, and Dr. Dershwitz, its own expert witness. DRC has also extensively reviewed and considered the execution policies and protocols, including choices of drugs, quantities and doses of drugs, and steps for administration of drugs, that have been adopted by other capital punishment states.

Even though DRC remains confident that McGuire’s execution was conducted consistent with its policies and constitutional requirements, as a result of this review and to allay any remaining concerns, DRC has decided to revise its execution policy to increase the dosage of the two drugs that are combined and given by intravenous administration. DRC’s revised policy increases the dosages of the midazolam and hydromorphone that are a mixed in a single syringe if those drugs are used and administered. The revised policy increases the dosage of midazolam from 10 mg to 50 mg, and increases the dosage of hydromorphone from 40 mg to 50 mg. DRC firmly believes that by using these increased dosages, DRC will continue to carry out capital punishment in a humane, dignified and lawful manner.

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