

# COUNCIL ON ETHICS

THE GOVERNMENT PENSION FUND GLOBAL

To Norges Bank

5 April 2016

**Recommendation to exclude Duke Energy Corp., Duke Energy Carolinas LLC, Duke Energy Progress LLC and Progress Energy Inc. from the Government Pension Fund Global (GPFG)**

Confidential pursuant to section 13 subsection 1 of the Freedom of Information Act, cf section 3-4 subsection 1 of the Securities Trading Act

## Summary

**The Council on Ethics for the Government Pension Fund Global recommends the exclusion of Duke Energy Corp. (Duke) and its wholly owned subsidiaries Duke Energy Carolinas LLC (Duke Carolinas), Duke Energy Progress LLC (Duke Progress) and Energy Progress Inc. (Energy Progress) due to the unacceptable risk of these companies being responsible for severe environmental damage. For many years, these companies have among other things repeatedly discharged environmentally harmful substances from a large number of ash basins at coal-fired power plants in North Carolina. Several court rulings have now ordered the companies to remove or seal these ash basins. In its assessment, the Council places emphasis on the fact that the planned measures will not be fully implemented for another 10-15 years. The Council also perceives the long-lasting and extensive breaches of the environmental legislation to be a considerable risk factor.**

Among other things, the companies own and operate coal-fired power plants in six states in the USA. Ash mixed with water is stored in unlined ash basins in the ground, and a large number of such ash basins leak metals and other components into the surrounding area. In total, more than 100 million tonnes of ash are stored in North Carolina alone. The companies have been very reticent about implementing measures and have still not agreed on binding plans to remove all the ash basins. The companies have been repeatedly fined for leaks and pollution.

The Council finds that the contents of the ash basins pose a danger to the environment and health if the landfills are not secured. Leaks can damage the environment at an individual, species and ecosystem level and, due to the ability of heavy metals to accumulate in organisms, the damage will be long-lasting.

In 2014, a pipe under an ash basin established in 1955 at the Dan River Steam Station collapsed. Large volumes of environmentally harmful ash ran into the Dan River and spread at least 100 km downstream. The collapse was due to a lack of maintenance and inspection. Warnings of a need to maintain and monitor had been overlooked for several decades. Following legal proceedings, the companies have admitted their guilt.

Duke has admitted illegally pumping out large volumes of water containing ash from a landfill at Cape Fear, a retired power plant in North Carolina. The company's own inspections, external consultants and the authorities all pointed out defects and a need for maintenance at the landfill for many years before the environmental authorities discovered the extensive illegal pumping out in 2014. The companies have admitted their guilt and have for these and other related incidents been ordered to pay fines and damages of more than USD 100 million.

The companies have admitted that they have discharged environmentally harmful components from the ash basins into rivers, the ground and groundwater from a large number of power plants for a long time. Some of these leaks have affected drinking-water resources. There are several ongoing lawsuits linked to the leaks but these have not yet been finally ruled on in the legal system.

Duke has since 2000 contested the federal environmental authorities' claim that it has had too high emissions of sulphur dioxide from several modified power plants. After the US Supreme Court supported the environmental authorities' views in 2007, Duke entered into a settlement as late as in 2015 in which it undertook to install the necessary treatment plants and to pay a total of just over USD 5 million in fines and for measures. This means that the company has had illegally high emissions of SO<sub>2</sub> during all these years.

The Council has been in contact with Duke several times and the company has among other things commented on a draft recommendation. Duke states that it has changed the way it handles ash in recent years and has made extensive investments. During a telephone meeting with the Council on 19 February 2016, Duke stated that it has removed four million tonnes of ash in the past year and plans to adequately secure ash basins in North Carolina in the next 10-15 years. In a later letter, the company also underlined that it has undertaken to comply with the new federal rules on ash handling and will therefore close down all the ash basins that do not meet the authorities' requirements, including those in other states, within the next 15 years.

In the Council's view, the measures that are now planned to a large extent comply with the requirements that the court earlier has stipulated to the company. If the measures are not implemented, the ash basins will breach, or will be in danger of breaching, public regulations.

The authorities' follow-up and the company's planned measures help to reduce the risk of severe environmental damage. However, the Council believes that the risk is still unacceptable. The Council places emphasis on the fact that Duke's companies have for a long time not responded adequately to several of the environmental challenges represented by their activities. Drinking water has been polluted or threatened by pollution at many sites. A large ash basin has collapsed, and this has led to major discharges. Rivers have been polluted. The companies have failed to comply with national laws and have admitted a number of breaches of the environmental regulations. Extensive and long-lasting breaches of environmental legislation comprise a significant risk factor.

The measures that the companies are now implementing will not remove the aforementioned environmental problems for another 10-15 years. In addition, there is the risk that other ash basins are not sufficiently secured against acute discharges.

Following an overall assessment, the Council concludes that the four companies' extensive lack of measures to remedy the considerable environmental risk linked to many of the companies' plants entails an unacceptable risk of severe environmental damage in accordance with the Guidelines for the GPFG.

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# 1 Introduction

The Council on Ethics for the Government Pension Fund Global recommends excluding Duke Energy Corp.<sup>1</sup> (Duke), and its wholly owned subsidiaries Duke Energy Carolinas LLC<sup>2</sup> (Duke Carolinas), Duke Energy Progress LLC<sup>3,4</sup> (Duke Progress) and Progress Energy Inc.<sup>5</sup> (Progress Energy) from the GPFG. At the end of 2015, the GPFG owned shares worth NOK 2.69bn in Duke Energy Corp, and bonds worth a total of NOK 1.77bn in Duke Energy Corp, Duke Energy Carolinas LLC, Duke Energy Progress LLC and Progress Energy Inc. These companies own and operate different types of power plants in several US states as well as outside the US.

## 1.1 What the Council has considered

The Council has considered whether there is an unacceptable risk that Duke, Duke Progress, Duke Carolinas and Progress Energy contribute to, or are themselves responsible for, severe environmental damage.

The Council has not considered the companies' overall activities, only some important factors relating to their coal-fired power plants, especially pollution from the depositing of fly ash and emissions to air. The assessment is mainly based on incidents, legal proceedings and settlements in 2014 and 2015.

Section 3 subsection 1 letter c of the Council's Guidelines for Observation and Exclusion of Companies<sup>6</sup> states:

*Companies may be put under observation or be excluded if there is an unacceptable risk that the company contributes to or is responsible for severe environmental damage.*

In other cases where the Council has considered exclusion under this criterion, it has *inter alia* based its assessment on whether:

- the damage is great,
- the damage entails irreversible or long-term effects,
- the damage has major negative consequences for human life and health,
- the damage is a result of a breach of national legislation or international norms,
- the company has failed to act to prevent damage,
- the company has implemented measures to rectify the damage to a sufficient extent,
- it is likely that the company's practice will continue

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<sup>1</sup> Issuer ID 100481

<sup>2</sup> Issuer ID: 916927

<sup>3</sup> Joint Factual Statement, item 6.

<sup>4</sup> Issuer ID: 100276

<sup>5</sup> Issuer ID: 1409199

<sup>6</sup> <http://etikkradet.no/en/guidelines/>.

## 1.2 Sources

The Council has placed particular emphasis on a joint statement given in court,<sup>7</sup> called the “*Joint Factual Statement*”,<sup>8</sup> which is dated February 2015 and signed by both the prosecuting authorities and a representative of Duke Carolinas, Duke Progress and Duke Energy Business Services, Inc.,<sup>9</sup> and a settlement, *Settlement Agreement*,<sup>10</sup> between Duke and the North Carolina Department of Environmental Quality (DEQ) dated 29 September 2015. The February 2015 statement is the basis for the *plea bargain* entered into at the district court in North Carolina and for the determination of fines and damages. This is referred to below as “the statement”. The Council has also placed emphasis on a settlement dated 10 September 2015 between Duke and the federal environmental authorities relating to many years of illegal emissions to air.<sup>11</sup> In addition to information taken from the company's website and other publicly available information, the Council has also received information directly from Duke.

## 2 Background

### 2.1 About the company

Duke is a large US energy group with its head office in North Carolina USA and, through a number of wholly-owned subsidiaries, it generates electricity from various energy carriers and distributes this to customers. Duke owns coal-fired, gas-fired, oil-fired, nuclear and hydroelectric power plants.<sup>12</sup>

Duke Carolinas owns and operates seven active or retired coal-fired power plants in North Carolina. The operation of retired coal-fired power plants is linked to the securing and following up of ash basins. Duke Progress also owns seven coal-fired power plants in the same state. Duke Progress is owned by a holding company, Progress Energy, that is also wholly owned by Duke. There are at least 32 ash basins at these companies' power plants that are used to deposit fly ash from the power plants. In addition, Duke owns and operates at least nine coal-fired power plants outside North Carolina through other subsidiaries. These are in Ohio, Florida, South Carolina, Indiana and Kentucky. Some of these are old and have been retired. Many of the ash basins at the retired power plants are leaking and have not been closed.

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<sup>7</sup> United States District Court for the Eastern District of North Carolina.

<sup>8</sup> Joint Factual Statement in the *United States District Court for the Eastern District of North Carolina Western Division*, 14 May 2015, no: 5:15-CR-62-H, 5:15-CR-67-H, 5:15-CR-68-H, 14.

<sup>9</sup> Duke Energy Business Services, Inc. is a wholly-owned subsidiary of Duke, but the GPF is not invested in this company.

<sup>10</sup> *Settlement Agreement* between the North Carolina Department of Environmental Quality and Duke Energy Carolinas and Duke Energy Progress, 29 Sept. 2015.

<sup>11</sup> Civil action no.: 1:00 cv 1262, Consent Decree, The United States District Court for the Middle District of North Carolina.

<sup>12</sup> <http://www.duke-energy.com/investors/default.asp>.

## 2.2 Ash and emissions from coal-fired power plants

Coal-fired power plants produce large volumes of ash and a large power plant can produce more than 1 million tonnes of ash a year.

The ash is produced by coal combustion. The ash must be stored in sealed and secure landfills to prevent metals and other substances that are harmful to the environment and health to leak into the ground and groundwater.

The ash basins to which this recommendation refers contain ash mixed with water that is placed directly in dedicated pits in the ground without any effective seal against the surrounding terrain. The ash basins were originally lawfully established based on the knowledge available and public requirements at the time. Many of the ponds in question are very old, and some were established more than 50 years ago.

The ash contains many metals and other substances that are potentially harmful to the environment and health, such as arsenic compounds, barium, boron, hexavalent chromium, lead, mercury, cadmium and thallium. These are environmentally harmful even in relatively low concentrations. Some of these can be carcinogenic, such as arsenic and hexavalent chromium. Some of the most environmentally harmful metals are accumulated in organisms and increase in concentration as they move up the food chains and may severely damage the environment. Due to the well-known negative effects on humans, a lot of countries have stipulated limits for the concentration of many of these components in drinking water.

Metals and other water-dissoluble substances may accompany the water out of the ash basin and into the ground, groundwater or river.

Some types of pollution from coal-fired power plants, such as trihalomethanes, can also occur in the treatment plants.<sup>13</sup> Long-term exposure to more than a certain concentration of these can cause damage to health, including cancer. For this reason, many countries have stipulated limits for the concentration of trihalomethanes in drinking water.<sup>14</sup>

Coal-fired power plants have very large emissions to air and are often the biggest sources of sulphur dioxide (SO<sub>2</sub>) in their region. SO<sub>2</sub> is counted as one of the most dangerous components of polluted air in urban and industrial areas and is also the most important component of acid rain.

## 3 The Council's investigations

The Council has mainly investigated the reason for some specific discharges/emissions, the general safeguarding against seepage from ash-storage sites and measures to prevent unnecessarily high emissions to air.

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<sup>13</sup> If the reduction in the sulphur volumes in the waste gases takes place in a washing tower without subsequent treatment, bromides may lead to the formation of trihalomethanes, a group of substances that includes chloroform. Such compounds can also be formed if drinking water is treated with chlorine.

<sup>14</sup> Tidsskrift for den norske Legeforening (the Norwegian Medical Association's magazine), 1999, <http://tidsskriftet.no/legacy/199917/leder3.html>.

### 3.1 Important court decisions

On 20 February 2015 and following negotiations with several different prosecuting authorities in North Carolina, Duke Carolinas, Duke Progress and Duke Energy Business Services pleaded guilty to nine serious offences relating to operations that they own and run. These offences relate to acute discharges from the *Dan River Steam Station* and *Cape Fear Steam Electric Plant* as well as to seepage from several ash basins in North Carolina. The cases mainly concern the active pumping of polluted water from ash basins into the ground and rivers, arrangements for illegal water run-off, inadequate maintenance of critical equipment and extensive accidental discharges of ash and contaminated water as a result of insufficient maintenance and monitoring of the landfills and discharges. These offences are documented in the statement dated 14 May 2015.

In connection with the statement, the companies have issued a public apology in which they state that they will also pay a fine of USD 68 million and a total of USD 34 million as compensation. In addition, they will pay the costs that various authorities have incurred relating to a discharge into the Dan River. The companies also undertake to close some ash basins and contribute in various ways, including by allowing themselves to be inspected by an independent third party. The fine is the second-largest ever imposed on a company pursuant to US water pollution legislation.

Extensive requirements have been stipulated for the company for a five-year probationary period during which there will be more or less zero tolerance for new breaches of the conditions stipulated in the environmental regulations and other regulations and an external monitor has been appointed to follow the company and provide regular reports.

On 8 February 2016, the North Carolina Department of Environmental Quality (NCDEQ) also fined Duke a total of USD 6.6 million as a civil-law sanction for extensive breaches of the environmental regulations in connection with the discharge into the Dan River.<sup>15</sup>

In another case, EPA agreed on a legal settlement with Duke on 10 September 2015. This case relates to emissions to the air from several modified coal-fired power plants in North Carolina. After being modified, these plants capacity had increased but Duke did not obtain a new permit from the environmental authorities or arrange for a new treatment plant, as required by law.

The case started off with a lawsuit that EPA brought against Duke in 2000, in which Duke was accused of not having installed a mandatory gas-treatment facility at a total of 13 modified plants and of thus having contravened the *Clean Air Act*. The modifications led to the annual emissions increasing. The SO<sub>2</sub> emissions from these plants in 2000 were around 51 million tonnes, or approximately three times Norway's national emissions in 2014. A unanimous Supreme Court supported EPA's view in 2007. On 10 September 2015, Duke entered into a settlement on this basis in which it does not admit guilt but undertakes to install an adequate treatment facility in the remaining parts of the *G.G. Allen* power plant and to shut down operations at the facilities that are still being used. As part of the agreement, Duke has to pay a fine of USD 975,000 and pay USD 4.4 million for measures to counteract the effects of previous pollution.

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<sup>15</sup> North Carolina Department of Environmental Quality, Findings and Decisions and Assessment of Civil Penalties, File no. DV-2016-0017.



A third legal decision relates to leaks from several ash basins. On 29 September 2015, Duke Carolinas and Duke Progress agreed on a settlement with state authorities (NCDEQ) according to which the companies admitted that pollution was leaking from the ash basins. The companies undertook, among other things, to implement extensive measures to limit the groundwater pollution from four of their coal-fired plants in North Carolina and to pay USD 7 million to the pollution authorities.

### 3.2 The discharge into the Dan River

On 2 February 2014, the larger of two big stormwater pipes<sup>16</sup> that lay under one of Duke Carolinas' ash basins linked to the Dan River Steam Station at Dan River in North Carolina collapsed. This led to a lot of the pond's contents running down into the pipe and out into the river. It is estimated that 39,000 tonnes of ash and more than 100,000 tonnes of polluted water ran out into the river and spread more than 100km downstream from the discharge point.<sup>17</sup> Approximately one tenth of the discharge was collected in the following days, while the rest spread throughout the environment. This discharge is counted as one of the three largest of its kind in the USA's history.<sup>18</sup>

At state level, the risk linked to the Dan River discharge was considered to be such that the population was warned not to eat fish or come into contact with the water for recreational purposes for a five-month period after the discharge.<sup>19</sup>

#### 3.2.1 Monitoring and risk assessments

The larger stormwater pipe under the ash basin, which was 120 cm in diameter, was made of corrugated and galvanized metal where it passed under the ash basin, while the other pipe, which was 90cm in diameter, was made of reinforced concrete. The metal pipe was built in 1954 and the pond was established in 1955. In 2009, the pond was described by the Environmental Protection Agency as "*Classified as a significant hazard potential structure due to the environmental damage that would be caused by misoperation or failure of the structure.*"<sup>20</sup> Even in the period before 1980, leaks into the pipes from the ash basin above were shown repeatedly. These were then sealed. The statement describes how external consultants in 1981 and 1986 proved the need to monitor the water flows and pointed out the estimated limited lifetime of the steel pipe. They also raised doubts about the impermeability of the concrete pipe. Regarding this pipe, the consultants pointed out as far back as in 1981 that "*...there seemed to be more water leaving the (...) culvert than entering it*", which indicates a leak from the ash basin down into the pipe. A large number of later reports on surveys and inspections point out the danger of corrosion, the need for monitoring, the lack of access to pipe openings and the risk of leaks and collapse. According to the statement, the company has not followed these issues up.

The discharge in 2014 was first discovered by a security guard who registered that the level of fluid in the pond was very much lower than normal. The Council has not found any

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<sup>16</sup> Stormwater pipes are intended to lead rain water away and are dimensioned for large amounts of precipitation.

<sup>17</sup> See the Joint Factual Statement.

<sup>18</sup> <http://ecowatch.com/2014/02/13/contaminated-water-dan-river/>.

<sup>19</sup> Joint Factual Statement, item 96.

<sup>20</sup> *Ibid.*, item 36

information to show that the company had any other monitoring system that warned of the discharge - in either the ash basin or the pipes beneath it.

### **3.3 Illegal pumping out from two ash basins at Cape Fear**

Duke Progress owns another coal-fired power plant in North Carolina, the Cape Fear Steam Electric Plant, which has five ash basins near the Cape Fear River. This power plant was retired in 2011. In 2009, EPA stated that two of the ash basins had a “...*significant hazard potential*.” The combined total volume in these two ash basins exceeds 3 million cubic metres.<sup>21</sup>

According to the statement, technical defects in the ash basins were proven in 2008 and in the years following this leaks were proven without the company carrying out repair work. In 2013, an external firm once again demonstrated a probable leak in the riser pipes<sup>22</sup> in both the ash basins.

One of the conditions for the authorities' approval of a closed landfill is that water does not pass through the ash basin (“no-flow-state”). Duke Progress illegally pumped out huge volumes of water containing ash in 2013 and 2014 so as to reduce the fluid level to below the leakage points. The environmental authorities discovered this and filed a formal complaint against the company.<sup>23</sup> After the volumes had been reduced, a contractor demonstrated continued leaks in technical installations in the ash basin.

### **3.4 Seepage and other continuous discharges**

#### **3.4.1 Seepage**

The US environmental authorities stated in 2010 that, with few exceptions, seepage was normally to be regarded as a point emission and therefore subject to the rules regarding emission/discharge permits and supervision. In 2013, the state environmental authorities reported unlawfully seepage and the illegal spread of toxic components at all 14 power plants owned by Duke Progress and Duke Carolinas in North Carolina.<sup>24</sup>

According to the statement, seepage is linked to all the companies' power plants in North Carolina, and many of these leaks are subject to the granting of a licence. At some of the seepage sites, Duke or a subsidiary has physically arranged for the water to run off by building drains and conduits.<sup>25</sup> The company only applied for a discharge permit for these after the accident at Dan River and has therefore contravened US law in this area since 2010.<sup>26</sup> This applies to the *H.F. Lee Steam Electric Plant*, *Riverbend Steam Station* and *Asheville Steam Electric Generating Plant*.

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<sup>21</sup> *Ibid.* Items 98 – 103.

<sup>22</sup> Riser pipes go up to the surface of the water phase so that the cleanest water can run out of the landfill through the riser pipes. Leaks further down the riser pipes lead to more polluted water running out.

<sup>23</sup> Joint Factual Statement, item 127.

<sup>24</sup> <http://ecowatch.com/2014/02/05/exclusive-duke-energy-coal-ash-spill-dan-river/>.

<sup>25</sup> Joint Factual Statement, item 3

<sup>26</sup> *Ibid.*, items 135-140

In addition, it has been proven that emissions/discharges from Duke's subsidiaries' ash basins or air-purification plants have polluted the drinking water at the *Belews Creek Steam Station* and *L.V. Sutton Steam Station*.

It is also known that, in August 2011, Duke Carolinas identified a real risk that special conditions relating to the *Cliffside Steam Station* power plant could lead to an excessive content of trihalomethanes in the drinking-water intake downstream of the plant. The company did not have a permit for such a discharge and did not notify the authorities or local population about this.<sup>27</sup> No trihalomethane content above the limit values has been proven here, but the company does not rule out that this has been the case. At the Belews Creek Steam Station, which is owned by Duke Carolinas, abnormally high levels of trihalomethanes have been proven in the drinking water of the local community at Eden. These coincide in time and volume with unregulated discharges of bromides and trihalomethanes from the power plant.<sup>28</sup> Duke has later implemented measures at these two plants by increasing the treatment level at its own plants and helping the local waterworks to make improvements.

Since 2010, exceedings of federal and state water-quality standards have been proven at several ash basins. The concentrations of arsenic, boron, cadmium, chromium, iron, manganese, nickel, nitrate, selenium, sulphate and thallium stipulated in these standards have been exceeded.<sup>29</sup> It has also been shown that pollution has reached wells and drinking-water sources, and Duke has had to arrange for bottled water to be delivered or for changes to be made to the affected population's drinking-water supply at several of its power plants. To some extent, Duke has also implemented such measures where the drinking water is polluted but the drinking-water standard has not been contravened, such as at *Gibson Station* in Indiana as early as in 2007. Similarly, there were heightened levels of boron close to *Cayuga Station* in Indiana, and bottled water was distributed in 2009 before being replaced by a waterworks supply in 2011. At the L. V. Sutton Steam Station, it was proven that pollution from the ash basin entered the local waterworks' water. Duke later agreed to contribute financially to ensure a supply of clean water to the local community.

The settlement following the legal proceedings concerning groundwater pollution in North Carolina includes an admission by Duke that there are leaks from landfills at its coal-fired power plants that lead to groundwater pollution from four power plants, as well as an undertaking to implement the necessary measures in order to limit pollution from the Sutton power plant. The settlement also includes an obligation to implement monitoring and measures to prevent dispersion from other power plants. The company undertakes to pay USD 7 million for all alleged breaches of the ground-pollution regulations - covering previous, current and future breaches.<sup>30</sup> It is disputed whether the court had the authority to discuss such an extensive settlement, and this case has been appealed against by the *Southern Environment Law Center*<sup>31</sup> (SELC), an alliance of environmental lawyers which alleges that the settlement does not reflect the scope and costs of future measures. The original lawsuit was for USD 25 million.

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<sup>27</sup> *Ibid.*, items 181-183

<sup>28</sup> *Ibid.*, items 171-172

<sup>29</sup> *Ibid.* item 138.

<sup>30</sup> Settlement Agreement, chapter II

<sup>31</sup> <https://www.southernenvironment.org/>

The state environmental authorities (NCDENR) in North Carolina have once again, in March 2016, issued at least 12 so-called *Notices of Violation* to power plants owned by Duke in the state, and these again state that there are illegal leaks from 12 ash basins.

According to EPA, the total volume of ash produced by coal-fired power plants in the entire USA was around 110 million tonnes in 2012.<sup>32</sup> NCDENR has published a list of Duke's ash basins in North Carolina in 2014 and this shows that the company has stored a total of 108 million tonnes of ash in this state alone, equivalent to that produced in one year by all the power plants in the entire USA.<sup>33</sup> As far as the Council understands, the landfills that Duke has undertaken to empty contain around 25 per cent of this volume.

### **3.5 Other cases**

The above-mentioned cases in North Carolina are those which the companies have admitted and are described in the statement dated May 2015 and the settlements in September 2015. However, there are several lawsuits against the company that have not yet been dealt with by the courts.

#### **3.5.1 Remaining cases in North Carolina**

According to the SELC, there are still seven unlined ash basins in North Carolina that Duke has not yet undertaken to remove or seal. Legal proceedings have been brought against Duke regarding these.

#### **3.5.2 Ash basins in other states**

Duke also owns and operates, through subsidiaries, six other coal-fired power plants outside North Carolina, in addition to three power plants that have been retired but still have ash basins which must be inspected and maintained. All nine have one or more unlined ash basins, while three of the plants also have sealed landfills.<sup>34</sup> An overview of the status of the ash basins at these plants shows that there are 29 ash basins or landfills linked to these nine power plants.

Heightened concentrations of pollution in drinking water have been proven close to at least two of these, *Gibson Station* and *Cayuga Station*. As far as the Council is aware, Duke has not planned to remove or seal these ash basins in the near future.

In the USA, the authorities, NGOs and other parties have filed several environmental-related formal complaints against the company but these have not yet been ruled on.

## **4 Information from the company**

The Council has on several occasions received replies to its questions from Duke and the company has commented on a draft of this recommendation. The Council has also obtained

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<sup>32</sup> <https://www.epa.gov/coalash/coal-ash-basics>.

<sup>33</sup> [http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=5a0b9113-8e15-4842-950f-1f4bd8c23b10&groupId=38364](http://portal.ncdenr.org/c/document_library/get_file?uuid=5a0b9113-8e15-4842-950f-1f4bd8c23b10&groupId=38364).

<sup>34</sup> <http://www.duke-energy.com/pdfs/duke-energy-ash-metrics.pdf>.

information from Duke's website. Duke announced there in June 2015 that it had plans to close or remove a total of 24 of the 32 ash basins in North Carolina.<sup>35</sup>

In its first reply to the Council on 28 September 2014, the company states it is systematically making efforts to reduce the emissions/discharges from its operations and that *“Duke Energy’s mission requires it to balance our customer’s need for affordable and reliable electricity with our obligation to reduce the environmental impact of what we do over time.”* Duke also states it extensively monitors the groundwater quality around its ash basins in North Carolina. According to Duke, the groundwater pollution is lessening in most places and the company implements measures where the pollution is not being reduced or is threatening the drinking water.

In its comments on the draft recommendation, the company states that *“The safe operation of our system and the well-being of our customers, communities and employees are our highest priorities. And assuring compliance with our nation’s environmental law is a responsibility Duke Energy takes quite seriously.”*<sup>36</sup>

Regarding the accident at Dan River, Duke writes: *“Throughout the past few decades, we have managed our coal ash basins under widely-accepted industry practices, as well as under the oversight of state regulators. However, the Dan River incident in 2014 caused us to take a step back and evaluate all our ash management facilities and the company’s risk assessment practices as a whole.”* And also: *“In March 2014, just a few weeks following the Dan River event, the company announced its commitment to accelerate coal ash basin closure across our fleet.”*

The company underlines that it had a maintenance plan for repairing the riser pipes at Cape Fear and had communicated these plans to the authorities. Duke states that the environment was not harmed and that the emission/discharge requirements were complied with.

Duke has changed the way it handles ash in recent years, and states that: *“We’ve made significant investments at our operating coal units to convert from wet fly ash disposal in ash basins to dry handling methods that manage ash in lined, on-site landfills.”* Regarding the measures at the landfills that leak, Duke writes: *“For nearly all our North Carolina sites, independent experts validated that groundwater near ash basins is moving away from neighbors’ private wells.”*

During a telephone meeting with the company on 19 February 2016, Duke stated that the company has removed 4 million tonnes of ash during the past year and plans to sufficiently secure ash basins in North Carolina during the next 10-15 years. In a later letter, the company also emphasized that it undertakes to comply with the new federal ash-handling rules and will therefore close down any landfills that do not meet the authorities' requirements within 15 years – including in other states.

Duke underlines that it extensively monitors the groundwater situation. *“Duke Energy has performed extensive groundwater studies in connection with its coal ash basins and is planning for mitigation where needed in accordance with all state and federal regulations.”*

The company also states that it has now stopped using bromic additives in its air-purification process, so that the risk of creating trihalomethanes has been reduced.

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<sup>35</sup> <http://www.duke-energy.com/ash-management/>.

<sup>36</sup> Duke's letter to the Council dated 10 February 2016.

## 5 The Council's assessment

Based on the available information, the Council has assessed whether there is an unacceptable risk of Duke and/or companies controlled by Duke causing severe environmental damage. The assessment applies to Duke Energy Corp., Duke Energy Carolinas LLC, Duke Energy Progress LLC and Progress Energy Inc.

The departure point for the Council's consideration is that the contents of the ash basins are dangerous to the environment and to health if they are not secured. Leaks may damage the environment at an individual, species and ecosystem level and, due to the ability of heavy metals to accumulate in organisms, the damage will be long-lasting.

The environmental legislation in most countries, including the USA, balances the necessity of preserving the environment and avoiding damage to health with the need for economic activity. The Council believes it is reasonable to assume that there is a considerable risk of severe damage to health and the environment if there is an extensive breach of the regulations. Duke has repeatedly been sanctioned by the environmental authorities. The company has also had formal complaints made against it and has agreed to a legal settlement in which it admits it is guilty of serious offences. The Council has also noted the authorities' recommendation to, for example, avoid eating fish or coming into contact with the water in the Dan River for a five-month period. The Council believes that, on the whole, these factors indicate that Duke has carried out its operations in a way that creates a considerable risk of severe environmental damage.

According to the environmental authorities, all the coal-fired power plants that Duke owns in North Carolina have leaks into the ground, rivers or groundwater from their ash basins. Court documents state that leaks into the ground and groundwater from several of the companies' ash basins have led to drinking-water sources being polluted, limit values being exceeded and water becoming unsuitable for consumption. The Council assumes that pollution of groundwater and drinking water is long-term environmental damage. It will normally take a long time to reduce the pollution to an acceptable level. As regards the ash basins, the company itself has estimated that it will take 10-15 years to overhaul these. Even if the company starts to work on the most vulnerable ash basins first, leaking ash basins will continue to pollute for many years. The Council also notes that there is some uncertainty about the stability of the remaining ash basins. The Council regards this as ongoing environmental damage that it will take many years to clean up.

Duke has also had considerable illegal emissions of SO<sub>2</sub> for many years and this may also be harmful to health, especially the health of people who already have respiratory problems. The amount of the illegal SO<sub>2</sub> emissions has been large.

Legal proceedings have revealed that the companies have failed to maintain important installations and equipment, failed to monitor emissions/discharges and equipment and failed to act in accordance with risk assessments that point to a high risk of accidents. Such patterns of action contravene the standard of due care that companies must comply with to reduce the risk of damage to the environment and health. The companies have also admitted a number of breaches of licence conditions and environmental legislation. It must also be assumed that the SO<sub>2</sub> emissions would have been reduced if Duke had complied with the requirements to install the necessary treatment equipment that it was ordered to install. In the Council's opinion, there is little doubt that the environmental damage is a result of breaches of national legislation.

The companies have in a number of cases rejected internal and external warnings and demands to act. Such failures led, among other things, to the major discharges at Dan River and Cape Fear. The Council finds that the companies have had repeated opportunities to act in these cases. The companies have also known about the serious risk of accidents and illegalities but have nonetheless not implemented the necessary measures. The overall information that the Council has available indicates that the companies have relatively often evaded or opposed environmental regulations. To the Council, it appears that the breaches of norms and laws are not just isolated or random individual events but instead speak of a wider pattern of action.

The Guidelines for Observation and Exclusion of Companies state that a company may be excluded if there is an unacceptable risk of severe environmental damage. This means that an assessment of the future risk must be conducted. The company's previous conduct is an important element in such an assessment. The Council also places emphasis on the company's plans to remedy the damage and other factors that may help to reduce the risk of future environmental damage.

The environmental authorities seem to monitor the company closely and have repeatedly prosecuted it for breaches of environmental permits. According to the settlement after the Dan River case, the company is subject to a five-year probationary period during which any offence at the facilities covered may be regarded as a breach of the agreement. The company must also allow itself to be inspected by an independent third party. In addition, the company is closely monitored by various non-governmental organizations that have filed a formal complaint against the company on several occasions. The close follow-up by the authorities and the public focus on the company help to reduce the risk of future environmental damage.

Duke states that the Dan River discharge “*caused the company to take a step back and evaluate all our ash management facilities and the company’s risk assessment practices as a whole.*” This is positive. In addition, the companies have admitted they are guilty of causing environmental damage to the surrounding areas in the settlement entered into in 2015. Nonetheless, the settlement does not seem to go further than is absolutely necessary for the company to avoid even stricter penal sanctions. The company also states in its first letter to the Council that it is trying to balance its customers' needs against compliance with environmental requirements. The Council has also noted that most of the members of the company's board and management have been with the company for many years. The Council does not believe that the existing information provides a sufficient basis for ascertaining a clear reversal of the previous practice.

Duke has announced that it has a plan to reduce the risk of discharges from several ash basins and it is also implementing measures to reduce the effect on drinking water and groundwater in several locations. These plans and measures to a large extent agree with the court's requirements for the company. The measures that the company is now implementing help to reduce the future risk of environmental damage. However, there is little doubt that the ash basins that are now being closed or relocated contravene or are in danger of contravening public regulations if the measures are not implemented. The measures that are now being implemented must therefore be regarded as a consequence of the environmental authorities reacting more clearly to existing offences. At the same time, the Council understands that there is still an ongoing dispute regarding seven landfills in North Carolina that are not sealed and which the companies do not seem to have any plans to remove or secure within a reasonable period. In that the volume stored in these comprises more than 70 per cent of all the ash Duke has stored in the state, the Council believes there is still a considerable risk of

future environmental damage linked to this part of Duke's operations. Similarly, Duke has several landfills in other states that it admits are leaking. As far as the Council is aware, there are no plans to remove or seal these in the reasonably near future. It appears that the company to little extent implements measures in ash basins to which no lawsuit is or has been linked. It therefore appears that Duke still waits for clear evidence that pollution has actually taken place before it implements measures.

In the Council's opinion, there seems over a long period of time to have been considerable similarities between the subsidiaries' failures to comply with these companies' responsibility to avoid pollution. The Council therefore assumes that there is a risk that the maintenance of some of the company's other ash basins and other installations may be lagging behind, as was the case at Dan River and Cape Fear.

The Council places emphasis on the fact that Duke's companies have over a long period not responded adequately regarding several of the environmental challenges that their activities represent. Drinking water is polluted or threatened by pollution in many locations. A large ash basin has collapsed, leading to huge discharges. Rivers are polluted. The companies have failed to comply with national legislation and have admitted a number of breaches of the environmental regulations. A pattern of action that results in extensive and long-lasting breaches of the environmental legislation comprises a considerable risk factor.

The measures that the companies are now implementing reduce the risk of additional environmental damage but will not remove the problems discussed for another 10-15 years. It is uncertain whether the company's measures sufficiently reduce the risk at all the ash basins. In addition, there is the risk that other ash basins may have structural weaknesses.

Following an overall assessment, the Council concludes that the four companies' extensive lack of measures to avert a considerable environmental risk linked to many of the companies' facilities entails an unacceptable risk of severe environmental damage according to the Guidelines for Observation and Exclusion from the Government Pension Fund Global. The Council therefore recommends that Duke Energy Corp., Duke Energy Carolinas LLC, Duke Energy Progress LLC and Progress Energy Inc. be excluded from the Fund.

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Johan H. Andresen   Hans Chr. Bugge   Cecilie Hellestveit   Arthur Sletteberg   Guro Slettemark

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