St. Petersburg White

This will last out a night in Russia,
When nights are longest there.
—*Shakespeare*

Chapter 1

It was a Fourth of July burned into memories. After the inferno, the mayor of Maise, Iowa, wept uncontrollably. The town—from the train station and ethanol plant on the west side to Elm Street, which ran north and south and split the town—had been incinerated. Its tidy grid of streets and buildings was now a charred abattoir of blackened brick chimneys, gutted and skeletal vehicles, and unidentifiable heaps of what were once the hopes and homes of a community. It would take weeks, the mayor knew, to find all the bodies and even longer to identify them.

The previous morning, Maise had been whole and the clocks hadn't stopped. The day before, life was good. The day before, the ethanol plant hadn't exploded. For more than a century, the town had led a charmed and charming life. Founded by the man from Cirencester, England, Edmund Cornelius Maise, no man-made or natural evil had befallen the town. Never in its history had it been laid low by tornados or arctic blasts. Yes, there were glancing blows to be sure, but nothing as brutal and pitiless as the firestorm. Whereas the day after the fire, the surviving residents knew, deep in their souls, that someone had conspired to murder their village.

The residents were proud of the town's name. Sort of a double entendre, a bon mot, or inside joke—Cornelius/*corn* . . . Maise/*maize*—corn being Iowa's yellow gold. The region's prospectors—farmers—used steel plows manufactured by John Deere and harvesters designed by Cyrus McCormick to slice open the black earth to gather up its golden wealth.

Maise missed the Interstate lottery by twenty-four miles. America's Interstate 80—three thousand miles long and the lifeline of the nation—passed nearby to the north. The town's beautiful Victorian train station, built by Maise himself, nestled against the transcontinental rail line on the western edge of the village. This edifice, with its bric-a-brac details, sat comfortably in the afternoon shadows of the fourteen 250-foot-tall concrete grain silos that waited, empty and welcoming, for the start of the late-summer corn harvest.

Like other small towns, Maise lost some of its residents to the big cities; those who remained were steadfast supporters and believers in its future. Not only did Maise grow corn for food and ethanol, wheat for bread, and soybeans for export, but also thousands of acres had been overplanted with great turbines that make power from the wind—it was all the stuff of modern life. On the broad flat land and prairie surrounding the village, the colossal wind turbines stood

in corn-like rows across the landscape as if giant beanstalks had been pilfered from an old fairy tale. Some in town joked that if Edmund Cornelius Maise were to rise from his plot of land in the local cemetery, he'd change his name to Hightower.

Elizabeth Nelson, the mayor and great-great-granddaughter of old Cornelius, said: "Thank God for the environmentalists. This ethanol thing is a blessing, but it is the wind that frees our souls—and expands our budgets." Everyone on the city council knew the mayor for her great sagacity and Iowan humor. Maise's largest employer, Iowa Power and Light, provided the electrical power for central Iowa. Across northern Iowa, more than a dozen wind farms, with their thousand whirling towers, fed the electric power grid of Iowa and the Midwest. There was a rumor that the energy-thirsty cities in Wisconsin and Illinois would soon be drinking Iowa wind.

The ethanol plant and distillery, located on the western edge of town and directly across the tracks from the train station, was where the carnage began. The ethanol plant's single purpose, both chemically and politically, was to turn Iowa's yellow gold into alcohol—and that alcohol into money and votes. Three distinct American resources are found in America's Heartland: black soil, wind, and the Bakken Formation shale. Boasting two out of the three, Maise stood proud in its effort to support America's future. It was a patriotic point of pride.

Consequently, when the first electrical power outage occurred at 8:08 AM on July 4th, the village was surprised but not overly concerned. During the year, there were often outages due to summer windstorms and winter ice storms. There was concern, not panic. Parts of the four counties that surrounded Maise also went dark. Power at the ethanol distillery failed. Internal pump and transfer stations lost control when their computers shut down; even the backup systems failed. Outside of town, there was no power to distribute electricity from the still-spinning wind turbines to the regional network and grid. Almost every home and business lost power; only those few with solar panels and backup battery systems had electricity. Later, it was learned the skeleton crew at Iowa Power and Light had been frantic; though their initial public face was one of concern and control, they had no idea why the power grid failed.

"We will be back online shortly," the public relations staffer reported dutifully to news reporters. She reported by phone; she was still home with her two children celebrating the holiday. "Sometimes these glitches occur. Nothing serious. It is being handled."

She was right the first time the power went out. Precisely thirty minutes later, at 8:38 AM, the lights throughout the town and the surrounding counties flickered back on. Mayor Nelson left her holiday breakfast and had just arrived in her office halfway through the first outage. She spent the next twenty-five minutes, even after the lights came back on, talking to the county sheriff and the city's police chief, Clyde Dubban. They all remembered the snapped transmission lines after the series of weather fronts and ice storms that clippered through the town the previous January.

"This isn't a storm, Liz," the sheriff said. "It's a beautiful day out there; I've no reports of problems or downed lines. There's supposed to be some strong winds building this afternoon, but nothing out of the normal. Liz, I haven't a clue as to why this shut down."

“Same here,” Chief Dubban added. “Nothing. It’s got to be in the grid. I have calls into Iowa Power. They say they’re looking; I’ve heard nothing back. Silas and Grundy Counties also reported outages.”

Well before the call ended, the lights had come back on and the fan on the mayor’s desk began to spin—it was a gift and a replica of one of the wind turbines. The mayor’s secretary, dressed for the parade at noon, came into her office and reported that Iowa Power was on it. With it being the holiday, they were short-staffed. They’d report to her in an hour. Mayor Nelson relaxed, no big deal. At 9:08 AM, the power again failed. The fan on her desk stopped. She heard the phones throughout the office ringing; people wanted answers. At 9:18 AM, the mayor left her office and walked out to the city park that surrounded the native Iowan limestone city hall located in the four-block square precisely in the town’s center. Floats and other vehicles surrounded the park, waiting for the parade to start; early risers had placed chairs along the curbs in anticipation. Beyond she heard the guttural noise of diesel generators humming. If there was one thing you could count on with Iowans, it was their independence and tenacity. During the year, there were enough weather-related outages that prudent business owners had backup generators to ensure their refrigeration and freezers didn’t fail. She was thankful the schools were out for the summer.

The police chief walked toward her across the neatly clipped lawn.

“This time the outage extends outward about twenty miles into the surrounding counties, ten times larger than the one last hour,” he said. “I’ll tell you, damnedest thing.”

They both turned at the sound of squealing tires at the intersection of Main Street and Elm Street in the northeast corner of the square. There was a noticeable bang and crunch as two cars collided. In seconds, yelling voices filled the summer air. People stood and watched. The overhead traffic lights were black.

“Shouldn’t they be flashing red?” the mayor asked.

“We took that out of the budget, if you remember, Liz.”

“That was dumb.”

“It was smart then. With what we saved, we were able to put in that new signal near the train station.”

“Which is also out, now.”

Dubban nodded. “What about the parade?” he asked.

“We haven’t missed a Fourth of July parade since World War II.”

“Just asking.”

As the chief replied, the traffic signal actuated, and red and green lights flashed. Nelson looked at her watch: 9:38 AM. A strong puff of wind rustled her hair; it was a dry wind from the west.

“Get your boys and girls out to the busiest intersections,” she said. “I have a gut feeling this is not over. Also, check with the hospital, the two clinics, and the ethanol plant. See if they need anything. I will let you know about the parade.”

Nelson took out a cigarette and tried to light it; finally, on the third match and during a calm moment, it took. That was the principal reason she had left her office.

The chief walked away a few paces, raised his radio to his cheek. Then he stopped and looked at the black handset, and then back at the mayor. “The communication system is on the grid. It’s out—another budget item. They are waiting for it to reboot.”

“My cell phone still works,” she said, holding it up.

“What’s the backup battery time on those cell towers?”

“Don’t know. I’ll find out,” she said. She started to make a call.

Thirty minutes later, she crushed out her third cigarette and watched as the traffic light and all the storefronts on Main Street went black for the third time that morning. Her phone, even though she knew the time, read 10:08 AM.

“What the hell is going on?”

Her next call was a follow-up to state emergency preparedness; someone finally answered. “We haven’t a clue,” was the reply. “Just as we locate the spot on the grid where the switches have been shut down, they reactivate, and power comes back into the system. Each time it’s different: different switches, different sub-areas. And each time, it gets bigger. The current outage extends outward across fifteen counties.”

Mayor Nelson spoke to the county sheriff for the second time.

“We’ve reports of accidents, nothing serious yet,” he said. “There have been a couple robberies at some of the convenience stores near the Interstate. But it’s the fire at the plant that’s worrying me the most.”

“Fire? What’s that about?”

“A pressure regulator failed, and a valve is stuck open. There’s the potential for a serious ammonia leak and release into the air. Jenkins, the plant manager, says he’s also concerned about the potential failure of the venting system in the fermenters. He has almost no staff to handle the emergency. There’s a fire in a gearbox in one of the grinders. And near one of the dryers, a natural gas line valve is stuck open. The lack of pressure control could cause a problem in one of the boilers.”

“What do you mean *could*? There’s ammonia and natural gas out there, as well as gasoline and alcohol in some of those tanks.” Her phone began to beep, then cut out. “Shit.”

She called the fire chief back; he’d been the one trying to reach her. Yes, there was a serious problem at the distillery. He had two of his trucks standing by. She looked at her watch: 10:37 AM. She looked west in the direction of the plant. A plume of black smoke was visible above the treetops; the fast-rising wind was pushing the smoke over the city.

“What’s the status of the fire?” she asked. She had to nearly yell over the wind.

“I had to get my guys out. They report a thirty-foot-high gas torch from a broken line is raging near the dryers. We are pulled way back.”

As the mayor watched, the lights came back on above the façades of Main Street. Beyond the rooftops, she could see the smoke rip between the tops of the grain silos. It was then that the

ethanol plant, with its millions of gallons of distilled alcohol, ammonia, gasoline, and natural gas lines, exploded.

Like a game of dominoes in hell, each fifty-foot-high metal ethanol storage tank exploded and collapsed onto its neighbor. Pushed by the now gusting thirty-miles-an-hour wind, the pressure wave and fire from the cascade of explosions raged, unstopped, eastward into the town. Meanwhile, in the rail yard adjacent to the distillery, on one of the many parallel freight tracks, one hundred double-stacked freight cars were slowly inching their way south. Next to the freight rails sat thirty ethanol-filled tanker cars. Within the freight train were ten double-stacked shipping containers, all filled with highly concentrated ammonium nitrate fertilizer processed in a plant in North Dakota that used natural gas extracted from the Bakken field. These containers were going to Galveston, Texas, where they would be sent on to Uruguay. The burning ethanol from the first exploded storage tank smothered the rail cars; the fertilizer in each shipping container detonated like a ten-thousand-pound bomb.

It wasn't until late that afternoon that the mayor learned from the surviving assistant fire chief that at precisely the moment of the explosion, an Amtrak train was unloading passengers at the train station. The ethanol fireball expanded until the Amtrak train, most of the freight train, and numerous warehouses across the rail lines from the distillery were engulfed. The thirty tanker cars, full of processed ethanol, were knocked off the rails. Some burst open and began to burn. Within minutes, the western half of Maise was on fire. Dumbstruck by the massive conflagration and feeling the heat from the raging wind and advancing fire storm, Mayor Nelson was barely aware of the lights going out again. If she had looked at her watch, she would have seen the time reflected against the wild flames of the fire heading toward her: 11:08 AM.