

Behind Deadly Tianjin Blast, Shortcuts and Lax Rules

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TIANJIN, China — One partner was the son of a local police chief, the other an executive at a state-run chemicals firm. After meeting at a dinner party, they started a company here to handle the export of the most dangerous chemicals made in [China](#), promising “outstanding service” and “good results.”

Within two years, Rui Hai International Logistics had built a reputation as the go-to place for businesses looking to ship hazardous materials to customers abroad, a niche market that had been dominated by sluggish state enterprises.

Rui Hai offered lower prices, a no-hassle approach to paperwork and quick government approvals. Business was brisk. It seemed like another success story for the Binhai New Area, a thriving economic development zone established here by the ruling Communist Party around one of [China](#)’s busiest seaports.

Now, more than two weeks after explosions at its warehouses leveled a section of that district, killing 150 people, injuring more than 700 and leaving millions here fearful of toxic fallout, Rui Hai has become a symbol of something else for many Chinese: the high cost of rapid industrialization in a closed political system rife with corruption.

In interviews with more than a dozen of Rui Hai’s former clients and associates — and unusually critical reports in China’s state-controlled news media — a picture has emerged of a company that exploited weak governance in one of the party’s showcase economic districts and used political connections to shield its operations from scrutiny.

Rui Hai began handling hazardous chemicals before it obtained a permit to do so, and it secured licenses and approvals from at least five local agencies that conducted questionable reviews of its operations. Local authorities outsourced one safety review required for a storage permit to a private contractor that Rui Hai selected and paid.

As much as 3,000 tons of hazardous chemicals were stored at Rui Hai on the night of the explosions, including 700 tons of sodium cyanide, deadly in a dose of less than a tablespoon, and 1,300 tons of fertilizer nitrates, more

than 500 times the amount used in the 1995 Oklahoma City bombing.

Rui Hai’s shipping yard covered more than 11 acres, but clients said it routinely packed huge volumes of different volatile chemicals together in haphazard fashion instead of storing them separately, at safe distances and in smaller quantities as recommended in the industry.

“Nobody wanted to stand in their way,” said one chemicals exporter in Tianjin, who asked not to be named to protect his business from reprisal, when asked why regulators took no action.

The catastrophe in Tianjin has stunned a nation inured to living with one of the worst industrial safety records in the world. By the government’s own count, more than 68,000 people were killed in such accidents last year — nearly 200 every day, most of them poor, powerless and far from China’s boom towns.

But the Aug. 12 blasts at Rui Hai were different, because they occurred so close to middle-class neighborhoods in one of China’s most prosperous cities, a modern metropolis of 15 million just a half-hour ride from Beijing on gleaming high-speed trains. And they unfolded nearly in real time online, with dramatic video shared widely across social media before censors could stop it. Criticism of the party’s management of the economy had already been on the rise, with growth at its slowest pace in a quarter-century and the stock market reeling since early summer. Now the explosions have prompted broader questions about whether party officials who operate with few checks on their authority can pursue development without endangering public health and safety.

“From the blasts to the botched government response, everything about this disaster is outrageous, which is why people are so furious,” said Zhang Ming, a political scientist at Renmin University in Beijing. “It was a man-made disaster that could have been prevented, and it has exposed a range of systemic problems, from the lack of regulation for handling hazardous chemicals to the collusion of business and corrupt officials.”

Trust in the government could erode further if evidence emerges that local officials overlooked and concealed the dangers posed by Rui Hai and other facilities in the Binhai New Area.

As recently as 2013, Chinese academics warned of “many unacceptable environmental risks” in the district, citing the growing chance of accidents from the storage of dangerous materials so close to residential neighborhoods

and singling out the area where the Rui Hai facility was located. That warning, and others like it dating to at least 2008, were ignored.

“In terms of official neglect and mismanagement, what happened in Binhai is just the tip of the iceberg of what’s happening across China,” said Wu Yixiu, a campaigner for [Greenpeace](#). “Local governments are putting economic growth first and keeping residents in the dark about the dangers of these facilities.”

China’s top leaders have promised a transparent investigation into the disaster, and nearly two dozen local officials and Rui Hai employees have been detained or placed under investigation. But the government has thus far been silent on crucial questions, including what exactly caused the blasts. Nor has it addressed reports that firefighters in the district were unprepared to deal with a chemical fire and may have triggered bigger explosions or released toxins by spraying water on the blaze.



Emergency workers at the site of the explosions in Tianjin, China, about a week after the blasts killed 150 people. Credit ChinaFotoPress, via Getty Images

“We had no idea it was a warehouse for dangerous goods,” said Quan Li, 25, a firefighter who was buried under debris when the fire department’s building collapsed in the blasts. Speaking by phone from a hospital bed, he said the department had drafted a risk-management plan this year that identified the most dangerous sites in the port.

Rui Hai, he said, was not on the map.

Playing Catch-Up

For decades, Tianjin has sought to emerge from the shadow of Beijing, its far more powerful and privileged neighbor, and to catch up with the rival port cities that pioneered China’s economic transformation. The centerpiece of these ambitions has been the Binhai New Area, a vast stretch of industrial parks and skyscrapers

along the muddy shores of the Bohai Sea about 30 miles from downtown.

Binhai boasts neither the skyline of Shanghai’s Pudong district nor the export strength of Shenzhen in southern China. But more than half of Fortune Global 500 companies have invested in it. Airbus makes its A320 jet here. And President [Xi Jinping](#) has elevated its status with plans to make it part of a “supercity” that integrates Beijing with the region around it.

China’s leaders began to experiment with the first special economic zones in the late 1970s to promote foreign investment and market-oriented policies. The districts promised tax breaks as well as freedom from over-regulation, and they grew so quickly that the rest of the country has since sought to emulate their approach. Binhai won special status in 1994.

Through the decades of rapid growth, however, the Communist Party has struggled to strike a balance between cutting red tape and enforcing rules to protect the environment, workers and public health. With little public scrutiny of their work, party officials are only occasionally punished for neglecting the latter, usually only after an accident. But they can count on being rewarded for pushing the limits for economic growth, with promotions — and opportunities for graft.

Even before the explosions, the Port of Tianjin, at the center of the Binhai district, had a reputation for lax oversight compared with its competitors. One state media report said it acted as “[an independent kingdom](#).” To Rui Hai’s founders, Dong Shexuan and Yu Xuewei, it was the perfect place to set up shop in November 2012.

Mr. Yu, 41, had been deputy manager of the local branch of the state conglomerate Sinochem. Mr. Dong, 34, sold tires, cosmetics and wine, but his father was the police chief at the port, and that apparently helped them get the necessary fire safety, land and environmental permits.

“My connections are in police and fire,” [Mr. Dong told](#) the official Xinhua news agency after he and his partner were detained. “When we needed a fire inspection, I went to meet with officials at the Tianjin port fire squad. I gave them the files, and soon they gave me the appraisal.”

The news agency noted that Mr. Dong “did not specify whether there was a bribe or official misconduct.”

But Rui Hai set up warehouses about half a mile from an apartment complex and a rail station, in violation of Chinese regulations requiring that hazardous chemicals be stored farther away from residential areas and transport hubs.

The New York Times

Graphic

Tianjin Blasts Expose the Dangerous Proximity of Toxic Chemicals in China

The warehouse in Tianjin that exploded was just one of many buildings across China that store toxic chemicals near residential areas.



OPEN Graphic

The environmental impact assessment ordered by regulators in Tianjin in 2013 made no mention of that fact. Instead, the Tianjin Academy of Environmental Sciences reported that 100 percent of the 128 residents it surveyed welcomed the facility in their neighborhood.

Former clients said they began using Rui Hai as early as February 2014. But it was not until May 4, 2014, that the Tianjin Transportation and Port Administration issued a temporary permit allowing the company to store and ship hazardous chemicals.

The license was effective retroactively, beginning April 16, and good for six months. At the bottom, it was marked, “This document is not to be made public.” On Thursday, prosecutors said they were investigating the

officials responsible for issuing the license, including the director of the transportation administration.

When that license expired, Rui Hai continued handling chemicals without one. “We didn’t cease operations because we didn’t think it was a problem,” Mr. Yu told Xinhua. “Many other companies have continued working without a license.”

Rui Hai may have been granted only a temporary license in 2014 because it had not yet obtained a safety certification, a process that the port administration outsources to private companies.

Ma Jun, a prominent Chinese environmental activist, said that these safety consultants routinely skewed their

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findings to satisfy corporate clients. “It’s hard to stay in this business without compromises,” he said.

The first company approached by Rui Hai declined to take the job, citing the facility’s proximity to the residential complex, Mr. Dong said in the Xinhua interview. But Rui Hai shopped around, and found another firm, one that corporate records show is affiliated with the Ministry of Public Security. That relationship has led some Chinese journalists to describe it as a “red-hat intermediary,” or a firm set up by officials to extract payments from businesses.

In [a report](#) issued in February 2015, the company overstated the distance between Rui Hai and the apartment buildings, the rail station and highways by hundreds of yards and asserted that it was in compliance with national standards.

It added that Rui Hai had “established a rather sound safety management system.” Four months later, Rui Hai received a new permit to handle hazardous chemicals, good for three years.

Ignoring the Warnings

When local officials first recruited him as an adviser nearly a decade ago, Shao Chaofeng saw a chance to show that his ideas for energy-efficient and ecologically sound growth could find a home among the smokestacks and cranes of the Binhai economic zone.

A young environmental engineer on the faculty at Nankai University in Tianjin, Professor Shao drafted dozens of papers setting out ideas for industrial development free of the haze, toxins and water pollution that have blighted much of eastern China.



Net fishermen on the banks of the Hai River in Tianjin's Binhai New Area. Credit Reuters

“Initially, people paid attention,” he recalled.

But if Professor Shao was at first inspired by the prospect of a “new Binhai,” he finished his years of work on the district increasingly troubled. Officials were piling on one

industrial project after another, sometimes dangerously close to schools and residential neighborhoods.

As early as 2008, he and other academics in Tianjin warned in [a paper](#) of the strain on the environment, citing the risks posed by the chemical industry in particular. An accident or spill, they said, could devastate the region.

Two years later, he and Sun Xiaorong, of the Tianjin Appraisal Center for Environment and Engineering, published

“The rapid development of industry, especially petroleum and chemical industries, have greatly increased major environmental risks in the Binhai New Area,” they wrote. “But at the same time, environmental risk management standards in the district have not undergone timely and effective improvement.”

Officials were not hostile to his proposals, Professor Shao said, but many seemed overwhelmed by the pressure to build up the economic zone, and there were frequent reshuffles of personnel.

With huge [oil](#) refineries, ethane plants and other petrochemical projects, Binhai would quickly become China’s largest chemical-industry park. Spurred by a national drive to build self-sufficiency in chemicals, the industry was growing at an annual rate of 10 percent and contributing as much as \$600 billion to gross domestic product.

By about 2011, Professor Shao’s government consultancy work on Binhai had dried up.

But he continued raising alarms. In [a paper](#) in 2013, he and four co-authors warned that the risk of an accident related to the “storage and transportation” of chemicals in Binhai was increasing. They identified high-risk zones on color-coded maps, including one that highlighted the area housing Rui Hai and other facilities.

Professor Shao and his co-authors were not alone. In a paper published late last year, a group of researchers at the Tianjin Marine Environment Monitoring Center issued [a similar warning](#). “There have been constant incidents of pollution from the storage and transport of these chemicals, severely threatening the life, property and health of people in the area,” they wrote.

Based on incomplete statistics, they counted 84 instances of pollution at the port between 1998 and 2012, most of them attributed to “operational” failings. Yet, they noted, the government planned to develop the shipping of chemicals as a “main pillar” of the port’s growth.

Professor Shao was away on business when he heard the news of the explosions. Reached by telephone a few days later, he recalled feeling stricken by regret. “I felt deeply

pained in my heart,” he said. “I felt there were many things that could have been ...” His voice trailed off.

He said he and the others who built the risk model that forecast trouble in 2015 had never anticipated that a company would store such vast amounts of hazardous chemicals so close to a residential area. “Such a large quantity of dangerous chemicals — it was just too much — should never have been placed in what was quite a central location,” he said. “Even if it wasn’t a residential district, even on the edge of the city, this was wrong.”

Sidestepping Safety

The sodium cyanide arrived at Rui Hai in wooden crates, hundreds every month, each marked “TOXIC” with an imprint of a skull and bones. The material was headed to mines around the world to extract gold from rock, but it was as deadly as the cyanide used in the Nazi gas chambers.

Storing and shipping sodium cyanide was one of Rui Hai’s specialties. This summer, it had received an especially large shipment — 700 tons, enough to fill 35 shipping containers. But the company was authorized to store only 10 tons at a time, according to the 2013 environmental assessment.

Former clients said Rui Hai executives were willing to sidestep safety measures aimed at reducing the risk of accidents and often boasted of their ability to overcome bureaucratic hurdles. “Whatever problem you had — not enough time, a huge order — they took care of it,” said the chief executive of a large Chinese plastics company, who asked to be identified only by his surname, Liu, to avoid retaliation from the authorities. “Their talent was cutting through all the hassle.”

Calisto Radithipa, a chemicals trader based in Hong Kong, shipped sodium cyanide to Zimbabwe through Rui Hai several times. “At the end of the day, it was profit first,” he said.

Based on customs and transport records, officials say, Rui Hai was storing as much as 3,000 tons of hazardous chemicals on the night of the explosions, including 1,300 tons of ammonium nitrate and potassium nitrate, used in fertilizers and to create explosive materials. Also on the site were 500 tons of magnesium, an explosive powder, and metallic sodium, which is used to purify metal and can spontaneously ignite when exposed to air.

There were also unspecified amounts of calcium carbide, a highly flammable chemical used in welding; sodium hydrosulfide, an extremely toxic compound used in mining that can turn into a volatile gas when heated; and toluene diisocyanate, a compound used to make plastics that explodes when exposed to heat.

A year earlier, the stockpile was even larger. According to a routine safety inspection in June 2014, there were 4,261 tons of hazardous chemicals at Rui Hai.

Experts say storing such large quantities of chemicals at one site is dangerous, because it heightens the risk of an explosive reaction and can exacerbate the damage caused by fire. “It’s an incredible amount,” said Neal Langerman, a chemical safety consultant in San Diego. “If you’re going to have large quantities, you really have to do it right. If you do it right, it costs you money.”

Chinese regulations require that hazardous chemicals be kept in well-ventilated areas, far from sunlight, power cords and other heat sources. But Rui Hai’s warehouses were known for shoddy construction and outdated equipment, people involved in shipping chemicals from the warehouse said.

Chemicals are also supposed to be stored separately and at safe distances to reduce the risk of reactions. But Rui Hai often crammed containers full of different dangerous chemicals next to each other, former clients said.

Hu Jianzhong, a manager at a Tianjin logistics firm, said Rui Hai packed the containers together because the authorities had not allowed warehouses to devote more space to hazardous materials, even as the volume of chemicals going through the port increased in recent years. The safety assessment conducted by the private company before Rui Hai obtained its license noted that containers were stacked three high when two should be the limit.

Rui Hai was not the only facility with problems. [A survey conducted in 2010](#) by the Ministry of Environmental Protection found that half of China’s [oil](#) processing, coking, chemical and pharmaceutical plants were located within less than a mile of sites like schools and residential areas, in violation of regulations. And many Chinese chemical firms have cut back on safety training and ignore guidelines on storage to save on warehouse space, said Paul Pang, vice president of IHS Chemical, a research firm in Shanghai.

The government says it has contained the fallout from chemicals at the blast site, but residents in Tianjin remain worried about the long-term effects of the toxins scattered in the explosion. “It might take decades for them to figure out the impact of so many chemicals in the air and water,” said Zhang Yangyang, 29, a lawyer wearing a respirator who emerged from her home lugging a bag of possessions. “This is not a risk I’m willing to take.”

Correction: August 30, 2015

Because of an editing error, an earlier version of this story misidentified the model number of the Airbus jets

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assembled in the Binhai New Area in Tianjin. It is the A320, not the A370.

Andrew Jacobs reported from Tianjin, and Javier C. Hernández and Chris Buckley from Hong Kong. Dan Levin contributed reporting from Tianjin, and Keith Bradsher and Michael Forsythe from Hong Kong. Yufan Huang and Adam Wu contributed research from Tianjin. Mia Li, Vanessa Piao and Kiki Zhao contributed research from Beijing.

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