Rogers executives on Monday walked MPs through the chaos that unfolded this month when what they called a "truly unprecedented incident" took down the "brain" of the company's network.

During a hearing of the House of Commons industry committee, which is studying the July 8 outage, top Rogers leaders faced questions about their failure to communicate in a timely fashion with the public and government officials and how they plan to avert such a crisis in the future.

While Rogers itself faced stinging criticism from across party lines, several witnesses throughout the day also acknowledged that outages, which could stem from cyberattacks or extreme weather events, could hit any telecom provider and the whole industry needs to be better prepared.

Rogers' new chief technology and information officer, Ron McKenzie, said it was a coding error that triggered the widespread network failure that knocked out service for millions of Canadians for more than 15 hours and left many customers unable to reach 911.

"(It) essentially (affected) the core of the network, the brain of the network, that supports all wireless, wireline, internal communications and connectivity," McKenzie said. "It was a complete loss of connection."

Rogers CEO Tony Staffieri said the company now plans to physically separate its wireless and internet networks to ensure more redundancy in the future. If one part of the network were to go down in the future, he said, the company could move traffic to the other one.

"This added layer of protection will be expensive," Staffieri said, adding the company estimates it will cost at least $250 million. "But we know it's the right thing to do."

The Rogers executives told MPs the outage began shortly before 5 a.m. after the coding error was introduced in the sixth part of a seven-phase update process that spanned several weeks. McKenzie said there were no problems during the previous five phases.

In the initial hours, Staffieri said Rogers personnel themselves could not communicate, which delayed their response as well as communications with the public and government. He said the company was preoccupied with two main questions: determining whether it had been hit by a cyberattack and also when it would be able to get its network back up.

Earlier Monday, Innovation Minister François-Philippe Champagne told MPs that he was the one who first reached out to Staffieri during the outage to find out what was happening.

"It should not be (up) to the minister to chase the CEO of a major telco when something like that happens. It should be the other way around," Champagne said.

"In retrospect, I regret that and I'm disappointed we didn't reach out sooner," Staffieri said, who was also asked by one MP about when he notified the Quebec premier about the outage and acknowledged that came late in the day as well.

"There were reasons. We were focused on the solution and getting our cus-
customers up and running, but nonetheless, those communications should have happened sooner for an important stakeholder such as the government."

Three days after the outage, Champagne convened a meeting of Staffieri and the CEOs of other major telecoms and said he demanded they strike formal agreements within 60 days to support each other during network failures in the future.

"The responsibility is solely on Rogers but we all have to be in solution mode," Champagne said Monday. "The clock is ticking and there is 45 days left to deliver on that commitment."

Ian Scott, chair of the Canadian Radio-television and Telecommunications Commission, told MPs Monday afternoon that Rogers' communications about the outage were "unacceptable."

"We need to establish a protocol, not just for Rogers, for all the industry, because Rogers is not the only company that has outages, they just had the biggest one," Scott said. He added that "communication with Canadians needs to be better and it needs to be, I think, prescribed."

He said the CRTC will look at that in the coming weeks. As a first step, he said, the regulator has asked for a detailed account of what happened and what measures are in place to prevent similar events in the future.

The company provided answers to those questions on Friday and Scott said the CRTC is reviewing them and determining next steps. "I assure you that we'll act quickly."

When pressed repeatedly about what kinds of repercussions Rogers could face, Scott said administrative monetary penalties are possible, but those are not meant to be punitive. He said the CRTC could consider making other types of orders.

Michael Geist, the Canada research chair in internet and e-commerce law at the University of Ottawa, told MPs he believes the CRTC's process should be more transparent. He also said there should be legislative action and that Canadians need "more than tough talk and ministerial demands to CEOs."

In its response to the CRTC, which was partially redacted in the public version published late last Friday, Rogers revealed more technical details about the outage, which left the carrier unable to route customers' 911 calls or to deliver four emergency alerts issued that day in Saskatchewan.

As a result of the failure in the core network, Rogers could not shut down its radio network, which could have allowed customers to automatically connect to 911 on another carrier's network.

At the hearing on Monday, Staffieri told MPs that if the company had shut down its radio network, it could have extended the entire outage by another day.

Scott noted that the 911 network itself - which is run by Bell, Telus and SaskTel - was still fully functional, but the Rogers core network failure was the reason its customers couldn't get through to emergency responders.

Throughout the day, the issue of whether there is adequate competition in Canada's telecom industry came up. It has become a flashpoint in Rogers' proposed $26-billion acquisition of Shaw and the Competition Bureau is going to court to fight the transaction.

The federal government must also approve the takeover but Champagne said Monday the companies have not yet submitted a formal proposal to his department. He referenced previous comments he has made saying that he would not allow the "wholesale transfer" of spectrum licences from Shaw to Rogers.

To the apparent disbelief of Liberal MP Nathaniel Erskine-Smith, Staffieri said he believes Canadians do have choices when it comes to telecom service.

He said the Shaw deal would give the combined company greater scale and allow Rogers to separate its wireless and internet networks in about half the time that it would otherwise take.

When NDP MP Brian Masse questioned the minister on what consequences Rogers or other telecoms could face when it comes to network outages, Champagne said "When the minister speaks, they listen."

"They didn't even call you," Masse replied, adding that he's skeptical of an approach to network reliability and public safety that relies on influence over and goodwill from telecom companies.

"You'll be able to rely on a formal binding agreement," Champagne said.

With files from The Canadian Press