

Case Reference	R/E/I/105
Title	Service Difficulty – M1’s Mobile Service Disruption on 15 January 2013 (“ Service Difficulty Incident ”)
Case Opened	15 January 2013
Case Closed	25 September 2013
Complainant	IDA initiated this proceeding pursuant to the Code of Practice for Telecommunication Service Resiliency (“ Service Resiliency Code ”)
Respondent	M1 Limited (“ M1 ”)
Case Summary	<p>On 15 January 2013, a service difficulty incident occurred in M1’s network which caused some of M1’s mobile users to experience difficulty in making and receiving calls, and in accessing short message service and other mobile data services.</p> <p>Based on IDA’s investigation, IDA found that the Service Difficulty Incident lasted for a total of 71 hours and 15 minutes, from 2.45 am on 15 January 2103 to 2 am on 18 January 2013, and affected 416 3G base stations and 245 2G base stations. According to M1’s estimate, about 250,000 subscribers were affected, with 3G mobile telephone services affected in the south-western parts of Singapore (West Coast, Jurong and Tuas) and 2G mobile telephone services affected in the north-western parts of Singapore (Woodlands, Yishun and Kranji).</p> <p>IDA’s investigation revealed that the Service Difficulty Incident was caused by M1’s failure to ensure good electrical installation practices when carrying out power termination in the course of upgrading works at one of its network operations centre on 15 January 2013. This centre houses key network equipment. The improper power termination at the power distribution rack resulted in the emission of sparks, followed by smoke, at the power distribution rack. The smoke activated the gas suppression system and gas was discharged.</p> <p>One of the 88 water sprinklers in the switch room was set off, causing the failure of one of M1’s Mobile Switching Centre¹ (“MSCs”), which disrupted M1’s mobile services. As a consequence, affected end users were not able to access their mobile services and experienced lost signals for 3G services in the south-western part of Singapore and for 2G services in the north-western part of Singapore.</p>

¹ The MSC is the heart of the mobile network, which is responsible for several important tasks, such as controlling calls in the mobile network, call setup and routing voice calls and short messaging service between end users’ handsets and the mobile network.

	<p>To minimise the impact of the Service Difficulty Incident and restore services to end users as soon as possible, M1 increased its core network capacity and signalling links between all remaining MSCs. M1 also activated two contingency plans concurrently: (a) to re-link the affected Radio Network Controllers² (“RNCs”), Base Station Controller³ (“BSCs”) and Media Gateway⁴ (“MGW”) to M1’s alternative live MSCs; and (b) to re-parent affected 2G and 3G base stations to alternative RNCs and BSCs, and to rebalance the traffic load across the network equipment. Progressive restoration works were carried out in phases, with priority accorded to high traffic areas, including key areas such as major highways and high traffic sites. 3G services were fully restored by 6 pm on 17 January 2013 and 2G services were fully restored by 2 am on 18 January 2013.</p> <p>Following the Service Difficulty Incident, M1 will continue to enhance the current resiliency in its network by replacing the damaged MSC, implementing MSC pooling and installing additional standby RNCs and BSCs to prevent similar occurrences in the future.</p>
<p>IDA’s Determination</p>	<p>M1 would be in breach of the Service Resiliency Code for any service difficulty that exceeds a duration of one hour and affects an aggregate of 5% or more of its base stations. It would not be a breach of the Service Resiliency Code if M1 can establish to the satisfaction of IDA that the occurrence of the Service Difficulty Incident was not within its control and occasioned through no fault on its part.</p> <p>In this case, IDA found that the Service Difficulty Incident was caused by M1’s failure in supervising and ensuring good electrical installation practices when carrying out upgrading works on its network. This resulted in sparks at the distribution rack where the power cables were terminated, and emitted smoke which activated the gas suppression system and gas was discharged. One of the water sprinklers was set off, causing the failure of one of M1’s MSCs, which disrupted M1’s mobile services.</p> <p>M1 has explained that it was the actions of the vendor, in failing to adopt good electrical installation practices, that resulted in the Service Difficulty Incident. However, in view of the elevated levels of risk in performing works at the network operations centre, IDA is of the view that it was only reasonable for M1 to have exercised such due care and diligence in identifying and assessing all</p>

² The RNC manages all radio-related functions of 3G radio access networks and is responsible for controlling 3G base stations that are connected to the RNC.

³ The BSC manages all radio-related functions of 2G radio access networks and is responsible for controlling 2G base stations that are connected to the BSC.

⁴ The MGW carries the voice channels in the mobile network.

relevant risks, and to take all necessary mitigating measures to address such risks. M1 should have also exercised greater scrutiny and supervision over the performance of the works. This is so notwithstanding that M1 had implemented a permit to work procedure and, as part of its risk assessment, had a licensed electrical worker present to supervise the power termination works. Therefore, IDA found that the occurrence of the Service Difficulty Incident was within M1's control, and for which fault can be attributed to M1.

In view of the above, IDA found that the Service Difficulty Incident could have been avoided and that M1 had not established to IDA's satisfaction that the occurrence of the Service Difficulty Incident was not within M1's control and occasioned through no fault on its part. IDA therefore determined that M1 was in breach of the Service Resiliency Code.

In determining the appropriate amount of financial penalty to be imposed on M1, IDA took into account all relevant facts, including the severity of the Service Difficulty Incident. IDA also took into consideration the following mitigating factors such as M1's end users in the south-western and north-western part of Singapore were able to switch to the 2G and 3G mobile networks respectively to use their mobile services, M1's commitment to invest to further enhance resiliency in its network to prevent the recurrence of similar service difficulties and M1's efforts to offer end users three days of free mobile usage and free prepaid top-ups.

Taking into consideration all of the above, IDA imposed a financial penalty of **S\$1,500,000** on M1 for its contravention of the Service Resiliency Code.