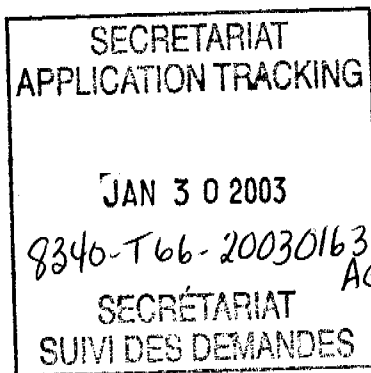




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**Willie Grieve**  
Vice-President  
Public Policy & Regulatory Affairs



January 27, 2003

Ms. Diane Rhéaume  
Secretary General  
Canadian Radio-television and  
Telecommunications Commission  
Ottawa, ON K1A 0N2

Dear Ms. Rhéaume

**Re: Section 29/ Joint Operating Agreements – TCI and TELE-MOBILE COMPANY for the Eastern and Western Tekelec STPs**

Attached for the Commission's approval pursuant to Section 29 of the *Telecommunications Act* are copies of the Agreements between TELUS Communications Inc. and TELE-MOBILE COMPANY specifying the framework for sharing the costs associated with operating and maintaining certain equipment for the Eastern and Western Tekelec STPs.

TCI respectfully requests that the Commission grant approval of the aforementioned agreement in due course.

Yours truly,

Willie Grieve  
Vice President,  
Public Policy & Regulatory Affairs

cc: Public Examination Room – Ottawa  
Public Examination Room – Vancouver



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**Joint Operating Agreement Between**

**TELUS Communications Inc.**

**and**

**TELE-MOBILE COMPANY**

**For The Western Tekelec STPs**

**Proprietary Warning**

1

The information contained herein is proprietary to TELUS communications Inc. and TELE-MOBILE Company and may not be used, reproduced or disclosed to others except as specifically permitted in writing by the originators of the information. The recipient of this information, by its retention and use, agrees to protect the same and the information therein from loss, theft and compromise.

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THIS JOINT OPERATING AGREEMENT is made

**BETWEEN**

**TELUS COMMUNICATIONS INC.**, a company incorporated under the laws of Canada, domiciled at 3777 Kingsway, in the city of Burnaby, in the province of British Columbia, ("TCI")

**AND TELE-MOBILE COMPANY**, operating under the name TELUS Mobility, a general partnership formed under the laws of Ontario, domiciled at 200 Concilium Place, in the City of Scarborough, in the province of Ontario, ("TM")

WHEREAS the parties wish to establish a principled framework for sharing the costs associated with operating and maintaining certain equipment acquired to expand their businesses;

NOW THEREFORE in consideration of their mutual obligations and covenants, the parties agree as follows:

**ARTICLE 1 – Purpose and Duration**

TCI and TM will operate in good faith to share use of two new signaling transfer point switches (the "STP Switches").

TCI and TM will jointly manage the initial installation of the Western common SS7 infrastructure (the "Infrastructure"), which includes the STP Switches, associated software, monitoring equipment, processor cards, and all incidental equipment.

This Agreement will come into effect as of Oct 01, 2002 and will remain in force for the entire useful life of the Infrastructure, including any additional equipment installed from time to time to maintain or incrementally upgrade the Infrastructure.

This Agreement may be terminated by either party upon delivery to the other of a termination notice with effect one year after the date of the notice. Upon receipt of a termination notice, each party will assign resources to develop a plan to migrate traffic from the Infrastructure to other assets before the termination date. During the migration period each party will operate in good faith to ensure no disruption of SS7 signaling service.

## **ARTICLE 2 – Shared Use**

Each parties' usage share of the Infrastructure is calculated on the basis of projected consumption rates, as measured by low-speed A-link equivalence, estimated annually on September 30<sup>th</sup> and applied over the following twelve month period. The parties will base their link forecasts on realistic projections from current use.

The link forecasts may be amended in the course of the following twelve month period, at the request of either party, if observed usage patterns depart substantially from the forecasts. A revision of the forecasts will be completed if, at any time, there is the addition of major core capacity to the Infrastructure.

Notwithstanding the unequal projected use of the Infrastructure, estimated initially at 90% TCI and 10% TM, each party will have right to access the STP Switches. Both parties will exercise commercially reasonable efforts, throughout the term of this Agreement, to accommodate the unforeseen capacity requirements of the other. Any unused capacity, attributed in advance on the basis of link forecasts, will be made available to the other party in case of need.

For greater clarity, it is the intent of both parties that each be entitled to use the STP Switches to fully support its needs, insofar as such use does not degrade performance or compromise data integrity on the other party's network.

Each Party may share its use of the SS7 Infrastructure with its respective affiliates (as that term is defined in the *Canada Business Corporations Act*). TELUS Québec Inc. shall be deemed an affiliate of TCI and QuébecTel Mobilité, being a division of TELUS Solutions (Québec) Inc., shall be deemed an affiliate of TM, each entitled to share in the use of the SS7 Infrastructure on the terms described herein.

## **ARTICLE 3 – Joint Operations**

Each party requires the understanding of the necessary business practices and service level agreements of each other's operating environment in order to conduct business efficiently and effectively.

## **ARTICLE 4 – Governance & Dispute Resolution**

Each party will nominate one engineering representative and one operation representative to act as a point of contact for issues relating to forecast usage, unforeseen capacity requirements, ongoing operations and maintenance of the Infrastructure, and financial accounting. These representatives will meet at least twice per year to address Infrastructure plans.

At the time of signing of this Agreement, the parties' nominees are:

For TELUS Communications Inc.

**Scott Farkas** 403-530-3267  
**Jim Merryfield** 780-493-2089

For TELE-MOBILE COMPANY

**John Beetham** 905-305-5160  
**Jennifer Josefsson** 416-279-3546

In the event of a dispute, the parties will use all reasonable efforts to resolve by negotiations, promptly and in an amicable manner, any dispute between the parties, whether arising during the term or at any time after the expiration or termination of this Agreement, which touches upon the validity, construction, meaning, performance or effect of this Agreement or the rights and liabilities of the parties under this Agreement.

Either party may give written notice of a dispute to the other party. It shall set forth particulars of the matters in dispute, the probable extent and value of the damage and relevant provisions of this Agreement. The other party shall reply to such notice no later than five (5) days after it receives or is considered to have received the written notice of dispute, setting out in such reply its grounds and other relevant provisions of this Agreement.

If the parties fail to resolve the dispute within ten (10) days after delivery of the reply required, within five (5) days thereafter, a senior representative of each party will meet to resolve the dispute.

**ARTICLE 5 – Provisioning and maintenance**

**1. SCOPE**

This Article is limited to the provisioning and maintenance of SS7 services. The workflow for bilateral cooperation between TCI and TM is outlined below and is intended to bring clarity to operations, information exchange and service order processes.

Items not specifically identified in this document are considered to be out of scope.

Equipment Type	CLLI	Point Code	Software Version	Location
Edmonton Tekelec Eagle	EDTNAB0214W	245-108-000	Release 28.0	11 <sup>th</sup> , Floor 10035-102 Avenue Edmonton Alberta
Calgary Tekelec Eagle	CLGRAB2116W	245-107-000	Release 28.0	4 <sup>th</sup> Floor 622 –1 Street S.W., Calgary Alberta

**2. SS7 LINK - BASIC INFORMATION**

**2.1 Method of Interconnection**

The signaling network interconnection for the TM SSP will use the access link ("A-links") between TM SSP and the STPs. Linksets (DS-0's) will be ordered on separate facilities to access mated STP Switches for maximum diversity.

**2.2 Pre-Service Testing**

Pre-service link testing will include a 24-hour BERT test, MTP level 2 and 3 testing as detailed in TCI SS7 Inter Operability Test document, a copy of which has been provided and approved by the parties. This will be followed by a five (5) day soak period. Acceptance limits will not be exceeded in any 24 hour interval during the five (5) day soak period. New level 4 services must be tested and accepted with a mutually agreed upon service document.

Following initial link acceptance, link activations / deactivations will be governed by TCI Network Activity Ground rules (NAG), copies of which have been provided and approved by the parties. Exception will be granted upon negotiation and bilaterally agreed in writing on a given situation.

**3. WORK FLOW CHART FOR PROVISIONING & OPERATION**

**3.1 Subsequent Signaling Link Provisioning**

Subsequent link orders from TM to the STP Switches must be delivered to TELUS Network Assessment Specialist and copied to Network Development Planning Manager 30 business days prior to the requested in-service date. Management escalation will be used for accelerating requests for link orders in cases where unforeseen circumstances arise to meet a 10-day turnaround time.

Company	Group	Current Contact	Contact Information	
			Telephone	E-Mail
Telus Mobility	MSO Planning	Jennifer Josefson	(416) 279-3546	<a href="mailto:jennifer.josefson@telus.com">jennifer.josefson@telus.com</a>
	Translation West	Ken Thiessen	(403) 387-4165	<a href="mailto:ken.thiessen@telus.com">ken.thiessen@telus.com</a>
TELUS	NationalPlatform Planning	Mike Barker	(250)470-5399	<a href="mailto:mike.barker@telus.com">mike.barker@telus.com</a>
		Jim Merryfield	(780)493-2089	<a href="mailto:jim.merryfield@telus.com">jim.merryfield@telus.com</a>
	Network Assessment Specialist	Hector Lefebvre	(780) 493-4104	<a href="mailto:hector.lefebvre@telus.com">hector.lefebvre@telus.com</a>

### **3.2 Gateway Screening, GT Translation & Routing Table update**

TCI will employ gateway screening to validate messages between TELUS SS7 Network and all foreign SS7 Networks. Each party manages and updates their own GT translations, gateway screening or signaling routes as determined by the translation primes and supported by the technology. The parties will establish a joint committee to design and implement all the required processes for GT translation, gateway screening and signaling routes.

### **3.3 Utilization and Sizing**

TCI Traffic Engineering will monitor link utilization as well as be responsible to initiate all activities related to link provisioning. Sizing and link utilization will follow the guidelines set out below. SS7 messaging traffic will be evenly distributed among all combined linksets. The utilization of each link accessing the STP Switches must be under 35% regardless the type of link, and initiate augments at 28% utilization or 80% of the 35%.

The algorithms to be used are as follows:

#### **Low Speed Link Calculation**

- MAX (MSU TX/4,410,000 %, MSU RX/4,410,000 %)
- Max is 4,410,000 bits per half hour
- BYTRX means total bytes transmitted over a link during 30-minute period
- BYTTX means total bytes received over a link during 30-minute period
- Calculate the occupancy for the TRX and RCV direction, the greater number is used as the busy 1/2 hour occupancy.
- 80% occupancy will trigger an investigation and activity to augment the group.
- Capacity is 35% of total link capacity to allow for fail over.

#### **High Speed Link Calculation**

- MAX (MSU TX/120,938,580 %, MSU RX/120,938,580 %)
- Max is 120,938,580 Octets per half hour
- MSU TX means total bytes transmitted over a link during 30-minute period
- MSU RX means total bytes received over a link during 30-minute period
- Calculate the occupancy for the TRX and RCV direction, the greater number is used as the busy 1/2 hour occupancy.
- 80% occupancy will trigger an investigation and activity to augment the group.
- Capacity is 35% of total link capacity to allow for fail over.

### **3.4 Planned Outage Control**

TCI and TM will maintain the portion of the links that are within their respective network. TCI has the operational responsibility for the SS7 signaling links in the STP Switches. TM has the operational responsibility in their SSP.



All planned outages will be mutually communicated in advance and governed by TCI Network Activity Groundrules (NAG) [http://nsa.tsl.telus.com/nsa/processes/TELUS\\_NAG.doc](http://nsa.tsl.telus.com/nsa/processes/TELUS_NAG.doc)

Company	NOC Concate Info
TELUS Mobility	Tel: 1-800-391-1391 option 3 Email: <a href="mailto:NMC.TM@telus.com">mailto:NMC.TM@telus.com</a>
TELUS	Change Management Centre for: Planned Activity Arrangement: 800-887-1221 option 3-2 Planned Acvity updates: 800-877-1221 option 3-1; email: <a href="mailto:eventmanager@telus.com">mailto:eventmanager@telus.com</a> Noc CCS7 Group for trouble report: 800-887-1221 option 2-4-2-1; email: <a href="mailto:ain@telus.com">ain@telus.com</a>

### 3.5 Trouble Reporting - Resolution

When a network related trouble occurs and after the preliminary analysis, a trouble report will be submitted to the Network Operation Centre. TCI will provide trouble status updates in a reasonable period.

Network Operation Centres:

Company	Contact
TELUS Mobility	TELUS Mobility Network Management Center. Tel: 1-800-391-1391 option 3 ; Email: <a href="mailto:NMC.TM@telus.com">mailto:NMC.TM@telus.com</a>
TELUS	Name: TELUS Event Manager Tel: 800-887-1221 option 3-1 ;

### 3.6 Diversity and Link Records

SS7 route diversity is defined as signaling linksets that are on physically and electronically separate paths. Proper three-way diversity is necessary between TCI STP and TM STP to ensure one single failure or disruption will not isolate one STP from another. TCI and TM will ensure diversity is maintained and routinely confirmed. Also, two-way diversity is required between TM SSPs and the TELUS Western STPs.

### 3.7 SS7 Network Failures Control

TCI and TM will notify the other party of any SS7 network failures affecting inter-network traffic. In the event of catastrophic network congestion and local control measures prove

ineffective, TCI and/or TM may remove the SS7 links from service upon notification to the other. TCI Event Manager will assume Command and Control role for the Network Recovery.

**3.8 SS7 Tools**

Each party has the operational responsibility for the monitoring of the links terminated to their respective STPs or SSPs for the purpose of monitoring, MSU tracing, maintenance and trouble shooting.

TCI will provide TELUS Western STP alarms & Operational Measurement monitoring capability to TM as required.

TM will connect their monitoring system to TM SS7 links if required.

In order to support National Services, a network wide SS7 monitoring system will be explored and determined by business drivers.

**3.9 Escalation Detail**

Escalation will be implemented when delays or problems are encountered and the commitment to correct delays or problems are not met within the specified time frame outlined in the table below.

Severity	Level 1	Level 2	Level 3
1	Immediate	>1 hour	>2 hours
2	Immediate	>4 hour	>8 hours
3	<2 hours	>8 hours	>24 hours
4	< 4 hours	>24 hours	

According to the severity of the impact to the network, the severity level associated with different scenarios as below:

Severity	Description
1	Loss of combined linkset (linksets to both STPs') Loss of X-HLR Loss of both STPs' Loss/isolation of one or more SPs'

2	Loss of combined linkset diversity Loss of more than 50% throughput on the combined linkset; or one link failure of a pair
3	Loss of 25% - 50% throughput on the combined linkset Or Single link failure
4	Trouble reports referred and not responded

**Escalation Contacts:**

Company	Escalation level	Attention	Telephone Number
<b>TELUS Mobility</b>	1	TELUS Mobility NOC	Tel: 1-800-391-1391 option 3 Email: <a href="mailto:NMC.TM@telus.com">NMC.TM@telus.com</a>
	2	NOC Manager: Jeanette Butler Harley	Tel: (905) 305-5167 Mobile: (416)684-5167
	3	Manager: John Beetham	Tel: (905) 305-5160 Mobile: (416)684-5160
<b>TELUS</b>	1	TELUS Event Manager	Tel: 800-887-1221 Option 3-1
	2	National Repair Answer Director Navin Arora	Tel: 780-493-7979 Page: 780-491-2744
	3	National Test Director Kevin Varga	Tel: 416-883-8766 Page: 416-377-2013

**3.10 Future Signaling Requirement**

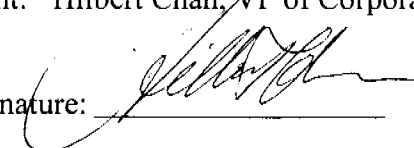
Software upgrades will be implemented and managed by TCI in consultation with TM.

**4. SIGN-OFF DECLARATION**

On behalf of the each function group, by signing off this paper, we agree that we will guide our future cooperation for our STP activities according the work flow outlined in the above documentation or as amended with mutual agreement from time to time.

TELE-MOBILE COMPANY Representative:

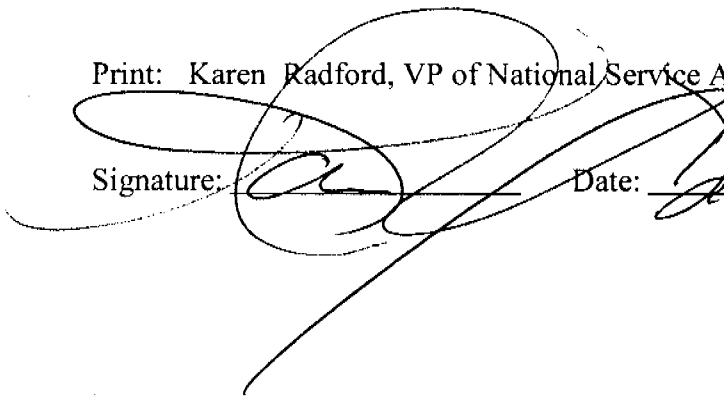
Print: Hilbert Chan, VP of Corporate Engineering

Signature: 

Date: Jan 15, 2003

TELUS Communications Inc. Representative:

Print: Karen Radford, VP of National Service Assurance

Signature: 

Date: December 20/02