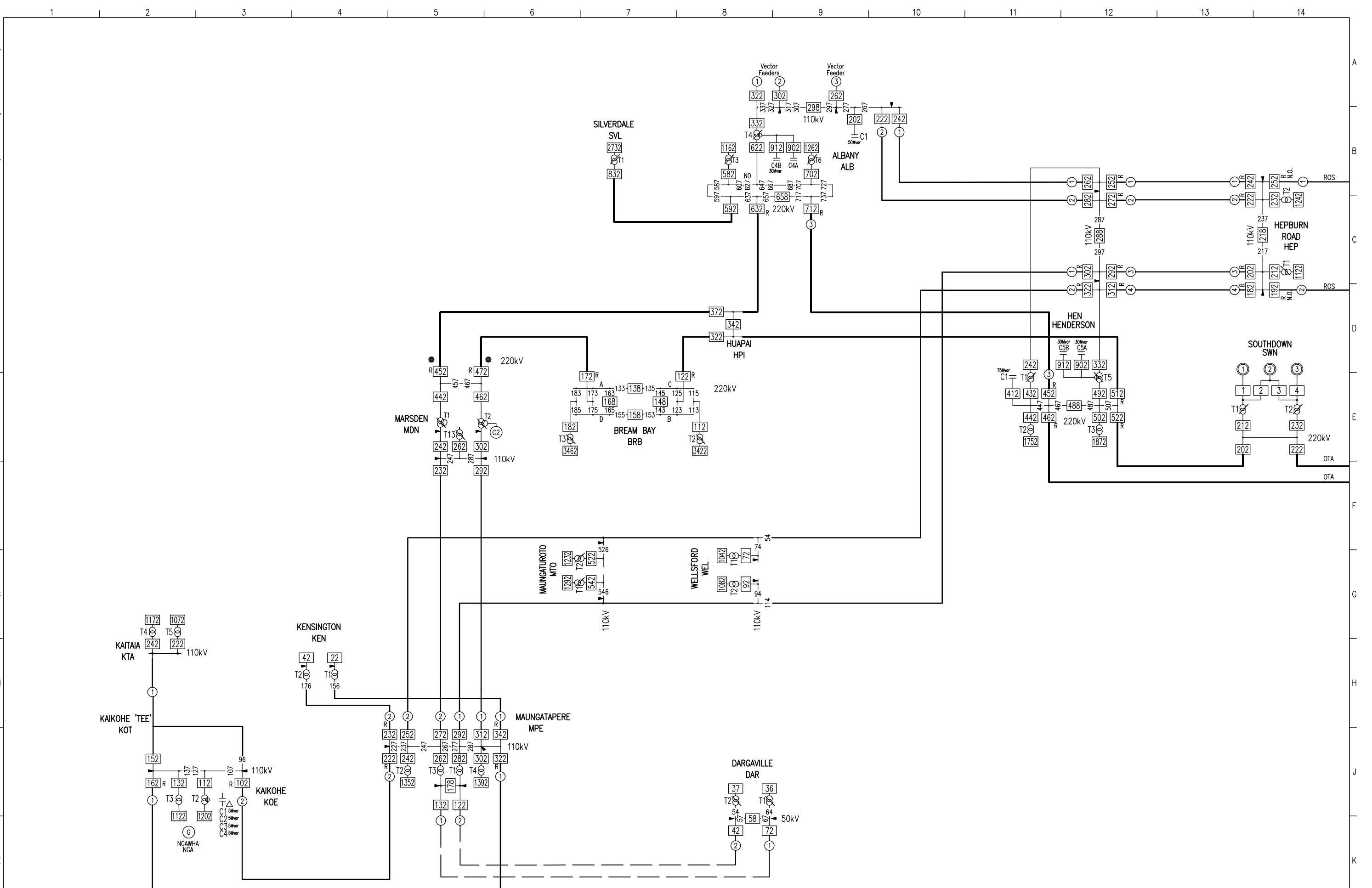


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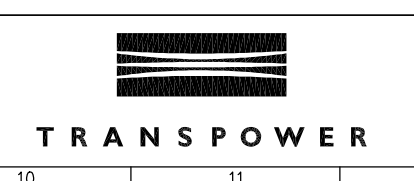


	Buswork		T1 Transformer Banks	
	-163- Disconnector			
	-163 NO Normally Open			

Key For Colour Version Only

	Equipment under Transpower operational control
	Equipment not under Transpower operational control

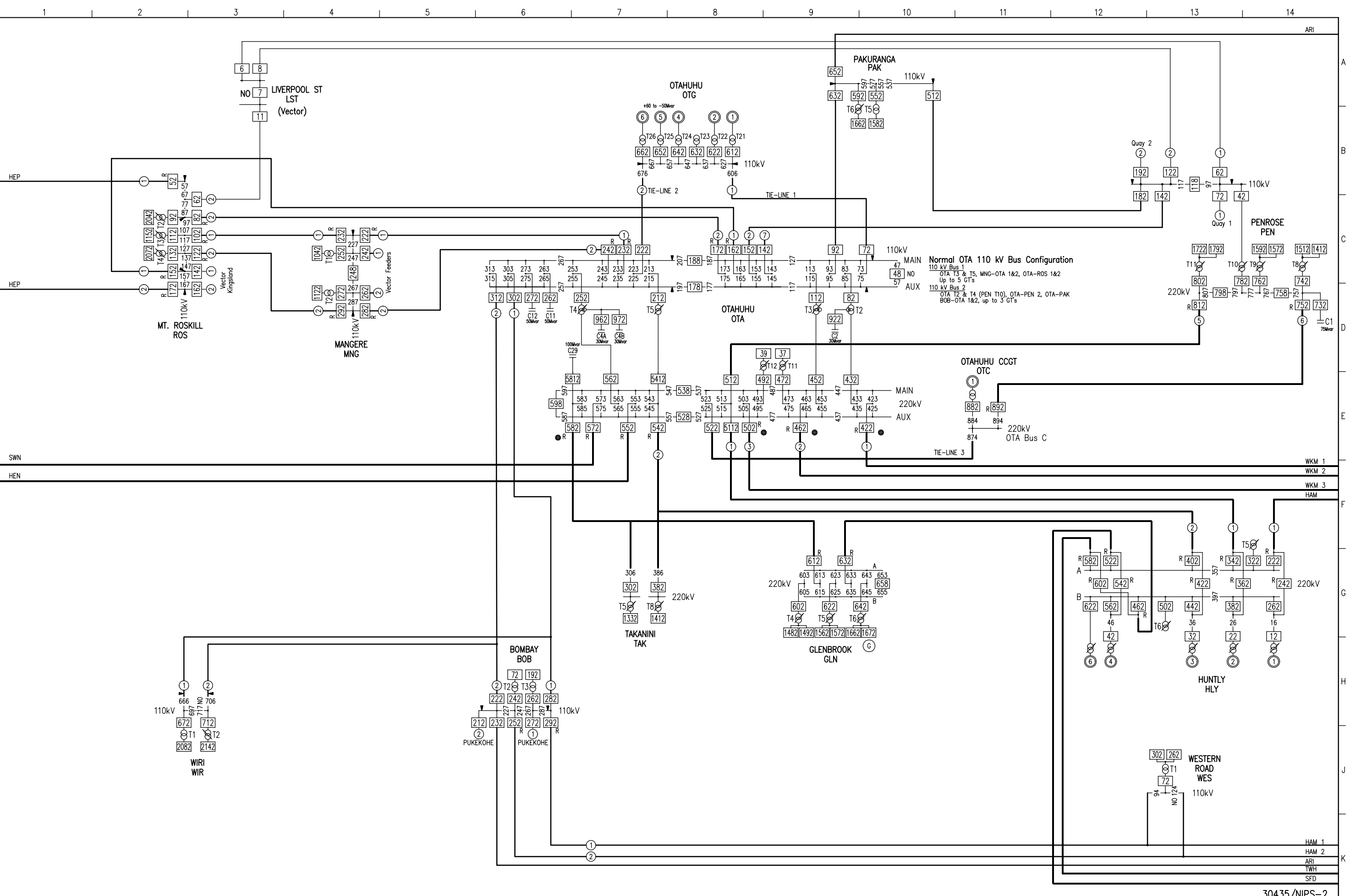
DRAWN	D. Chapman	8/93
CHECKED	M. Frater	8/93
REC. ISSUE	S. Mutton	8/93
APP. ISSUE	P. Clark	9/93
DATE OF CURRENT ISSUE		5/05



TRANSPOWER TRANSMISSION	NIPS-1
NORTH ISLAND POWER SYSTEM DIAGRAM (SHEET 1 OF 5)	
ISSUE AC	(SEE NIPS-7)

30435/NIPS-1

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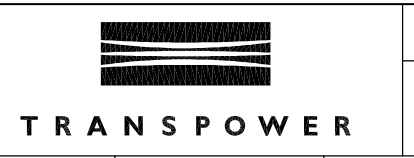
Normal OTA 110 kV Bus Configuration
 110 kV Bus 1
 OTA T3 & T5, MNG-OTA 1&2, OTA-ROS 1&2
 Up to 5 GT's
 110 kV Bus 2
 OTA T2 & T4 (PEN T10), OTA-PEN 2, OTA-PAK
 BOB-OTA 1&2, up to 3 GT's

	HVDC		Buswork		102 Circuit Breaker		T1 Transformer Banks		Auto-Trans. with Tertiary		V Voltage Transformer		Auto Earth Switch Reactor
	220 kV AC		163 Disconnector		518 CB Auto Reclose		Transformer Three Winding		Voltage Regulator		C Capacitor V.T.		Capacitor
	110 kV AC		163 NO Normally Open		518 CB Normally Open		On Load Tap Change		C Condenser		S Syncro. V.T.		Syncro. Cap. V.T.
	50/66 kV AC		Generation		* Limited C.B.s (No Protection)		Transformer Three Winding (OLTC)		S Synchronising Point		H Harmonic Filter		
	1 Circuit Numbers		G Local Generation										

Key For Colour Version Only

	Equipment under Transpower operational control
	Equipment not under Transpower operational control

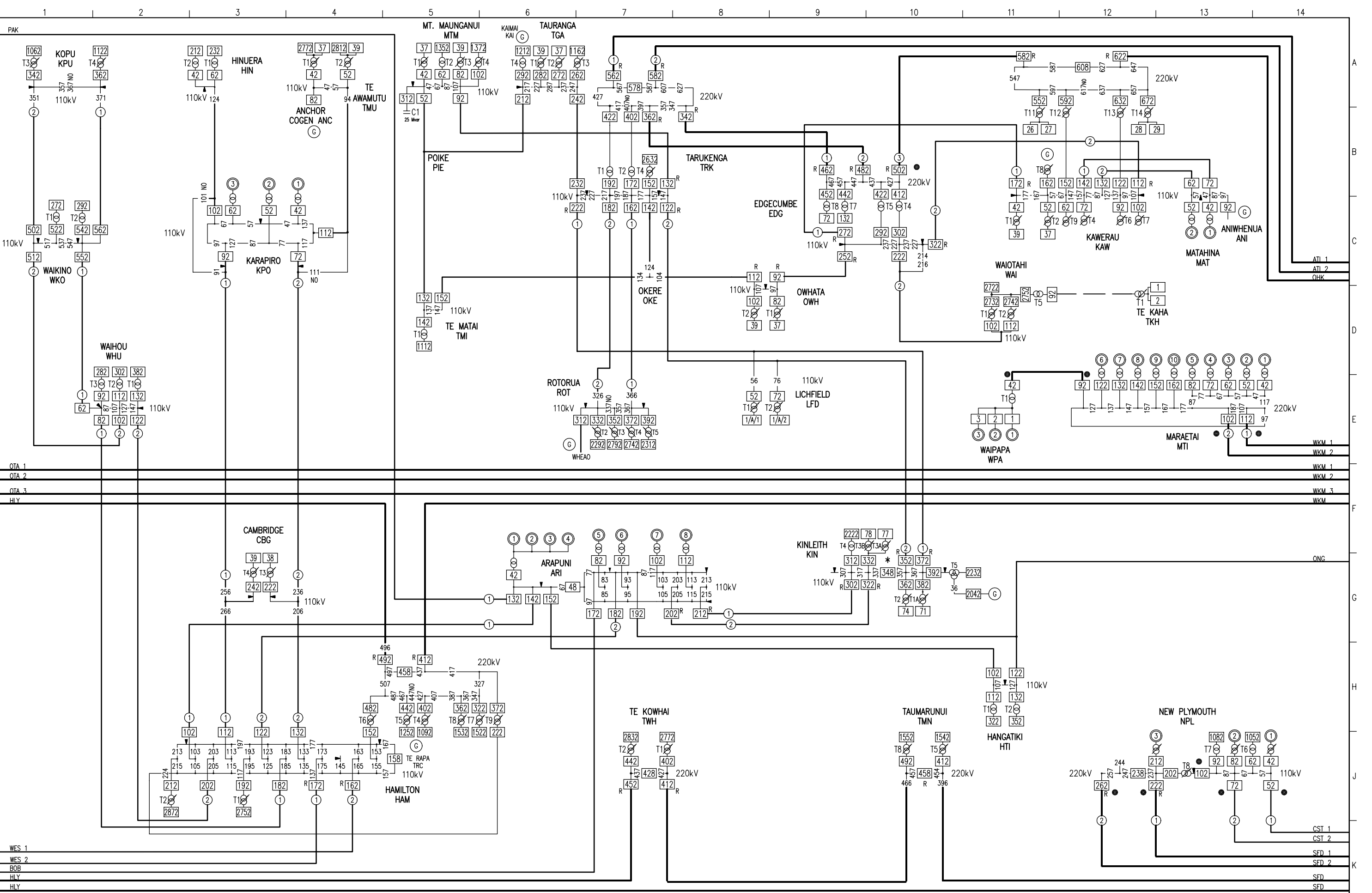
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REC. ISSUE	S. Mutton	8/93
APP. ISSUE	P. Clark	9/93
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TRANSPOWER TRANSMISSION	NIPS-2
NORTH ISLAND POWER SYSTEM DIAGRAM (SHEET 2 OF 5)	
ISSUE AC (SEE NIPS-7)	

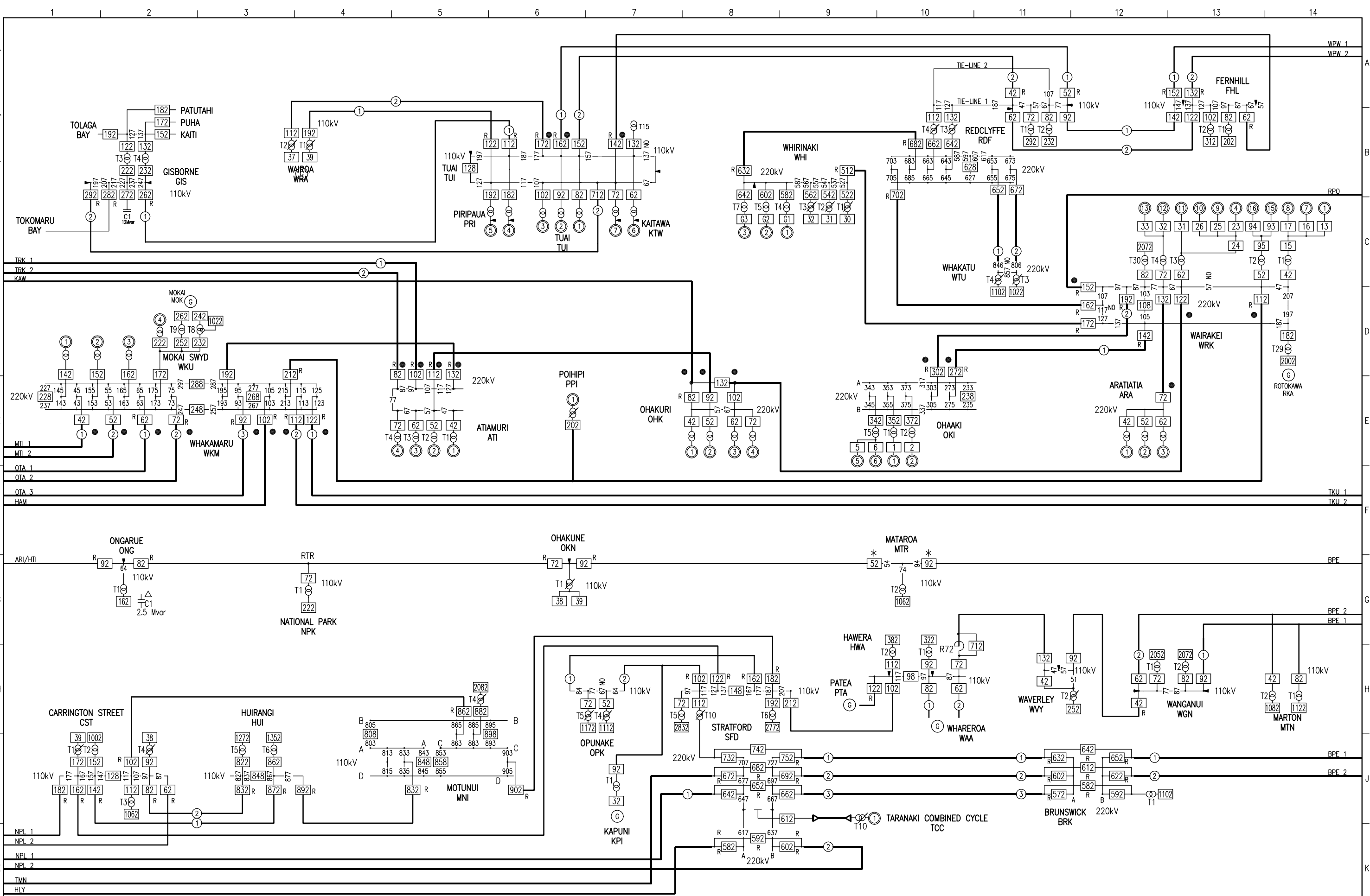
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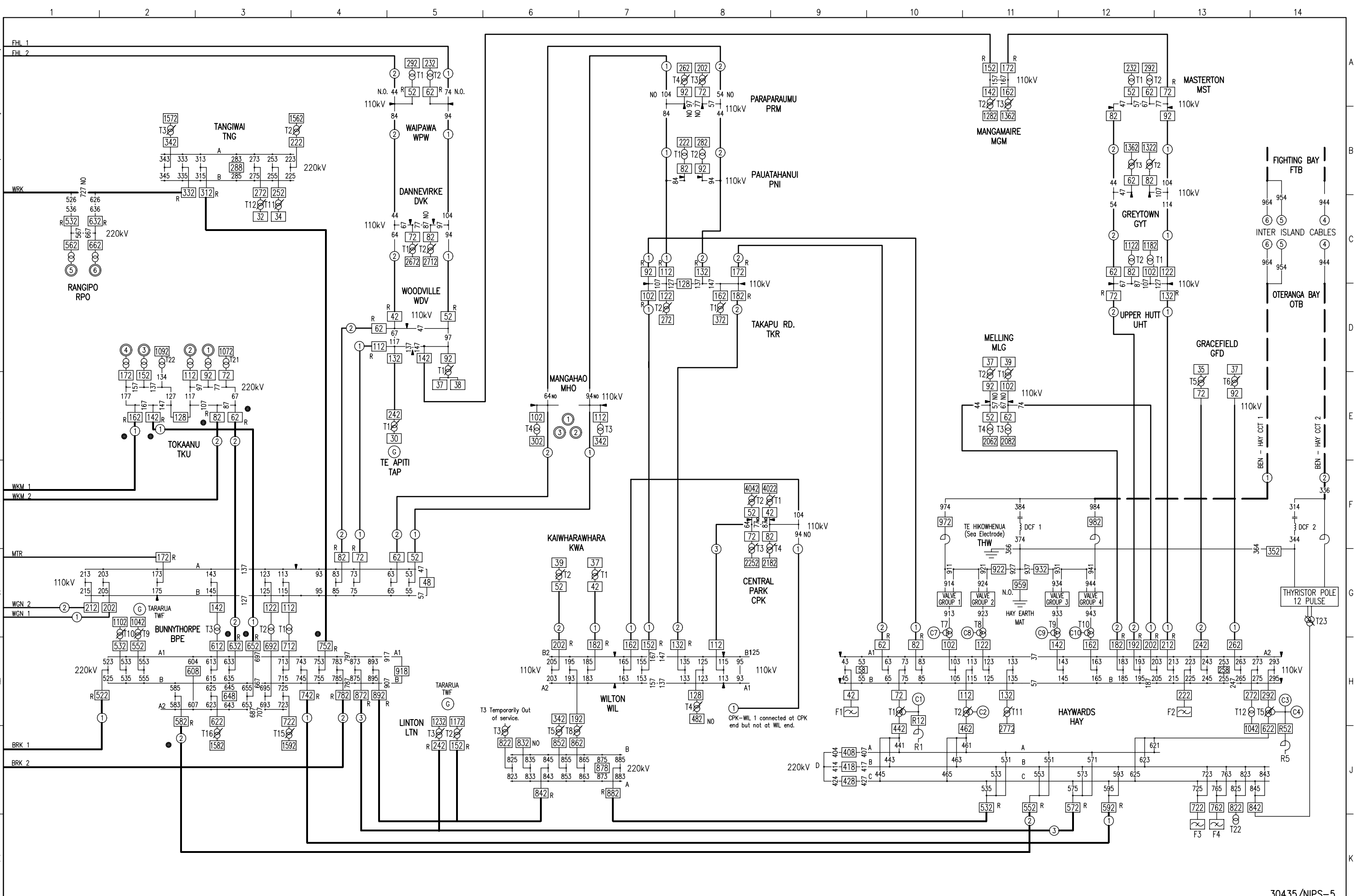
<p>WES 1</p> <p>WES 2</p> <p>BOB</p> <p>HLY</p> <p>HLY</p> <p>HLY</p>	<table border="0"> <tr> <td>— HVDC</td> <td>— Buswork</td> <td>102 Circuit Breaker</td> <td>T10 Transformer Banks</td> <td>Auto-Trans. with Tertiary</td> <td>V Voltage Transformer</td> <td>Auto Earth Switch Reactor</td> </tr> <tr> <td>— 220 kV AC</td> <td>— 163 — Disconnector</td> <td>518 CB Auto Reclose</td> <td>Transformer Three Winding</td> <td>Voltage Regulator</td> <td>Capacitor V.T.</td> <td>Capacitor</td> </tr> <tr> <td>— 110 kV AC</td> <td>— 163 NO Normally Open</td> <td>518 CB Normally Open</td> <td>On Load Tap Change</td> <td>(C) Condenser</td> <td>— Syncro. V.T.</td> <td>Harmonic Filter</td> </tr> <tr> <td>— 50/66 kV AC</td> <td>(1) Generation</td> <td>* Limited C.B.s (No Protection)</td> <td>Transformer Three Winding (OLTC)</td> <td>● Synchronising Point</td> <td>— Syncro. Cap. V.T.</td> <td></td> </tr> </table>	— HVDC	— Buswork	102 Circuit Breaker	T10 Transformer Banks	Auto-Trans. with Tertiary	V Voltage Transformer	Auto Earth Switch Reactor	— 220 kV AC	— 163 — Disconnector	518 CB Auto Reclose	Transformer Three Winding	Voltage Regulator	Capacitor V.T.	Capacitor	— 110 kV AC	— 163 NO Normally Open	518 CB Normally Open	On Load Tap Change	(C) Condenser	— Syncro. V.T.	Harmonic Filter	— 50/66 kV AC	(1) Generation	* Limited C.B.s (No Protection)	Transformer Three Winding (OLTC)	● Synchronising Point	— Syncro. Cap. V.T.		<p>Key For Colour Version Only</p> <p>42 Equipment under Transpower operational control</p> <p>42 Equipment not under Transpower operational control</p>	<table border="0"> <tr> <td>DRAWN</td> <td>D. Chapman</td> <td>8/93</td> </tr> <tr> <td>CHECKED</td> <td>M. Frater</td> <td>8/93</td> </tr> <tr> <td>REC. ISSUE</td> <td>S. Mutton</td> <td>8/93</td> </tr> <tr> <td>APP. ISSUE</td> <td>P. Clark</td> <td>9/93</td> </tr> <tr> <td>DATE OF CURRENT ISSUE</td> <td></td> <td>5/05</td> </tr> </table>	DRAWN	D. Chapman	8/93	CHECKED	M. Frater	8/93	REC. ISSUE	S. Mutton	8/93	APP. ISSUE	P. Clark	9/93	DATE OF CURRENT ISSUE		5/05	<p>TRANSPOWER</p>	<p>30435/NIPS-3</p> <p>TRANSPOWER TRANSMISSION</p> <p>NORTH ISLAND POWER SYSTEM DIAGRAM (SHEET 3 OF 5)</p>	<p>NIPS-3</p> <p>ISSUE AC (SEE NIPS-7)</p>
— HVDC	— Buswork	102 Circuit Breaker	T10 Transformer Banks	Auto-Trans. with Tertiary	V Voltage Transformer	Auto Earth Switch Reactor																																											
— 220 kV AC	— 163 — Disconnector	518 CB Auto Reclose	Transformer Three Winding	Voltage Regulator	Capacitor V.T.	Capacitor																																											
— 110 kV AC	— 163 NO Normally Open	518 CB Normally Open	On Load Tap Change	(C) Condenser	— Syncro. V.T.	Harmonic Filter																																											
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<p>110kV AC</p> <p>220kV AC</p> <p>110kV AC</p> <p>50/66kV AC</p> <p>1 Circuit Numbers</p>	<p>Buswork</p> <p>-163- Disconnector</p> <p>-163 NO Normally Open</p> <p>Generation</p> <p>Local Generation</p>	<p>102 Circuit Breaker</p> <p>518 CB Auto Reclose</p> <p>518 CB Normally Open</p> <p>Limited C.B.s (No Protection)</p>	<p>T1 Transformer Banks</p> <p>Transformer Three Winding</p> <p>On Load Tap Change</p> <p>Transformer Three Winding (OLTC)</p>	<p>Auto-Trans. with Tertiary</p> <p>Voltage Regulator</p> <p>Condenser</p> <p>Synchronising Point</p>	<p>Voltage Transformer</p> <p>Capacitor V.T.</p> <p>Syncro. V.T.</p> <p>Syncro. Cap. V.T.</p>	<p>Auto Earth Switch</p> <p>Capacitor</p> <p>Harmonic Filter</p>	<p>Key For Colour Version Only</p> <p>42 Equipment under Transpower operational control</p> <p>42 Equipment not under Transpower operational control</p>	<p>DRAWN D. Chapman 8/93</p> <p>CHECKED M. Frater 8/93</p> <p>REC. ISSUE S. Mutton 8/93</p> <p>APP. ISSUE P. Clark 9/93</p> <p>DATE OF CURRENT ISSUE 5/05</p>	<p>TRANSPOWER</p>	<p>30435/NIPS-4</p> <p>TRANSPOWER TRANSMISSION</p> <p>NORTH ISLAND POWER SYSTEM DIAGRAM (SHEET 4 OF 5)</p>	<p>NIPS-4</p> <p>ISSUE AC (SEE NIPS-7)</p>
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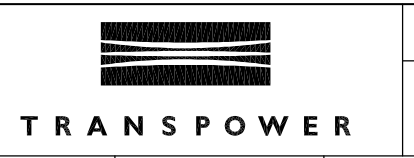


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TRANSPOWER TRANSMISSION	NIPS-5
NORTH ISLAND POWER SYSTEM DIAGRAM (SHEET 5 OF 5)	
ISSUE AC (SEE NIPS-7)	