

Peter Randall Esq
HM Principal Inspector of Railways
Health & Safety Executive
HM Railway Inspectorate
Rose Court
Southwark Bridge
London SE1 9HS

7 June 2005

Dear Peter

Railway Safety Regulations 1999

This application seeks approval from regulation 4 of the Railway Safety Regulations 1999 to allow the continued operation, by South West Trains Ltd, of two Class 421 Mk I 'heritage units' on the line between Brockenhurst and Lymington Pier.

The Brockenhurst - Lymington line is one of 56 routes that the SRA propose to designate as a 'Community Rail Line'. The line is exclusively a passenger railway and is lightly used, carrying some 280,000 passengers per annum with passenger loadings highest in the summer months with the influx of holidaymakers to the New Forest and the Isle of Wight. It is approximately 5.5 miles in length and consists of single track with the exception of the approach to Brockenhurst station where it joins the Bournemouth - Southampton main line.

We propose to continue the half hourly service on the route, operated by one train, with all services crewed by a driver and guard. The route is controlled from Brockenhurst Signalbox; both train and infrastructure (where required) are fitted with TPWS equipment. The stretch of single line between BH17 signal (please see attached track layout diagram), and the buffer stops at Lymington Pier is signalled under "One Train Working" Signalling Regulations. The Track Circuit Block Signalling Regulations apply to the rest of the Brockenhurst signalling area. The maximum permissible speed between Brockenhurst and Lymington Pier is 60 mph.

Our proposal is to retain two three-car Mk I units (reformed from existing two four-car class 421 units and renumbered to 421 497 and 421 498) to provide this one-train service (the second unit being required to ensure continuity during planned maintenance). The coach numbers of each unit, all of which were built in 1970, are as follows:

421 497: DTC - 76767;
MBSO - 62402;
DTC - 76835.

421 498: DTC - 76773;
MBSO - 62411;
DTC - 76844.

I can confirm that both units will be fitted with secondary door locking equipment, similar to that installed on Heritage Unit 121 020 by Chiltern Train Operating Company, incorporating a manually operated release for emergency escape purposes.

It is intended that the Mark 1s would be used on this service until the units are deemed to be life expired, which is currently predicted by our Fleet Engineer to be around 2013. However, the life expiry of the two units may well be beyond this date and will be driven largely by the practicality and costs of planned major overhauls and the general condition and availability of spares, particularly safety critical components. That being said, we believe an 'end-date' of 2013 is a reasonable estimate at the present moment in time.

The justification for retaining the two Mk 1 units is centred on the steadily increasing passenger demand across SWT, that has arisen since the date the Desiros were ordered, and increased further as a result of the combination of the introduction of the new timetable in December 2004 and the new Desiro fleet. There are, as determined by a passenger count taken during February and March this year, some 7,000 additional passengers travelling into and out of London (during peak periods) when compared with the previous count undertaken in Autumn 2004. In consequence it is considered that it is more appropriate to operate a Mk I unit on the very lightly used "one train" Brockenhurst - Lymington service, thereby releasing a new Class 444/450 Desiro to alleviate overcrowding on heavily laden London commuter services, particularly on the Portsmouth and Alton lines.

We believe this decision is supported, in terms of protecting the safety of our passengers, that the measures already in existence, together with those that we intend to implement should we be granted the exemption (e.g. the fitment of central door locking), will ensure the residual risk to passengers arising from the continued operation of the Mk Is will be further reduced from their current level, which we would argue is already as low as is reasonably practicable (ALARP). We therefore believe that the ongoing operation of Mk Is also justifiable in terms of reasonable practicability.

I attach at Appendix A, in support of this exemption, a comprehensive risk assessment that demonstrates the risks associated with this proposal are as low as reasonably practicable. I am, in addition, also attaching various operational documents (such as relevant extracts from the Sectional Appendix and the SWT Operations Standards manual) that I hope will help in the assessment of this proposal.

You will see from the risk assessment that additional controls have been proposed for the shared platform arrangements at Platform 4 at Brockenhurst Station. These have now been implemented in conjunction with Network Rail. The Special Signalling Instructions have been amended and there is a requirement for signallers to inform both drivers, before signalling a second train into Platform 4, that shared platform working will take place. In addition, signallers are required to establish the formation of the trains involved to ensure they can be completely accommodated in Platform 4, and that the "down train" from the Southampton direction does not exceed 5 vehicles.

We have also examined, with Network Rail, the possibility of withdrawing the platform sharing arrangements at Platform 4, which would then enable the Brockenhurst - Lymington service to be operated completely independently of other services. For operational considerations, however, we have concluded this is not practical. Brockenhurst is midway between Southampton and Bournemouth and lies on what is essentially a two-track railway along a 30-mile stretch of line. We consider therefore that it is essential, given the mixture of the fast and stopping services on this route, that signallers have the flexibility to use both platform loops at Brockenhurst, for train regulation purposes, which necessitates the occasional use of the shared platform arrangements.

The above being said, I can confirm that both SWT and Network Rail are satisfied that the shared platform arrangements at Platform 4 at Brockenhurst are ALARP, particularly bearing in mind the following:

- all SWT trains, including Units 421 497 and 421 498, are fitted with TPWS;
- the signals for coming off and going onto the Lymington line (BH13, BH16 and BH18) are all fitted with TPWS and overspeed sensors;
- all signals are well spaced apart, and in the event of a SPAD the train would be brought to a stand before a point of conflict;
- the sighting distance on the approach to Platform 4 from Lymington is good;
- the signal authorising a driver to pass BH3 from the Down Main Line into Platform 4 is fitted with TPWS, overspeed sensor and a subsidiary "calling on" signal to indicate when platform 4 is occupied by another train;
- the line speed from the Down Main into Platform 4 is restricted to 15mph;
- the signallers are focused on the signalling in the area of Brockenhurst Station area, as most of the other signals are automatic track circuit operated; and
- from a review of our records, historical data indicates there have been no incidents of potential conflicting moves on the single line.

I would be grateful therefore, provided you are content with the details contained in this letter and its supporting documentation, if you could consider granting exemption for the continued operation of Units 421 497 and 421 498 from 1 December 2005 (i.e. upon expiry of the current exemption), for a period of 8 years.

If you require any further information, please feel free to contact me.

Yours sincerely

Mike Kersley
Head of Safety

Location :		BROCKENHUST - LYMINGTON BRANCH				Risk Assessor : Andy Haddon			People		
involved:		Andy Lawford				Date of Assessment:			20 May 2005		
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
1	SPAD at BH17 signal, resulting in a head-on collision with another train on the single line.	Y	N	Y	N	<p>Single line between BH17 signal (Brockenhurst and buffer stops at Lymington Pier).</p> <p>The service between Brockenhurst and Lymington Pier is a one-train operation.</p>	<p>1 The line is tracked circuited, and signalled as under RGS Rule Book GE/RT8000, "One Train Working on Single Lines where a Train Staff is not provided".</p> <p>2 Signal BH17 is fitted with TPWS Train stop equipment.</p> <p>3 Driver Reminder Appliance.</p> <p>4 CSR emergency communication between Driver and signaller.</p> <p>5 Enhanced Driver Route Learning Package.</p> <p>6 Driver competency assessments.</p>	<p>1</p> <p>5</p> <p>5</p> <p>4</p> <p>3</p> <p>2</p> <p>1</p> <p>RISK=</p> <p>5</p> <p>Low</p>	<p>Additional control measure to be implemented as soon as possible:</p> <p>1) Improve the method of working by expanding the Special Instructions to Signallers, requiring that when a train is on the Lymington Branch it must not be allowed to proceed beyond BH18 signal if a conflicting move through 100 points has been set. (BH18 is fitted with TPWS train stop equipment).</p> <p>NOTE: This additional control has been implemented.</p>		

Please refer to the cover sheet for the key to the assessment

Location :		BROCKENHUST - LYMINGTON BRANCH				Risk Assessor : Andy Haddon			People		
involved:		Andy Lawford				Date of Assessment:			20 May 2005		
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
2	Driver/Signaller/Pilotman error, during a failure of signalling equipment affecting the single line, resulting in a head on collision with another train on the single line.	Y	N	Y	N	<p>Single line between BH17 signal (Brockenhurst and buffer stops at Lymington Pier).</p> <p>The service between Brockenhurst and Lymington Pier is a one-train operation.</p>	<p>1 Working by Pilotman in accordance with Railway Group Standard Rule Book GE/RT8000, "One Train Working on Single Lines where a Train Staff is not provided".</p> <p>2 CSR emergency communication between Driver and signaller.</p> <p>3 Enhanced Driver Route Learning Package.</p> <p>4 Driver competency assessments.</p>	1	5	5	<p>Additional control measure to be implemented as soon as possible:</p> <p>1) Improve the method of working by expanding the Special Instructions to Signallers, requiring that when a train is on the Lymington Branch it must not be allowed to proceed beyond BH18 signal if a conflicting move through 100 points has been set. (BH18 is fitted with TPWS train stop equipment).</p> <p>NOTE: This additional control has been implemented.</p>

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Location : BROCKENHUST - LYMINGTON BRANCH		Risk Assessor : Andy Haddon		People							
involved: Andy Lawford		Date of Assessment: 20 May 2005									
Activity: TRAIN OPERATION USING HERTIAGE STOCK											
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
3	Driver error resulting in a low speed collision with another train at Brockenhurst station Platform 4 (Down Passenger Loop).	Y	N	Y	N	<p>Permissive Working is permitted in Platform 4 Down Passenger Loop.</p> <p>The line is straight on the approach from Lyminster into Platform 4 at Brockenhurst station.</p> <p>Shunt moves from Platform 4 to the Up line are infrequent.</p>	<p>1 RGS Rule Book GE/RT8000 Module TS2 & Special Instructions to Signallers at Brockenhurst.</p> <p>2 TPWS : The following signals are fitted with trainstops and overspeed sensors: BH 3, BH8, BH16 BH13 is fitted with trainstops only.</p> <p>3 BH3 signal is fitted with a subsidiary "calling on" signal to indicate when platform 4 is occupied by another train.</p> <p>4 The line speed from the Down Main into Platform 4 is 15 mph.</p>	5	4	3	<p>Additional control measures to be implemented as soon as possible:</p> <p>1) Improve the method of working by expanding the Special Instructions to Signallers, requiring that the signaller checks with drivers that the maximum length of each train is no longer than 5 coaches.</p> <p>2) Amend the position of stop marker boards on Platform 4 as shown in the attached plan.</p> <p>NOTE: There are no planned daily movements requiring</p>

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involved:		Andy Lawford				Date of Assessment:		20 May 2005			
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefN o.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
4	Driver/Signaller error, during a failure of signalling equipment affecting platform 4, resulting in a low speed collision with another train.	Y	N	Y	N	<p>Permissive Working is permitted in Platform 4 Down Passenger Loop.</p> <p>The line is straight on the approach from Lyminster into Platform 4 at Brockenhurst station.</p> <p>Shunt moves from Platform 4 to the Up line are infrequent.</p>	<p>1 RGS Rule Book GE/RT8000 Module TS2 & Special Instructions to Signallers at Brockenhurst.</p> <p>2 TPWS : The following signals are fitted with trainstops and overspeed sensors: BH 3, BH8, BH16 BH13 is fitted with trainstops only.</p> <p>3 Enhanced Driver Route Learning Package.</p> <p>4 Driver briefings.</p> <p>5 Driver Assessments.</p> <p>6 Use alternative platforms.</p>	5	4	3	<p>Additional Control Measure to be implemented as soon as possible:</p> <p>Amend the Special Instructions to signallers to clarify that in the event of a signal/track circuit failure affecting Platform 4 Permissive Working is not permitted.</p> <p>NOTE: This additional control has been implemented.</p>
								1	3	3	
									2		
									1		
								RISK=		3	Low

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involved:		Andy Lawford				Date of Assessment:		20 May 2005			
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
5	Driver error resulting in a low speed collision with another train at Brockenhurst station in either Platforms 1 or 2.	Y	N	Y	N	<p>Permissive working is permitted in Platforms 1 and 2 Up for attaching/detaching from Lymington Branch only.</p> <p>There are no planned permissive working movements in Platforms 1 or 2.</p>	<p>1 RGS Rule Book GE/RT8000 Module TS2 & Special Instructions to Signallers at Brockenhurst.</p> <p>2 TPWS : Signal BH16 is fitted with trainstop and overspeed sensor:</p> <p>3 Enhanced Driver Route Learning Package.</p> <p>4 Driver Assessments.</p>	5	4	3	<p>Additional Control Measures to be implemented as soon as possible:</p> <p>Amend the Special Instruction to Signallers to provide clear instructions regarding formation of trains</p> <p>NOTE: This additional control has been implemented</p>
								1	3	3	
									2		
									1		
								RISK=		3	Low

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involved:		Andy Lawford				Date of Assessment:		20 May 2005			
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
6	Driver/Signaller error, during a failure of signalling equipment affecting Platforms 1 or 2, resulting in a low speed collision with another train.	Y	N	Y	N	<p>Permissive working is permitted in Platforms 1 and 2 Up for attaching/detaching from Lymington Branch only.</p> <p>There are no planned permissive working movements in Platforms 1 or 2.</p>	<p>1 RGS Rule Book GE/RT8000 Module TS2 & Special Instructions to Signallers at Brockenhurst.</p> <p>2 TPWS : Signal BH16 is fitted with trainstop and overspeed sensor:</p> <p>3 Driver Reminder Appliance.</p> <p>4 CSR emergency communication between Driver and signaller.</p> <p>5 Enhanced Driver Route Learning Package.</p> <p>6 Driver Assessments.</p>	5	4	3	<p>Additional Control Measures to be implemented as soon as possible:</p> <p>Amend the Special Instructions to signallers to clarify that in the event of a signal/track circuit failure affecting Platforms 1 & 2 Permissive Working is not permitted.</p> <p>NOTE: This additional control has been implemented</p>
								RISK=	3	Low	

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involved:		Andy Lawford				Date of Assessment:			20 May 2005		
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
7	SPAD at BH8 signal resulting in a slow speed collision with a train approaching on the down line	Y	N	Y	N		1 Signal BH8 is fitted with TPWS Train stop and overspeed sensor.		5		Additional control measures to be implemented as soon as possible: 1) Improve the method of working by expanding the Special Instructions to Signallers, requiring that the signaller to advise the driver of an incoming Lymington Pier service to stop at the 4B stop mark. 2) Amend the position of stop marker boards on Platform 4 as shown in the attached plan.
						2 Trap points (No 110).	1	4	4		
						3 Driver Reminder Appliance.		3			
						4 CSR emergency communication between Driver and signaller.		2			
						5 Enhanced Driver Route Learning Package.		1			
						6 Driver competency assessments.	RISK=	4	Low		

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involved:		Andy Lawford				Date of Assessment:			20 May 2005		
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefNo.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
8	SPAD at BH16 signal resulting in a head on collision	Y	N	Y	N		1 Signal BH16 is fitted with TPWS Train stop and overspeed sensor. 2 Driver Reminder Appliance. 3 CSR emergency communication between Driver and signaller. 4 Enhanced Driver Route Learning Package. 5 Driver competency assessments.	1	5	5	Additional control measure to be implemented as soon as possible: 1) Improve the method of working by expanding the Special Instructions to Signallers, requiring that when a train is on the Lymington Branch it must not be allowed to proceed beyond BH18 signal if a conflicting move through 100 points has been set. NOTE: This additional control has been implemented

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involved:		Andy Lawford				Date of Assessment :			20 May 2005		
Activity:		TRAIN OPERATION USING HERTIAGE STOCK									
RefN o.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
9	Driver error resulting in a low speed collision with the buffer stops at Lymington Pier.	Y	N	Y	N	Low speed : the maximum permissible speed between Lymington Town and Lymington Pier is 20 mph.	1 TPWS overspeed sensor fitted on approach to the buffer stops.		5		
								4			
							1	3	3		
								2			
								1			
								RISK= 3 Low			
						2 Enhanced Driver Route Learning Package.					
						3 Driver competency assessments.					

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involved: Andy Lawford		Date of Assessment: 20 May 2005									
Activity: TRAIN OPERATION USING HERTIAGE STOCK											
RefN o.	Hazard	Affecting				Location Specific Factors	Existing Control Measures	Risk (FxC=R)			Remarks
		S	C	P	O			F	C	R	
10	Open door resulting in a passenger falling from a moving train.	Y	N	Y	N	The two units that will normally be used to operate passenger services on the Brockenhurst - Lymington Pier branch will be formed of passenger operated slam door Heritage stock.	1 All services have a Guard	1	5	5	Additional Control Measures to be implemented: 1 Central door locking to be fitted on all passenger operated doors, controlled by the Guard (including a release for emergency purposes). 2 Traincrew to be trained; issued with operating instructions (RGS Rule Book GE/RT8000, Module TW3 Section 6) and assessed on central door locking operation (including emergency
									4		
									3		
									2		
									1		
								RISK=		5 Low	

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