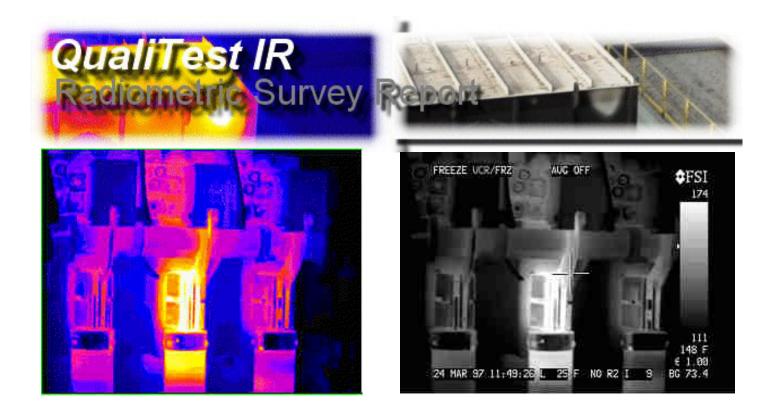


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## Harlow's Casino and Resort 2019 IR Survey Report

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Job Number	140437
Survey Date	8/21/19
Report Date	8/27/19



All electrical panels were scanned using a FLIR P60 infrared camera. The following report only contains defects that were found during the survey. Below is our classification system for each defect contained in this report. If there are any questions or comments, please feel free to contact us at any time.

Hi-Speed Industrial Service QualiTest Diagnostics employs a four-step defect rating system:

**CLASS I** - A defect is present, but the likely effect on component reliability is not clear. No immidiate action is recommended other than continued monitoring.

**CLASS II** - A defect or defects are present that are likely to cause a problem in the long term (2-6 months). Should be addressed in the normal course of maintenance scheduling; continue to monitor.

**CLASS III** - A defect or defects are present that are likely to cause a failure in the short term (less than 2 months). Should be addressed as soon as is practical, on a high maintenance priority. Consideration should be given to increased monitoring frequency.

**CLASS IV** - A defect or defects are present that make continued component reliability unpredictable, and likelihood of secondary damage is high. Consideration should begiven to an unscheduled shutdown to correct.

Hi-Speed Industrial Service tests and inspects industrial and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information provided herein is provided as an opinion only, not as a guaranty or warranty of.









Component	Equipment/Bucket ID	Plant/Area	Date
Circuit 11	RP-1	Stage Bar Panels 8-21-19	
SP03		Label         IR : max         IR : min         95         SP01         90         SP02         SP03         LI01 : max         LI01 : min         80	Value         106.6°F         72.9°F         102.7°F         105.9°F         90.4°F         103.8°F         84.9°F
		°F 00 95 90 85 <u>Line Min Ma</u> 101 84.9°F 103.8	IR01
	eaker issue		
Defect Rating CI	ASS I		

## Recommendation

Breaker appears to be heavily loaded or has possible internal issue that is causing heat. Lead connection checked to be tight. Ensure breaker isn't under excessive load. Breaker may need to be replaced.







Component	Equipment/Bucket ID	Plant/Area	Date
Loose connection	Water Well Pump/HP-1	Emergency Panel Room (Bridge)	8-21-19
SP02 SP03		108.8 °F Label Valu IR : max 128. IR : min 75.7 SP01 127. SP02 112. - 90 SP03 105	8°F °F 0°F 9°F
	01	-       90       SP03       105.         -       LI01 : max       119.         -       80       LI01 : min       85.1         76.2 °F       76.2 °F       SP03       105.	7°F
SP01: 83.7°F		90 110 85 100 90 75	IR01

Fault	Loose connection
Defect Rating	CLASS II

## Recommendation

IR image showed a possible loose connection. Connections were checked and found to be loose. Gephart safely tightened connection with proper PPE. Panel was rechecked and found to be OK after tightening connection. See 2nd image.







Loose connection         Incoming B phase RP-7         Emergency Panel Room (Bridge)         8-21-19           Image: Second seco	Component	Equipment/Bucket ID		Plant/Area		Date
Image: SP01+ SP03- SP03+ SP03+ SP03+ SP03- SP01 89.8°F       Image: SP02+ SP03- SP02+ SP03- SP02 125.1°F         SP01 89.8°F       SP02 125.1°F         SP03 89.9°F       ID11: max 117.4°F         ID11: min 82.7°F       ID11: min 82.7°F	Loose connection	Incoming B phase RP-7	Emergency	Panel Room (Brid	lge)	8-21-19
Image: SP014 SP12 SP03       SP014 SP12 SP03         SP014 SP12 SP03       SP01         SP014 SP12 SP03       SP02         SP01       SP03 SP03         SP014 SP12 SP03       SP02         SP01       SP03 SP03         SP01       SP03 SP03         SP03 SP03       SP07         LI01 : max       117.4°F         LI01 : min       S2.7°F         SP03 SP03       S2.7°F         SP04 SP12 SP03       S9.9°F         LI01 : min       S2.7°F         SP04 SP12 SP03 SP03       S9.9°F         LI01 : min       S2.7°F         SP03 SP03 SP03 SP03       S9.9°F         LI01 : min       S2.7°F			115.5℉			
$ \begin{array}{c}                                     $						
$ \begin{array}{c}  & \text{SP01} \\  & \text{SP01} \\  & \text{SP02} \\  & \text{SP02} \\  & \text{SP03} \\  & \text{SP03}$	TABLE -	and a lot of the	- 110	IR : max	125.9°F	
$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \end{array} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $	A Comment			IR : min	79.5°F	
SP01+       SP02       125.1°F         90       90       101: max       117.4°F         LI01: min       82.7°F         80.0°F       100       100         90       90       101: min       117.4°F         101: min       82.7°F       101       110         90       90       90       100       100         90       90       90       100       100         90       90       90       90       100         90       90       90       90       90       90         90       90       90       90       90       90       90	LI01_			SP01	89.8°F	
$ \begin{array}{c}                                     $			- 100	SP02	125.1°F	
$ \begin{array}{c}                                     $	SP	<sup>01</sup> + SP02 SP03+		SP03	89.9°F	
	8/16		90	LI01 : max	117.4°F	
80.0°F				LI01 : min	82.7°F	
80.0°F						
			80.0 °F			
			٥F			IR01
SP01:66.1°F, SP01:			-	<u> </u>		
	7.455	87.6°F	110			
SP01:86.1°E 82 90 80			-			
	10-					
	10 7 10	84				
	SP01:86.1		-			
	A In Street		90	A		
The     Line     Min     Max     Max       79.0 °F     Ii01     82.7 °F     117.4 °F	He have been		1~~~		m hun	
	VA TO	79.0°F	Li	ne Min 01 82.7°F 11	Max 17.4°F	

Fault	Loose connection
Defect Rating	CLASS II

## Recommendation

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