

Dick Hancock

**From:** Reliability Update [reliabilityupdate@tf7.com]  
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**To:** hancockd@tf7.com  
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# Tango Reliability Management News

24/7 Systems, Inc.

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[Manage IR Thermography Surveys](#)



## Manage IR Thermography Surveys with Tango Web Service & PDA's

In our [July newsletter](#) we began exploring the hand-held PDA's role in Condition-Based Maintenance, and covered the first application:

- Operations and maintenance personnel using PDA's for gauge readings & inspections, and integrating results with problems found though 'higher-tech' condition monitoring.
- Now we will discuss additional applications for PDA's and Tango™ Web Service:
- Managing schedules, data collection, and reporting for IR thermography surveys.



Fig 1 - Handheld PDA's & Tango Web Service offer several Condition-Based Maintenance applications

IR thermography is a primary condition monitoring technology for finding electrical problems. It is also a 'scanning' technology rather than a 'point' technology such as vibration analysis. Scanning technologies often do not include a capability for defining specific assets to be monitored during a survey. That makes it difficult to know whether each asset has been successfully monitored on an expected timetable.

Tango™ Web Service, in conjunction with handheld PDA's, can provide well defined survey management along with an audit trail for problems found and assets not monitored. In addition, since Tango™ Web Service utilizes a web-hosted database on a server outside a plant's IT firewall, IR service contractors can use the system and fall under this structured survey management.

Here's how it works: the Tango™ database includes a tree for all the functional equipment locations in the plant, including electrical assets. Tasks are defined for IR thermography surveys, specifying which assets are to be scanned on what interval, and which thermographer is assigned to the job. Tango Web Service then 'generates' a list of the tasks that are to be due in the near future.

A broad audience of authorized plant personnel can view the status of these IR thermography tasks through their Tango™ Web Browser, without having to install any special software. They can see when upcoming surveys are due or overdue, and who has been assigned to perform the task. If problems have been found on previous surveys or if an asset was not scanned, the system generates 'reassignments' to make sure those assets are revisited. (Fig 2)

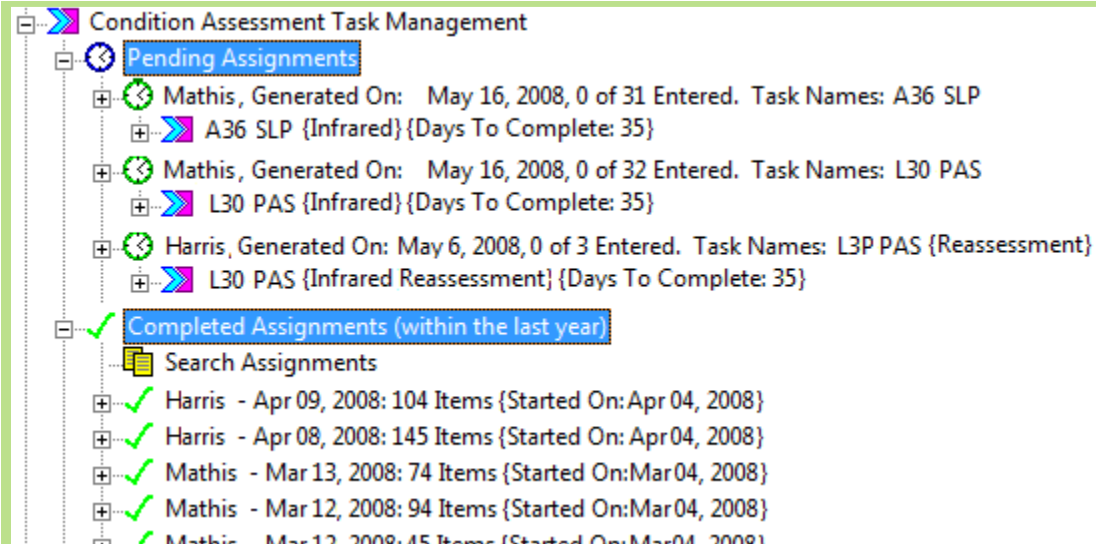


Fig 2 - Pending & completed monitoring tasks

The service contractor downloads a survey task into his handheld PDA, then follows the PDA screen through the sequence of panels to be scanned. A bar code scan ensures that the IR information is being entered for the correct asset. He confirms the asset is sufficiently loaded for a good scan, then enters the results of that scan (Fig 3):

- Measured, No Problem Found
- Measured, Condition Entry
- Not Measured

For problems requiring a condition entry, the contractor references the IR and visual images captured by infrared system.

Once the survey is complete, the information is uploaded from the PDA to Tango. Condition entries are completed for problems found, and those results are integrated with problems found by other condition monitoring technologies. Authorized Tango™ Web Service users can now view the updated Integrated Condition Status through their web browser.

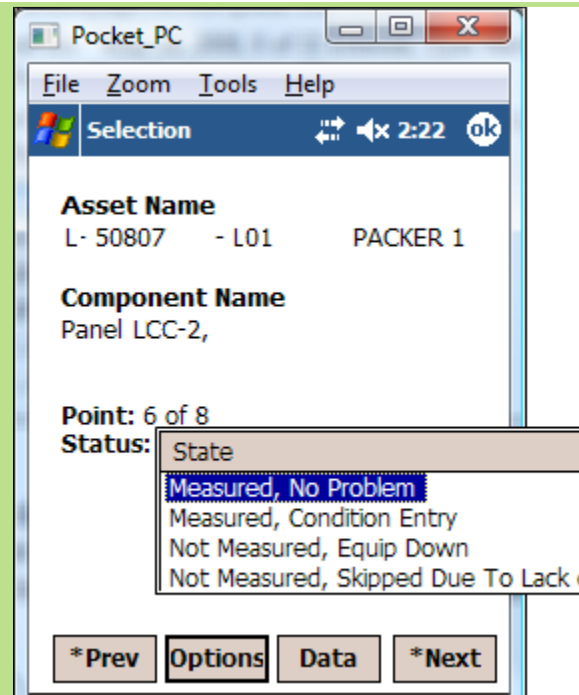


Fig 3 - Marking IR thermography status with the PDA

A plant or corporate reliability engineer can monitor the quality and completeness of the contractor's IR work, through the task summary report. This report audits each assignment and shows how many assets were scanned, which were not scanned, and what problems are being found (Fig 4).



## Condition Assessment Count Summary

Condition Assessment States	Count
Measured, No Problem	36
Measured, Condition Entry	1
Not Measured, Equip Down	7
Not Measured, Skipped Due To Lack of Time	
<b>A36 SLP (Infrared)</b>	<b>Total: 44</b>

## Condition Entry Summary

Location Description	Type	Condition Entry
█ Packers	Severity	Alert
📍 Line 36	Entry Date	Jul-26-2007
📍 541041- Packer 3	Technology	Infrared
📍 EP65-5E	Analyst	HARRIS
	Work Request	
	Work Order	57113122

### Faults

Loose or Dirty Fuse Clip Assembly{*Thermography*}

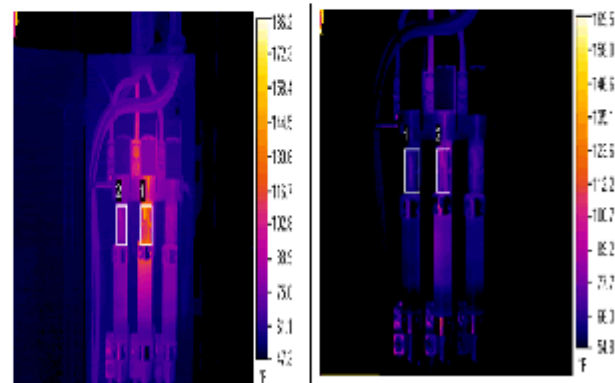
### Comments

Main Disconnect "B" Phase fuse is 45 degree F hotter than the "A" phase fuse.  
Fuse may not be seated properly or have a loose connection.

### Recommendations

Remove Fuse, Inspect, Clean & Tighten Connections

### Supporting Images



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24/7 Systems, Inc. | 1242 Topside Road | Louisville | TN | 37777

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