1. Work Element Summary

Check any activity you took part in this week Monday thru Friday

Mon	Tues	Wed	Thurs	Fri	
					Planned Maintenance
					Maintenance Reporting
					Troubleshooting
					Troubleshooting Reporting
					Facilities Maintenance
					Training
					Watch Duty (Operational Maintenance)
					Email
					Web Browsing

Other work element activities? _____

Estimate number of hours you spent on each of these activities

Mon	Tues	Wed	Thurs	Fri	
					Planned Maintenance
					Maintenance Reporting
					Troubleshooting
					Troubleshooting Reporting
					Facilities Maintenance
					Training
					Watch Duty (Operational Maintenance)
					Email
					Web Browsing

Other work element activities? _____

The rest of the survey will ask you questions about these activities. Most questions require marking off checkboxes or writing one-word answers.

2. Choose a planned maintenance action you executed this week and answer these questions about it. [Skip this question if no planned maintenance actions]

Identify system, subsystem or equipment you maintained	
MRC number (if available)	
What time of day did you start your maintenance action	
How many hours did you spend on this maintenance action that day	
Total man-hours required by this maintenance action	
How many other crew worked on this action with you	
How many hours do you usually spend per day on maintenance actions	

Did you use any aids to assist you during your maintenance action?
☐ ePMA
☐ IETM
☐ Online MRC
☐ MRC hard-copy printout from SKED
☐ MRC hard-copy printout from other source (list source) _____
☐ Other MRC
☐ Other (list) _____
☐ I didn't use any aids

Did you use any computer devices to assist you during your maintenance action?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____
☐ I didn't use any computer devices

If you used any computer devices during your maintenance actions, check any conditions below that apply
☐ There was a delay before the device I needed was available (how long) _____
☐ Response was slow
☐ Network was down

Did you use any diagnostic or measurement devices that required connecting to the network? _____

If yes, which devices and how long were they connected? _____
_____

Did your maintenance actions require any system downtime or tagout? _____

If yes, how long? _____

Were there any power disruptions or disconnects associated with this maintenance action? _____

If yes, how long? _____

During the planned maintenance actions, did you encounter any faults or failures that required you to initiate a troubleshooting action? _____

What computerized aids do you consider most useful for maintenance actions?

☐	ePMA
☐	IETM
☐	Online MRC
☐	Other _____
☐	Computerized aids I've seen are not useful for me

What computer device you consider most useful for maintenance actions?

☐	Laptop (connected to network)
☐	Wireless Laptop
☐	PDA
☐	Workstation
☐	Other _____
☐	Computer devices not useful for me

Do you prefer using devices that are wireless (PDA, wireless laptop) for maintenance actions? _____

Why or why not? _____

Did you generate any reports for your maintenance action	
List reports generated	
How long did it take you to generate the reports	
How automated is report generation (very automated, somewhat automated, mostly manual)	

When you do maintenance reporting, what computerized aids do you usually use?

☐ ePMA
☐ SKED
☐ Other _____
☐ I don't use any computerized aids

When you do maintenance reporting, what computer devices do you usually use?

☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____
☐ I don't use computer devices (hand written)

If you use any computer devices to assist in reporting, fill in any information that applies:

	How often (%)	How long
There are delays before the computer device I need is available		
Response is slow when I am generating my reports		
Network is down when I need to generate my reports		

3. Choose a troubleshooting action you began this week and answer these questions about it. [Skip this question if no troubleshooting actions]

Identify system, subsystem or equipment involved	
Identify troubleshooting procedure you are following	
Brief description of failure	
What time of day did you start troubleshooting	
How many hours did you spend troubleshooting on that day	
Number of other crew involved in troubleshooting this failure on that day	
Did this action involve moving between rooms or decks	
How many times have you done troubleshooting for this kind of failure	
How much training did you have for troubleshooting this kind of failure	

How was this failure reported?

☐ Sensor alert (what type of sensor) _____

☐ Maintenance action diagnostic

☐ Operational failure

☐ Other _____

Did you use any aids to assist you during your troubleshooting action?

☐ ePMA

☐ IETM

☐ Hard-copy printout of troubleshooting procedures

☐ Online troubleshooting procedure

☐ Tech Manual (paper)

☐ Other _____

☐ I didn't use any aids

Did you use any computer devices to assist you during your troubleshooting action?

☐ Laptop (connected to network)

☐ Wireless Laptop

☐ PDA

☐ Workstation

☐ Other _____

If you used any computer devices during your troubleshooting actions, check any conditions below that apply

	There was a delay before the device I needed was available (how long) _____
	Response was slow
	Network was down

Did you use any diagnostic or measurement devices that required connecting to the network? _____

If yes, what devices and how long were they connected? _____ _____

Are there power disruptions or disconnects associated with this troubleshooting action? _____

If yes, how long? _____

Did your troubleshooting require any system downtime or tagout? _____

If yes, how long? _____

Did you need shore-based SME assistance? _____

If yes, how did you communicate?

	Email
	Voice (chat)
	Other _____

What computer aid would be helpful for troubleshooting this failure that is not currently available?

	ePMA
	IETM
	Online troubleshooting procedure
	Other _____

What computer device would be useful for troubleshooting that is not currently available?

	Laptop (connected to network)
	Wireless Laptop
	PDA
	Workstation
	Other _____

Do you prefer using devices that are wireless (PDA, wireless laptop) for troubleshooting actions? _____

Why or why not? _____

Did you generate any reports for your troubleshooting action	
List reports generated	
How long did it take you to generate the reports	
How automated is report generation (very automated, somewhat automated, mostly manual)	

When you do reporting for troubleshooting, what computerized aids do you usually use?

- [ ] ePMA
- [ ] SKED
- [ ] Other _____
- [ ] I don't use any computerized aids

When you do reporting for troubleshooting, what computer devices do you usually use?

- [ ] Laptop (connected to network)
- [ ] Wireless Laptop
- [ ] PDA
- [ ] Workstation
- [ ] Other _____
- [ ] I don't use computer devices (hand written)

If you use any computer devices during your reporting, fill in any information that applies:

	How often (%)	How long
There are delays before the computer device I need is available		
Response is slow when I am generating my reports		
Network is down when I need to generate my reports		

4. Choose a facilities maintenance action you executed this week and answer these questions about it. [Skip this question if no facilities maintenance actions]

Identify shipboard locations of facility maintenance action	
Brief description of facilities maintenance action	
What time of day did you start this action	
How many hours did you spend on this action that day	
How many other crew worked on this action with you	
How many hours do you usually spend per day on facility maintenance actions	

Did you generate any reports for your facilities maintenance action	
List reports generated	
How long did it take you to generate the reports	
How automated is report generation (very automated, somewhat automated, mostly manual)	

When you do facilities maintenance reporting, what computerized aids do you usually use?

☐ SKED
☐ Other _____
☐ I don't use any computerized aids

When you do maintenance reporting, what computer devices do you usually use?

☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____
☐ I don't use computer devices (hand written)

**5. Choose a Training activity from this week and answer these questions about it. .
[Skip this question if no training activity]**

Identify the training activity	
What time of day did you start your training activity	
How many hours did you spend on this training activity that day	
How many other crew were involved in this training activity	
Did you generate any reports for your training activity	
How many hours do you usually spend per day on training	

Did you use any aids to assist you during your training?
	ePMA
	IETM
	Online MRC
	Other MRC
	Tech Manual (paper)
	Other _____

Did you use any computer devices to assist you during your maintenance action?
	Laptop (connected to network)
	Wireless Laptop
	PDA
	Workstation
	Other _____

6. Choose an operational maintenance action (watch duty) you executed this week and answer these questions about it. [Skip this question if no watch duty]

Name of operating station	
Name of system, subsystem or equipment for operational maintenance action	
What time of day did you start your watch duty	
How many hours did you spend on watch duty that day	
How many hours do you usually spend per day on watch duty	

Did you use any aids to assist you during watch duty?

☐ Sensor (ADP/ICAS)
☐ Other Sensor
☐ Other readiness monitor _____
☐ Other _____

Did you use any computer devices to assist you during watch duty?

☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

What aids would be helpful for watch duty are not currently available?

☐ Sensor (ADP/ICAS)
☐ Other Sensor (list) _____
☐ Other readiness monitor
☐ Other _____

What computer device would be useful for watch duty that is not currently available?

☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

7. Choose a time that you read/wrote Email from this week and answer these questions about it. [Skip this question if no Email session this week]

What time of day did you start your email session	
How long did you spend reading/writing email messages that day	
How long do you usually spend on email per day	
What time of day do you usually do email	

Do you usually need to wait for a computer device to become available so you can do your Emailing? _____

If yes, how long do you usually need to wait? _____

How do you access your email?
☐ Distance Support
☐ Microsoft Outlook
☐ Other _____

What computer device did you use for email?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

What computer device do you most often use for email?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

What computer device would be most convenient for email?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

8. Choose a time that you browsed the Web from this week and answer these questions about it. [Skip this question if no facilities maintenance actions]

How long did you spend browsing the web that day	
How long do you usually spend browsing the web per day	
What time of day do you usually do your web browsing	

Do you usually need to wait for a computer device to become available so you can do your Web browsing? _____

If yes, how long do you usually need to wait? _____

How do you access the Web?
☐ Distance Support
☐ Internet Explorer
☐ Other _____

What computer device did you use for browsing the web?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

What computer device do you most often use for browsing the web?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____

What computer device would be most convenient for browsing the web?
☐ Laptop (connected to network)
☐ Wireless Laptop
☐ PDA
☐ Workstation
☐ Other _____