

Downtime Readiness Review (DTRR)

HEF Life Extension-DSS 45

July 12th, 2004

DTRR HEF Life Extension-DSS 45 Outline

- Review Board
- Review Criteria
- Agenda
- Review Scope
- Dependencies
- Modkit Status
- MESkit Status
- Lien Status
- Schedule
- Safety Plan
- Manpower Support @ Station
- Summary
- Back-up Material

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Scope of Review

- This review is intended to demonstrate the readiness of the task to proceed with the replacement of the azimuth track, azimuth drive mechanism & wheels as well as the elevation drive components on the DSS 45 HEF antenna at CDSCC
- This is a CofF task with all work being performed and shipments arranged by the contractor, Modern Technologies Corporation (MTC)

Task Description

- Azimuth Track
 - Experiencing accelerated wear, cracked wearstrips, failing grout
 - Thicker wearstrip, increased number of wearstrip bolts, epoxy grout, sloped runner, improved splice connection
- Pintle Bearing
 - Improved seal design, added grease relief's, lower bearing to correct flexure plate alignment
- Azimuth Drives
 - New Wheels (BWG design), bearings, seals, brakes, idler housing modification, planetary gear reducers (BWG), motors, couplings
- Elevation Drives
 - Planetary gear reducers(~BWG), brakes, motors, couplings, back-up rollers.

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Agenda/Schedule

- Downtime Overview
- HEF-LE Task Status
 - 3:10 Hardware Delivery Status
(discuss ETA, MSA status and Lien status)
 - 3:20 Modkit
 - 3:30 OE Status Report
- Schedule Review
 - 3:40
- Board Discussion

DTRR HEF Life Extension-DSS 45 Review Board

- **Ezra Abraham** — DSMS Safety Engineer
- **Dennis Buck** — DSMS Operations
- **Gene Burke** — Review Board Chair, Office 930
- **Michael Coluzzi** — ITT O&M Manager
- **William Dobie** — CDSCC Antenna Structural Supervisor
- **Jean Patterson** — Division 33 IND Representative
- **Wayne Sible** — 940 Engineering Program Office
- **Bruce Wiley** — CDSCC Antenna and Facilities Manager

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Success Criteria per 813-101

- Detailed Schedule
- Modkits on site 3 weeks before start of downtime
- Pre-install testing complete
- Installation instructions complete and reviewed by OE
- Spares shipment per MSA
- On-site facilities, tools and personnel are available
- Training materials are ready and training scheduled

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Downtime Overview

- Downtime scheduled from 8/9/04 to 12/5/04
- Modkits shipped from DLF on 7/9/04 for arrival on or before 8/2/04 (see next slides for equipment/transit status)

DTRR HEF Life Extension-DSS 45 Dependencies

- Installation of Resistors (Scaling of tachometer voltage feedbacks) in ASC, 105.302
- Installation of Jacking Pads by CDSCC
 - ECR 03.0017, CI 105.101
- USC modkit for

DTRR HEF Life Extension-DSS 45 Equipment Location/Transit Status

Major Component Description	Point of Origin	Destination	Shipment Status	Estimated Arrival	Notes
Pintle Bearing/modkit	Pasadena	CDSCC	Shipping 7/9/04	8/2/2004	
Gearboxes	Sumitomo /Japan	CDSCC	Shipping 7/20/04	7/30/2004	
Motors (GE)	NA	NA	NA	NA	On Site already
Grout	NA	NA	NA	NA	On Site already
Az Track/Spprt Plate/Wheels	Townsville , Australia	CDSCC	7/16/2004	7/23/2004	

DTRR HEF Life Extension-DSS 45 Modkit/MESkitStatus

ECR 03.0015						
CI	Acronym	ETA	Shipping Status	Liens	MSA	Installation Procedure
105.102	DMA	#040213	At DLF 7/7/04	2	#39 (signed)	Signed-off/Pre-Release
105.302	ASC	*	*	*	*	*
*ASC is in process on a modkit and procedure for installing resistor mod. No resistor change would have been required for Life Extension. Change is anticipating ACR.						

DTRR HEF Life Extension-DSS 45 Lien Status

	Liened Items		
Doc No.	Description	Status	Committed Date
868-000139	34M HEF Installation & Alignment Procedure	Signed/Pre-Release	Release Prior to DT
867-000061	34M HEF Life Extension OMM	Signed/Pre-Release	Release Prior to DT

DTRR HEF Life Extension-DSS 45 Spares

Description	Qty	MSA
Planetary Reducer, Azimuth	1	#39
Planetary Reducer, Elev.	1	#39
Roller Bearing Adapter, McGill	1	#39
Roller Bearing, McGill	1	#39

DTRR HEF Life Extension-DSS 45 Safety Plan

MTC Document SP-12544564, dated: 3/4/04

- System Safety Checklist-see back-up material

DTRR HEF Life Extension-DSS 45 Testing

- Addendum to TP-513812 requiring that tests be performed per sections 5.7 and 5.7.1, Track Testing as well as station required tests or procedures.
- CDSCC has committed to performing the temporary removal and reconnect of all wrap cables and all necessary subsystem tests to confirm their operational status

DTRR HEF Life Extension-DSS 45 Schedule

Milestone	Proposed Date	Status	Issues
Paper Mod Kit To DLF	July 12	Done	None
Motors and Grout @ CDSCC	June24	Done	None
Pintle and Misc H/W Shipped	July 2	Done	Late by 1 wk
Gear Reducers Arrive @ CDSCC	July 26	Pending	Ship Direct to CDSCC
Pintle Bearing Installed	Sept 7	On Target	None
Track Installed	Sept 30	On Target	None
EI Drive Installed	Oct 1	On Target	None
Align Az Track	Oct 11	On Target	None
Az Drive Installed	Oct 20	On Target	None
Testing and Commission begins	Nov 1	On Target	None

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Risks/Resources/Contingencies

Risks to downtime:

- Sumitomo gearboxes shipping direct from manufacturer
 - Scheduled shipment is 7/20/04 and will be identified with CI and ECR numbers.
 - Workaround (if required)
 - Existing motors could be used if shipment delayed. Spare BWG motors could also be used. Spare brakes and tachs from BWG could also be used
- Stateside Shipment (Pintle Bearing, hardware) delayed until 7/9/04 for arrival on 8/2/04
 - Workaround (if required)
 - Downtime can proceed. Pintle Bearing actually needed after 8/20. Worst case, bearing damaged in shipment-use existing bearing.

DTRR HEF Life Extension-DSS 45 Risks/Resources/Contingencies

- Track, Support Plate/Wheels delayed
 - Work around (if required)
 - Track inspected prior to DTRR. Anticipate shipment from Townsville, Australia on or before 7/16/04 and arrival at CDSCC prior to 7/23/04.
- ECO 105.302 not shipped.
 - Work around (if required)
 - Modkit involves a minor rework to implement a resistor to scale the tach voltage feedback. CDE's and OE's have reviewed the scope and concur on approach. Downtime can proceed without this modification. Modification intended to support ACR, DSS 45 could operate with as little as an adjustment of existing hardware
- Current plan is 10 hr days, 5 days per week.
Contingency allows for use of 6 day work week

DTRR HEF Life Extension-DSS 45 Scenario in support of Nov-1 need

- Three Options:

Option	Cost	Risk Factor
Delay Pintle Bearing Installation	Mid, Additional Airfare, Per-diem, Equipment Rental	Mid, Resources Availability
Delay Elevation Drive Installation	Mid, Additional Airfare, Per-diem, Equipment Rental	Mid, Resources Availability
Work Extended Hours	Low, OT Cost Vs. Same Airfare, Less Per-diem, less Equip Rental	Mid, All Weather Contingencies will be used up

DTRR HEF Life Extension-DSS 45 Summary

- 105.102
 - All transfer paperwork is signed and in the system. All Hardware will be on site prior to downtime. Hardware Installation Procedure has been reviewed by Operations and comments are being incorporated at this time. Final antenna validation tests are to be performed by CDSCC. Operations Engineering is confirming these tests at this time.
- 105.302
 - Modkits are being developed at this time. Entails a minor rework required with no impact to the beginning of the downtime.

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Back-up Material

- Back-up Material to follow