

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 1 of 24



Mercedes-Benz U.S. International Inc.

MBUSI Working Procedure

For

Equipment Buy-Off

Author:
Marty Hayes

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	 8-20-07 Assembly 1 & 2 Eng. Mgr.	 8/20/07 Paint & Body Eng. Mgr.	Originator
	 8/21/07 Assembly 1 & 2 Maint. Eng. Assist. Mgr.	 8/20/07 Paint & Body Maint. Eng. Assist. Mgr.	

Form No.: EFG014.doc, 12-Apr-05

IMS SLOGAN

Nothing But The Best For Our Customers and Environment.
 --Let's Do Our Best Together with Continuous Improvement--
 If Not Stamped W/Red Ink "Controlled", to be considered as uncontrolled

Library

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 1 of 24



Mercedes-Benz U.S. International Inc.

MBUSI Working Procedure

For

Equipment Buy-Off

Author:
Marty Hayes

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

Form No.: EFG014.doc, 12-Apr-05

IMS SLOGAN

Nothing But The Best For Our Customers and Environment.
--Let's Do Our Best Together with Continuous Improvement--
If Not Stamped W/Red Ink "Controlled", to be considered as uncontrolled

Library

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 2 of 24

TABLE OF CONTENTS

1. 0. Equipment Buy-Off	3
1. 1. Distribution.....	3
1. 2. Purpose	3
1. 3. Scope	3
1. 4. Definitions.....	3
1. 5. Responsibilities.....	4
1. 6. Process Flowchart.....	6
1. 7. Description.....	9
1. 7. 1 Phase I – Development Phase.....	9
1. 7. 2 Phase II – “White” Phase in Progress “SUPPLIER SHOP TRYOUT REVIEW” (if applicable).....	9
1. 7. 3 Phase II – “WHITE” Phase in Progress “INSTALLATION COMPLETE/POWER ON REVIEW” {SAFETY STANDARDS MET}.....	11
1. 7. 4 Phase III – “PINK” Phase in Progress “MECHANICAL COMPLETION REVIEW” {EQUIPMENT RUNNING IN DEBUG STATUS}.....	11
1. 7. 5 Phase IV – “YELLOW” Phase in Progress “SUBSTANTIAL COMPLETION REVIEW”	12
1. 7. 6 Phase V – “GREEN” Phase in Progress Step One “PRELIMINARY BUY-OFF” REVIEW and Step Two “FINAL BUY-OFF” Phases	14
1.7.6. 1 Step One - “PRELIMINARY BUY-OFF” Review in Progress	14
1.7.6. 2 Step Two - “FINAL BUY-OFF” in Progress	15
1. 8. Documents / References.....	16
1. 9. Records.....	16
Attachment A – Revision History.....	17
Attachment B – EFG023 - MBUSI Inspection Request Form	18
Attachment C – White Phase I.....	19
Attachment D – Pink Phase II	20
Attachment E – Yellow Phase III	21
Attachment F – Green Phase IV Step 1 & 2.....	22
Attachment G – EFG028 Equipment / Facilities Punch List.....	23
Attachment H – EFG020 Buy-Off Check List.....	24

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 3 of 24

1. 0. Equipment Buy-Off

1. 1. Distribution

(See EPG007 for Distribution)

MBUSI Maintenance and/or Maint. Engineering Assist. Manager

MBUSI OE Assist. Managers (Assy., Body, Paint & Facility)

MBUSI OE Operation Managers (Assy., Body, Paint & Facility)

MBUSI Indirect Purchasing Manager

1. 2. Purpose

This procedure defines the process of an Equipment/Facilities Buy-Off. This Procedure will provide the guidelines to facilitate the buyoff of Equipment / Facilities at the various stages of completion. If any problems occur, this procedure will allow correction of the early design and / or fabrication at the earliest possible stage. It is intended that this approach to system approval will reduce the time required to get the system (which is to be bought-off) fully operational while maintaining safety, quality goals and production volume goals for MBUSI. It furthermore describes the responsibilities of the various parties involved.

1. 3. Scope

This procedure also applies to all Equipment / Facilities installations at MBUSI. This procedure also applies to MBUS projects undertaken jointly with other DCAG groups.

1. 4. Definitions

Contractor Any vendor or supplier that supplies specifies specified materials, systems or services according to a contract with MBUSI.

MBUSI Mercedes-Benz U.S. International, Inc.

Punch List An organized list of open items for review by the contractor and MBUSI. It is intended to use only one list throughout the complete buy-off phase.
See Equipment Punch List EFG028zz, controlled by the Central Library.

Project Coordinator

Team Member with MBUSI responsible for the related Equipment item. Project Coordinator may assign Construction Manager.

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 4 of 24

Central Library Area within MBUSI/OE which is in control of documentation.

O Operations

OE Operation Engineering

HR Human Resources

FC Finance and Controlling / IT

PP Production Planning DCAG

Buy-Off Tag Equipment / Facilities Buy-Off Tag (EFG024.zz)

1. 5. Responsibilities

It is the responsibility of MBUSI/ML-Project with the support of MBUSI/OE to implement and maintain this procedure. It is the responsibility of the Project Coordinator, the DCAG Group, the Maintenance Groups within MBUSI/OE and the Safety Department that this procedure is followed properly.

Main Responsibilities (relevant to buy-off)

Project Coordinator

- Clarify & review project objectives with all involved parties
- Ensure communication among all involved parties
- Document control, ensure adherence to MBUSI's standards
- Design & engineering coordination
- Monitor all activities occurring on the project site
- Schedule review
- Conflict management among contractors
- Progress documentation
- Punch list management
- Coordinate start-up & debug activities w/ contractors
- Coordination of all necessary permits
- Change order management procedure

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 5 of 24

- Verifies equipment readiness prior to all MBUSI reviews
- Ensure proper supervision/ technical support by contractor

Contractor

- Fabricates, installs & debugs equipment according to specification & schedule
- Conducts training for MBUSI personnel (& documentation)
- Delivers complete and accurate documentation according to MBUSI's specification (asbuilts, maintenance manuals, spare parts lists, etc.)

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 6 of 24

I. 6. Process Flowchart

Stage	Activity	Procedure	Lead	Support	Equipment Operations
Development Phase - 0	Initial Process Concept & Safety Review	1.) Review Buyoff Procedure. 2.) Review equipment standards & specifications with Contractor. 3.) Initial review of State of Equipment Safety Matrix generated by Supplier. 4.) Initial review of layouts with contractor including: A.) Safety Zones / E-stop Zones. B.) Entry and Egress into cells. C.) Evacuation Routes. D.) Cable Tray locations, trip hazards E.) Equipment Clearances F.) Ergonomics (Burden Tool) G.) Structural Requirements H.) Arc Flash Assessment 5.) Initial review of Haz/Risk assessments, T&D calculations. 6.) Review preliminary time schedule. 7.) Define requirements for shop tryout.	Engineering function with project lead - SP, ME, PE in conjunction with contractor.	> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production	None
Development - Phase 1	Final Safety and Process Design Review	1.) Final review & sign-off layouts with contractor. 2.) Final review & sign-off State of Equipment Safety Matrix generated by Supplier. 3.) Final review hazard, risk assessments, & time distance calculations. 4.) Ergonomic assessment completed & signed off. 5.) Spare parts listed turned over to MBUSI. 6.) Final Review of time schedule.	Engineering function with project lead - SP, ME, PE in conjunction with MBUSI Safety Engineering & Contractor.	> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production > Contractor	None

MBUSI Working Procedure Name:

Equipment Buy-Off

Document Number:

EPG020

Revision: 03

Page 7 of 24

Stage	Activity	Procedure	Lead	Support	Equipment Operations
White 1	<p>Verification of design intent as reviewed in Development Phase 1.</p> <p>1.) Supplier Shop Tryout 2.) Final Process & Safety design review. 3. Equipment Inspection & signoff.</p>	<p>1.) Equipment Functionality Check. 2.) Safety System Review. All safety <u>devices types</u> installed & functional. 3.) Detailed equipment inspection to standards & specifications, punch list started. 4.) 20 hour run off. 5.) All White 1 punch list items closed. 6. Review preliminary documentation formats. 7.) Sign-off on "Supplier Shop Tryout" indicating ready for shipment.</p>	<p>Engineering function with project lead - SP, ME, PE in conjunction with contractor.</p>	<p>> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production > Contractor</p>	<p>Equipment operations under contractor control. MBUSI allowed to operate/test equipment under contractor supervision during initial functional trials to meet White Phase I requirements.</p>
White - 2	<p>Power On Review</p> <p>1.) Installation Power On Review. 2.) Receive initial documentation. 3.) Equipment Inspection and signoff.</p>	<p>1.) Inspection to ensure equipment is safe for Power On and debug. 2.) Temporary Safety Placarding in place and redlined. 3.) Arc Flash Requirements met. 4.) All White 1 & 2 punch list items closed. 5.) White 2 "Power on Review" signed.</p>	<p>Engineering function with project lead - SP, ME, PE in conjunction with contractor.</p>	<p>> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production > Contractor</p>	<p>Equipment operations under contractor control. MBUSI allowed to operate/test equipment under contractor supervision during functional trials to meet White Phase II requirements.</p>
Pink	<p>Mechanical Completion Review</p> <p>1.) Installation Mechanical Review. 2.) Equipment Inspection and signoff 3.) Contractor spare parts requirements met.</p>	<p>1.) Mechanical inspection to standards & specifications. 2.) Safety System Functional buy-off to State of Equipment Matrix by contractor & MBUSI. 3.) Verification of Risk Assessments & Time/Distance Calcs. 4.) Temporary Safety Placarding and Signage. 5.) O/H equipment load testing completed. 6.) All Pink punch list items closed. 7.) Ergonomic issues addressed. 8.) Pink "Mechanical Completion" signed.</p>	<p>Engineering function with project lead - SP, ME, PE in conjunction with contractor.</p>	<p>> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production > Contractor</p>	<p>Equipment operations under contractor control. MBUSI allowed to operate/test equipment under contractor supervision during functional trials to meet Pink Phase requirements.</p>

<p>Creation Date: 23-June-06</p> <p>Revision Date: 16-August-2007</p> <p>Data File: EPG020.doc</p>	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

Form No.: EFG014.doc, 12-Apr-05

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 8 of 24

Stage	Activity	Procedure	Lead	Support	Equipment Operations
Yellow	Substantial Completion Review 1.) Confirm installation complete to initiate owner's safe use. 2.) Contractor starts MBUSI training. 3.) Equipment Inspection and signoff	1.) Functionality Check - all systems fully operational, integrated & tested to standards & specifications. 2.) All interlocks, I/O, & HMI functions tested. 3.) All Punch Yellow punch list items closed. 4.) 20 hr run off (where applicable) completed. 5.) Preliminary Final documentation, elect/mech redlines submitted. 6.) Yellow "Substantial Completion" signed.	Engineering function with project lead - SP, ME, PE in conjunction with contractor.	> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production > Contractor	Equipment operations safe for MBUSI to operate with contractor assistance after sign off.
Green 1	Preliminary Acceptance Review 1.) Final Data & Documentation complete. 2.) MBUSI training complete. 3.) Equipment Inspection and signoff	1.) Final documentation standards met. 2.) All Punch Green I punch list Items Closed. 3.) Green I "Preliminary Acceptance" signed.	Engineering function with project lead - SP, ME, PE in conjunction with contractor.	> Maintenance Eng > Safety Eng > Process Eng > Series Planning > Maintenance > Production > Documentation Specialist > Contractor	Equipment operated by MBUSI. Contractor available for support. Production ramp up begins.
Green 2	Final Acceptance Review. 1.) Specified performance parameters achieved.	1.) Quality Targets Achieved. 2.) Efficiency Targets Achieved. 3.) Cycle Time Targets Achieved. 4.) All Punch list items closed. 5.) Green II "Final Acceptance" signed.	Engineering function with project lead - SP, ME, PE in conjunction with contractor.	> Maintenance Eng > Process Eng > Series Planning > Maintenance > Production > Documentation Specialist > Contractor > Finance > Legal	Equipment under full MBUSI operation & ownership. Warranty process begins after sign-off.

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 9 of 24

1. 7. Description

Note: All Parties requiring input & signatures (printed name & signature legible) need to have representatives at the final meeting at the end of each phase. Required Parties to be determined during Phase 1 by the Project Coordinator. These may or may not include the following: Process Eng., Maintenance Eng., Environmental Eng., Project Owner, Production, Maintenance, Safety, Quality, Finance, Documentation Library and the Contractor.

1. 7. 1 Phase 0 – Development Phase 1 & 2

1. Identify MBUSI Team Member(s)
2. Identify Contractor Team Member(s)
3. Establish meeting(s) to review the following:
 - Review “Buyoff” Procedure
 - Review check lists
 - Review Punch List Forms
 - Review detailed Spec and Scope of Work
 - Review spare parts that contractor must have on hand during Phase III thru V with contractors (see attachments) (if applicable)
 - Review MBUSI documentation standards with contractor (see Working Procedure for Standards of Equipment/Facilities Documentation EPG003-ZZ)
 - Review contract timing (Start date, finish date, and special milestones)
 - Establish test criteria for 20 Hour Runs (if applicable)
4. Start “Open Item/Punch” list for the job
5. Warranty contract explained to concern parties

1. 7. 2 White 1 Phase in Progress “SUPPLIER SHOP TRYOUT REVIEW’ (if applicable)

1. Buy-Off Tag EFG024-ZZ (White) to be used. All necessary approvals are required to proceed to the next phase. Copy of “WHITE” form posted to upper right hand corner of panel (if applicable).
2. Contractor fills out/submits Inspection Request Form EFG023-ZZ start of (White) to be used, check mark “SUPPLIER SHOP TRYOUT” (if applicable)
3. Project Coordinator schedules inspection with Inspection Team.

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 10 of 24

4. Project Coordinator checks for adherence to specifications/standards
 - Insure equipment complies with MBUSI standards
 - Does the equipment meet contract scope?
5. PROJECT COORDINATOR VERIFIES EQUIPMENT IS CORRECT AND READY FOR 20 HOUR RUN (if applicable)
6. Specific requirements for the 20 hour run
 - The Contractor submits request for operational checkout inspection or 20 hour run test indicating inspection boundaries, requested test date, and any known exceptions.
 - Contractor must submit, with each inspection or test request, contract drawings red-lined to show any deviations, unfinished work or pending Field Order work.
 - Contractor will be verbally notified of the scheduled inspection or test date.
 - The Inspection Team consisting of MBUSI's designated representative(s), and Contractor's representative(s) will perform inspections and/or tests.
 - The Inspection Team will generate a punch list of problems noting deficiency items.
 - The Contractor must submit, in writing, exceptions taken to any items noted during the inspections and tests. The Inspection Team, whose decision on any exceptions will be final, if any, will review these exceptions.
7. A Notice of Operational checkout and 20 Hour Run Testing Successful Completion will be issued by MBUSI when all criteria of each has been completed and all deficiencies of the punch list are confirmed complete. Once all inspection and test deficiencies have been completed, Buy-Off Tag EFG024-ZZ "(White) Shop Try Out" buyoff sheet will be signed.
8. Equipment shipped to MBUSI

^{*1} *Actual trial duration left up to the discretion of the Project Coordinator in charge*

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 11 of 24

1. 7. 3 WHITE II Phase in Progress "INSTALLATION COMPLETE/POWER ON REVIEW" {SAFETY STANDARDS MET}

1. Buy-Off Tag EFG024-ZZ (White) to be used. All necessary approvals are required to proceed to the next phase. Copy of "WHITE" form posted to upper right hand corner of panel (if applicable).
2. Installation/Power On Review
3. Contractor fills out/submits Inspection Request Form EFG023-ZZ to be used, check marked behind "INSTALLATION/POWER ON REVIEW"
4. Project Coordinator schedules inspection with Inspection Team
5. The Inspection Team consisting of MBUSI's designated representative(s), and Contractor's representative(s) will perform inspections and tests.
6. The Inspection Team will amend the punch list.
7. Project Coordinator needs to be in agreement with all equipment set locations prior to anchoring. Upon permanent power up, equipment must be anchored properly.
8. Power On Review to insure the following:
 - Equipment is safe for power on.
 - Power supplied to the equipment is done in accordance with MBUSI Electrical Engineering Standards.
9. When all above criteria has been completed and all deficiencies of the White punch list are confirmed complete. Buy-Off Tag EFG024-ZZ (White) will be signed and "Installation/Power On Review will be deemed complete.
10. Remove "WHITE" sheet. Project Coordinator to file sheet.

1. 7. 4 PINK Phase in Progress "MECHANICAL COMPLETION REVIEW" {EQUIPMENT RUNNING IN DEBUG STATUS}

1. Buy-Off Tag EFG024-ZZ (Pink) to be used. All necessary approvals are required to proceed to the next phase. Copy of "PINK" form posted to upper right hand corner of panel (if applicable).

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

Form No.: EFG014.doc, 12-Apr-05

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 12 of 24

2. Power On
 - Test, adjust and debug
 - Panel "Hot" post caution label
3. Contractor fills out/submits Inspection Request Form EFG023-ZZ to be used, check marked behind "MECHANICAL COMPLETION REVIEW".
4. Project Coordinator schedules inspection with Inspection Team.
5. The Contractor must submit, in writing, exceptions taken to any items noted during the inspections and tests. The Inspection Team, whose decision on any exceptions will be final, if any, will review these exceptions.
6. The Inspection amends the Punch List items.
7. Contractor to perform training for Production/Maintenance, Engineering, and Safety, as well as other related departments where applicable, per MBUSI Training Standards. Training schedule deviations to this must be approved by the project coordinator.
8. When all above criteria has been completed and all deficiencies of the Pink punch list are confirmed complete. Buy-Off Tag EFG024-ZZ (Pink) will be signed and "Mechanical Completion" will be deemed complete.
9. Remove "PINK" sheet and Project Coordinator to file sheet.

1. 7. 5 YELLOW Phase in Progress "SUBSTANTIAL COMPLETION REVIEW"

- The purpose of the Substantial Completion Inspection is to confirm installation / completion and to initiate Owner's safe use of all process equipment being installed. Sign off of the Substantial Completion phase is the time at which the Owner can assume the operation of the equipment and/or system without supervision of the Contractor, but does not necessarily establish Owner's acceptance of the equipment or system, or relieve the Contractor from contractual responsibilities.
- Prior to requesting, in writing, a Substantial Completion Inspection, all operational checkout and 20 hour run (if applicable) testing of the equipment and systems must be successfully completed including all deficiencies noted

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 13 of 24

on the punch list as found during the "Substantial Completion" 20 hour run (if applicable).

- Upon completion of the Contractor's work including system debug and validation, operational checkout and 20 hour run testing, they should request, in writing, a Substantial Completion Inspection.
 - During the Substantial Completion inspection, punch list items will be generated and added to the over all Punch List by MBUSI's designated representative(s). MBUSI's designated representative(s) will verify that all Punch List items have been corrected.
 - After all items are verified completed the Substantial Completion buyoff tag will be signed for the equipment boundaries as defined in the Substantial Completion Inspection Request.
1. Buy-Off Tag EFG024-ZZ (YELLOW) to be used. All necessary approvals are required to proceed to the next phase. Copy of "YELLOW" form posted upper right hand corner of panel (if applicable).
 2. Test, adjust, debug, startup, and functionality test to include all safety devices checked and verified for operation.
 3. 20 Hour Run/Test, or 8hrs. Auto Cycle Production Run to include the following:
 - Contract drawings red-lined to show any deviations, unfinished work or pending Field Order work.
 - The Inspection Team will document a Punch List for the "Substantial Completion" 20 hr Run, noting items, which must be corrected before Notice of Substantial Completion, will be issued.
 4. The Contractor must submit, in writing, exceptions taken to any items noted during the substantial completion inspection. The Inspection Team, whose decision on any exceptions will be final, if any, will review these exceptions.
 5. All systems work independently and in conjunction with each other in auto cycle.

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 14 of 24

6. Contractor should finish all Yellow Phase Punch List items.
7. Contractor fills out/submits Inspection Request Form EFG023-ZZ to be used. Check mark behind "Substantial Completion Finish" shall be used to request a "Substantial Completion" inspection.
8. Project Coordinator schedules inspection with Inspection Team.
9. Substantial Completion Inspections will be performed by the Inspection Team consisting of MBUSI's designated representative(s) and the Contractor's Representative(s).
10. The Contractor shall submit preliminary Documentation and Software for maintenance troubleshooting.
** Actual trial duration left up to the discretion of the Project Coordinator in charge*
11. When all above criteria have been completed and all deficiencies of the "YELLOW" punch list are confirmed complete, Buy-Off Tag EFG024-ZZ (Yellow) will be signed and "SUBSTANTIAL COMPLETION REVIEW" buyoff sheet will be deemed complete.
12. Remove "Yellow" Sheet. Project Coordinator to file sheet.

1. 7. 6 GREEN Phase in Progress, Step One "PRELIMINARY BUY-OFF" REVIEW and Step Two "FINAL BUY-OFF" Phases

1.7.6. 1 Step One - "PRELIMINARY BUY-OFF" Review in Progress

1. Buy-Off Tag EFG024-ZZ (GREEN – STEP 1) Preliminary Buy-Off to be used. All necessary approvals are required to proceed to the next phase. Copy of "Green" posted on upper right hand corner of panel (if applicable).
2. Contractor fills out/submits Inspection Request (EFG023-ZZ) to be used.

Creation Date: 23-June-06 Revision Date: 16-August-2007 Data File: EPG020.doc	Approvals:		
	Assembly 1 & 2 Eng. Mgr.	Paint & Body Eng. Mgr.	Originator
	Assembly 1 & 2 Maint. Eng. Assist. Mgr.	Paint & Body Maint. Eng. Assist. Mgr.	

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 15 of 24

3. Project Coordinator schedules inspection with Inspection Team
4. Contractor will provide all data, documents, etc as requested by MBUSI designated representative to complete Preliminary Acceptance/Closeout documentation. The Project Coordinator to ensure correctness and completeness of above items.
5. The Inspection Team will amend the punch list.
6. Contractor fills out/submits Inspection Request Form EFG023-ZZ to be used. Check mark behind "STEP 1 - PRELIMINARY BUY-OFF"
7. Preliminary Buy-Off Inspection to include the following:
 - All punch list items are complete/closed.
 - All documentation has been handed over as listed below.
 - All training has been completed. (if applicable)
8. Documentation hand-over of all items per MBUSI Standards.
9. Production startup/Ramp-up begins.
10. After all above criteria have been completed and all deficiencies of the "GREEN – STEP 1" punch list are confirmed complete, Buy-Off Tag EFG024-ZZ (Step 1 - Green) will be signed "PRELIMINARY BUY-OFF REVIEW - STEP 1" will be deemed complete.
11. Copy "Green" sheet stays active for equipment.

1.7.6.2 Step Two - "FINAL BUY-OFF" in Progress

Buy-Off Tag EFG024-ZZ (Green) to be used. All necessary approval signatures are required to proceed. "GREEN" form posted on upper right corner of panel (if applicable)

1. Specified performance parameters, Efficiency, Throughput, FTC (First Time capability) numbers will be verified against the actual performance data within the first 6 months as a maximum after SOP.
2. Contractor fills out/submits Inspection Request (EFG023-ZZ) to be used.
3. The Project Coordinator will send a notice to the contractor indicating Final Acceptance after all punch list items are closed and specified performance parameters are met. Project Coordinator needs to assure the concurrence of all involved production and engineering managers. The Project Coordinator schedules Final Buy Off meeting with the Inspection Team.

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 16 of 24

4. If all criteria stated above are met, signatures are required on Buy-Off Tag EFG024-ZZ (Green - Step 2) "Final Buy-Off" will be deemed complete.
5. Removal of "Green Sheet – Step - 2" Buy-Off Tag EFG024-ZZ and store in the Central Library. {Project Coordinator to note date of final Completion}

1. 8. Documents / References

Attachment A - Revision History

EPG003-ZZ	Working Procedure for Standards of Equipment/Facilities Documentation
EFG023-ZZ (WHITE)	MBUSI Inspection Request Form – Supplier Shop Tryout/Power On Review
(PINK)	MBUSI Inspection Request Form – Mechanical Completion
(YELLOW)	MBUSI Inspection Request Form – Substantial Completion
(GREEN)	MBUSI Inspection Request Form – Preliminary/Final Buy-Off
EFG024-ZZ (WHITE)	MBUSI Equipment / Facilities Buy-Off Tag - Supplier Shop Tryout/Power On Review
(PINK)	MBUSI Equipment / Facilities Buy-Off Tag – Mechanical Completion Review
(YELLOW)	MBUSI Equipment / Facilities Buy-Off Tag - Substantial Completion Review
(GREEN)	MBUSI Equipment / Facilities Buy-Off Tag -
Step One:	Preliminary Buy-Off Review
Step Two:	Final Buy-Off
EFG028-ZZ	Equipment / Facilities Punch List {minimum requirements of data}
EFG020-ZZ	Check List (Example List)

The above listed forms / procedures are kept in the Central Library within MBUSI/OE.

Note: Do not copy and use the forms listed in this procedure. Please obtain latest copies from the Central Library

1. 9. Records

MBUSI Equipment / Facilities Buy-Off Tag – Step Two Final Buy-Off [EFG024-ZZ] (Green)

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 17 of 24

Attachment A – Revision History

Rev.	Description of Changes	Revised By	Date
01	Updated 1.6 Process Flow Chart & updated signature blocks for approvals	M. Hayes	07-May-04
02	Updated 1.6 Flowchart, 1.7.3 Phase II White, 1.7.4 Phase III Pink, 1.7.5 Phase IV Yellow, 1.7.6.1 Step One Preliminary Green, 1.7.6.2 Step Two Final Buy Off Green, and Form EFG024 to add Print Name column on each sheet.	M. Hayes	12-July-06
03	Revised 1.7 Description to add to Note:, changed form to add Environmental to Safety section to sign	M. Hayes	26-July-06
04	Removed flow chart & inserted matrix	M. Nicoll	16-Aug-07

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 19 of 24

Attachment C – White Phase I & II
EFG024 MBUSI Equipment / Facilities Buy-Off Tag –
White Phase Supplier Shop Tryout & Installation/ Power On
 (Note See Dom. Doc. for current Revisions)

MBUSI Equipment / Facilities Buy-Off Tag			Ref. No:		
Area	Column	Location	Equipment Description		
Paint			Name		
Assembly			Station #		
Body			Asset # New: <input type="checkbox"/> Modified: <input type="checkbox"/>		
Facilities			Supplier Shop Tryout Review Completed: (if applicable)		
	Responsible	Print Name	Signature	Date	
	MBUSI - Engineering				
	MBUSI - Owner				
	MBUSI - Production/Maintenance				
	MBUSI - Safety / Environmental				
	Contractor				
	Installation/Power On Review Completed: (if applicable)				
	Responsible	Print Name	Signature	Date	
	MBUSI - Engineering				
	MBUSI - Owner				
	MBUSI - Production/Maintenance				
	MBUSI - Safety / Environmental				
	MBUSI - Quality (If applicable)				
	Contractor				
<p>Condition - Supplier Shop Tryout & Installation/Power On Review In Progress (if applicable)</p> <p>Do Not Write In Area Below</p>					

Hang This Sheet On Item After Inspection (if applicable)

White

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 20 of 24

Attachment D – Pink Phase
EFG024 MBUSI Equipment / Facilities Buy-Off Tag –
Pink Phase Mechanical Completion
 (Note See Dom. Doc. for current Revisions)

MBUSI Equipment / Facilities Buy-Off Tag			Ref. No:	
Area	Column	Location	Equipment Description	
Paint			Name	
Assembly				
Body			Station #	
Facilities		Asset #	New: <input type="checkbox"/>	Modified: <input type="checkbox"/>
Supplier Shop Tryout Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
Contractor				
Installation/Power On Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
MBUSI - Quality (If applicable)				
Contractor				
Mechanical Completion Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
MBUSI - Quality (If applicable)				
Contractor				

Condition - Mechanical Completion Review In Progress
(if applicable)

Upon signoff, this equipment will be conditionally accepted as complete by MBUSI. This equipment is found to be ready for power on. All remaining or additional work to this equipment will be coordinated by the contractor and approved by MBUSI

Hang This Sheet On Item After Inspection (if applicable)

Pink

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 21 of 24

Attachment E – Yellow Phase
EFG024 MBUSI Equipment / Facilities Buy-Off Tag –
Yellow Phase Substantial Completion
 (Note See Dom. Doc. for current Revisions)

MBUSI Equipment / Facilities Buy-Off Tag			Ref. No:
Area	Column	Location	Equipment Description
Paint			Name
Assembly			
Body			Station #
Facilities		Asset #	New: <input type="checkbox"/> Modified: <input type="checkbox"/>
Supplier Shop Trvout Review Completed: (if applicable)			
Responsible		Print Name	Signature
MBUSI - Engineering			
MBUSI - Owner			
MBUSI - Production/Maintenance			
MBUSI - Safety / Environmental			
Contractor			
Installation/Power On Review Completed: (if applicable)			
Responsible		Print Name	Signature
MBUSI - Engineering			
MBUSI - Owner			
MBUSI - Production/Maintenance			
MBUSI - Safety / Environmental			
MBUSI - Quality (If applicable)			
Contractor			
Mechanical Completion Review Completed: (if applicable)			
Responsible		Print Name	Signature
MBUSI - Engineering			
MBUSI - Owner			
MBUSI - Production/Maintenance			
MBUSI - Safety / Environmental			
MBUSI - Quality (If applicable)			
Contractor			
Substantial Completion Review Completed: (if applicable)			
Responsible		Print Name	Signature
MBUSI - Engineering			
MBUSI - Owner			
MBUSI - Production/Maintenance			
MBUSI - Safety / Environmental			
MBUSI - Quality (If applicable)			
Contractor			

Condition - Substantial Completion Review In Progress
(if applicable)

Upon signoff, this equipment will be conditionally accepted as complete by MBUSI. All Remaining or additional work to this equipment will be coordinated and approved by MBUSI. In order to check that the safety and functional features of the equipment meet MBUSI standards, MBUSI and /or their agents will inspect equipment prior to phase change.

Hang This Sheet On Item After Inspection (if applicable)

Yellow

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	EPG020
Revision: 03	Page 22 of 24

Attachment F – Green Phase Step 1 & 2
EFG024 MBUSI Equipment / Facilities Buy-Off Tag –
Green Phase Steps 1 & Step 2 Final Buy-Off
 (Note See Dom. Doc. for current Revisions)

MBUSI Equipment / Facilities Buy-Off Tag			Ref. No:	
Area	Column	Location	Equipment Description	
Paint			Name	
Assembly			Station #	
Body			Asset #	
Facilities			New: <input type="checkbox"/>	Modified: <input type="checkbox"/>
Supplier Shop Tryout Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
Contractor				
Installation/Power On Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
MBUSI - Quality (If applicable)				
Contractor				
Mechanical Completion Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
MBUSI - Quality (If applicable)				
Contractor				
Substantial Completion Review Completed: (if applicable)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
MBUSI - Quality (If applicable)				
Contractor				
Step 1 - Preliminary Buy-Off (Stays on Item until Step 2 completed)				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Quality (If applicable)				
MBUSI - Safety / Environmental				
Contractor				
Step 2 - Final Buy-Off Completed:				
Responsible		Print Name	Signature	Date
MBUSI - Engineering				
MBUSI - Owner				
MBUSI - Production/Maintenance				
MBUSI - Safety / Environmental				
MBUSI - Quality (If applicable)				
MBUSI - Finance				
MBUSI - Library				
Contractor				
Condition - Final Buy-Off In Progress				
Upon sign off Step's 1 & 2, the Equipment or Facilities will be accepted as complete by MBUSI				
Store In Library			Green	

MBUSI Working Procedure Name:	Equipment Buy-Off
Document Number:	MPG020
Revision: 03	Page 24 of 24

Attachment H – EFG020 Buy-Off Check List

(to be used as a reminder)

Note: Always check Dom. Doc. for current Revision

Buyoff Check List

To be used as a reminder sheet only!

Verified by:

Date:

Equipment / Facilities Related Items:

Item	Description	See Punch List	Approved	Doesn't Apply
1.	Adherence to specifications/standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Mechanical Construction			
	a) Anchored properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Leveled properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Grease zerks where applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Proper fasteners, lock washers, dowels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e) All fasteners tightened & marked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) Proper bushings & wear strips use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	g) Cylinders mounted properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	h) Cylinder switches accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	i) Flow controls accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	j) Hose connections accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	k) Hoses proper color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	l) Hoses marked on both ends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	m) Hoses supported properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	n) Piping mounted properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	o) Piping unions accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	p) Cylinders accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	q) Switches accessible	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	r) Structural steel construction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	s) All components properly colored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	t) All mechanism guards in place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	u) Installation neat & workman like	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	v) Fabrication standards followed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	w) Dispensing systems operational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	x) Appearance of equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	y) Verify chain/belt tension adjustments assessable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	z) Drive system aligned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Electrical			
	a) Bus plugs labeled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Bus plugs 200 amps/larger to have support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Panel labeled with feed source	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Control panel doors interlocked properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e) Main disconnect operates properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) Wiring not disconnected by main properly marked (yellow or yellow tracer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(See Dom. Doc for remaining sheet)