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16. **KEY**

- S: QAO
- Q: QA
- O: Other

17. **SIGNATURE/DISTRIBUTION**

- Design Authority: [Signature]
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- Cop. Dat.: G.A. West, 30/3/94
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18. **DOE APPROVAL (if required)**

- Cat. No.: [Signature]
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Windows Calorimeter Control (WinCal) Program System Configuration Control Board (SCCB) Operating Procedure

Date Published
March 1997

Prepared by
Babcock & Wilcox Hanford Company

Approved for public release
## RELEASE AUTHORIZATION

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This document was reviewed following the procedures described in WHC-CM-3-4 and is:

**APPROVED FOR PUBLIC RELEASE**

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<td>International Atomic Energy Agency</td>
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<td>PFP</td>
<td>Plutonium Finishing Plant</td>
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<td>SCCB</td>
<td>System Configuration Control Board</td>
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1.0 INTRODUCTION

This document describes the operating procedure for the System Configuration Control Board (SCCB) performed in support of the Windows Calorimeter Control (WinCal) system. This board will consist of representatives from Babcock & Wilcox Hanford Company; Babcock & Wilcox Proteq, Inc.; and Lockheed Martin Services, Inc. In accordance with agreements for the joint use of the Babcock & Wilcox Hanford Company calorimeters located in the Hanford Site Plutonium Finishing Plant (PFP) Nondestructive Assay Laboratory, concurrence regarding changes to the WinCal system will be obtained from the International Atomic Energy Agency (IAEA). Further, changes to the WinCal software will be communicated to Los Alamos National Laboratory.

1.1 PURPOSE

The system configuration management plan contains the requirements that control the WinCal system software, hardware, and documentation. The formal nature of the change control process is to maintain the integrity of the system in order to ensure continued acceptance of the WinCal system by the IAEA.

1.2 SCOPE

The SCCB operating procedure will apply to all project change activities after transmittal of the WinCal system from Babcock & Wilcox Hanford Company and Babcock & Wilcox Proteq, Inc. to the IAEA. The change activities will be in accordance with HNF-SD-CP-CSCM-010, Windows Calorimeter Control (WinCal) Program Software Configuration Management Plan. The system configuration management plan applies to the management and control of the WinCal System, which consists of the following:

- The computer
- Institute of Electrical and Electronic Engineers interface boards
- WinCal software.
1.3 OVERVIEW

Calorimetric assay has been an important part of nondestructive assay for more than 40 years. In this analysis method, a radiometric isothermal calorimeter measures the heat flow produced by the decay of radioactive material in a sample.

WinCal software controls calorimeter operation and data collection, stores data, and performs calculations to determine the rate at which thermal power is produced in the sample being measured. In its current application, the WinCal-measured rate of power production and the relative abundance of heat from the isotopes of plutonium and $^{241}$Am are used to calculate the quantity of plutonium in the container. This configuration management plan supports calorimetry analysis at the PFP and helps ensure that the software provided to the IAEA is well documented and that software changes are identified, implemented, and controlled.

The U.S. Department of Energy has agreed to the joint use of calorimeters at PFP. The IAEA requires exclusive use of the WinCal system when the calorimeters are under the agency’s control. The WinCal System for the IAEA will be compiled on the agency’s hard drive and stored at PFP under IAEA seal. The WinCal must be acceptable to both the IAEA and the U.S. Department of Energy. WinCal software documentation must comply with quality assurance and Institute of Electrical and Electronic Engineers requirements.

1.4 WINCAL CONFIGURATION MANAGEMENT STRATEGY

The strategy for software configuration management is described in HNF-SD-CP-CSCM-010. Control of the hardware configuration will follow the same procedures.

2.0 MANAGEMENT

2.1 SYSTEM CONFIGURATION CONTROL
BOARD ORGANIZATION

A joint SCCB has been formed. The SCCB is comprised of representatives from Babcock & Wilcox Hanford Company; Babcock & Wilcox Protec, Inc.; and Lockheed Martin Services, Inc. Other designated customer representatives and software programmer subcontract personnel will sit on the board as required. Members may be added if the use and deployment of the WinCal system reveal the need.
3.0 SYSTEM CONFIGURATION CONTROL
BOARD ACTIVITIES

System configuration management activities center around the control of changes to the calorimeter system hardware, software, and documentation.

3.1 GATHER SYSTEM CHANGE REQUESTS

The SCCB will gather request for changes to the WinCal software and hardware as well as the calorimeter hardware and electronics.

3.2 EVALUATE SYSTEM CHANGE REQUESTS

The requested system changes are to be evaluated for level of complexity, for potential impact on the integrity of the WinCal system, and for priority for inclusion in a strategy to implement change requests as a new release of the software. The SCCB will decide when a software release or a hardware change is significant enough to warrant a formal project plan.

If a WinCal user or software engineer requests a new version of vendor software, the SCCB will review and either approve or reject the request. If the request is approved, the software engineers will test the installation of new releases of vendor software before upgrading new software releases. They will test the vendor software before routine installation and use of the WinCal software and related software packages to ensure acceptable performance.

3.3 CHANGE IMPLEMENTATION

The SCCB will interface with the IAEA to obtain approval for changes to the IAEA version of WinCal. The IAEA version will be different only if the IAEA declines to accept implementation of suggested system changes. In that event two separate systems will be maintained with unique version designators.

The strategy for implementing SCCB approved changes will be developed. This strategy will include the following elements:

- Timing for presentation of proposed changes to the IAEA
- Resource requirements
- Schedule for change resolution and implementation
- Schedule for standards testing to ensure changes have not adversely affected the analytical function of the calorimeters

- A new release designator for the software.

4.0 REFERENCES

APPENDIX A

SYSTEM CHANGE REQUEST
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APPENDIX A
SYSTEM CHANGE REQUEST

The following is a sample of the System Change Request (SCR) format. The actual format used may differ slightly.

SYSTEM CHANGE REQUEST

SCR NUMBER: nnnn

1. Submitted by: ____________________________ (Originator) ______________ Date: mm/dd/yy

2. Documents Affected:
   [ ] None
   [ ] HNF-SD-CP-CSRS-014 WinCal System Requirement Specifications
   [ ] HNF-SD-CP-TP-093 WinCal System Test Plan
   [ ] HNF-SD-CP-SDD-019 WinCal System Design Description
   [ ] HNF-SD-CP-CSCM-010 WinCal System Configuration Management Plan
   [ ] Other

3. Detailed Description of the Change:
   (customer-supplied description of the request)

4. Requested Completion Date: mm/dd/yy

5. Requested Priority: [ ] Critical [ ] Non-Critical [ ] General Enhancement

6. SCCB Decision: [ ] Accept [ ] Reject [ ] Defer to Date: mm/dd/yy

7. SCCB Approval: __________________________________________________________________________

8. Assigned to: (SW Engineer)

   (comments describing the solution and its implementation process)

10. Description of Hardware/Software Affected:
   (Description of the affected WinCal system)

11. Task Completed By: (COG Engineer) __________________________ Date: mm/dd/yy

12. Planned for Release in Version Number: V n.n.n
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**Distribution Sheet**

**To:** Distribution  
**From:** Lockheed Martin Services, Inc., Systems Development and Integration  
**Date:** 6/2/98  
**Page 1 of 1**

**Project Title/Work Order**  
Revision 0, Windows Calorimeter Control (WinCal) Program  
Computer Software Documentation

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