WSRC-RP-89-1443

TRIP REPORT IMOG STEERING COMMITTEE MEETING 11/29/89 (U)

by

R. R. Butterworth
Westinghouse Savannah River Company
Savannah River Site
Aiken, SC 29808

A Trip Report following a meeting of the
IMOG Steering Committee held at
Kansas City, MO on 11/29/89
for publication in the meeting minutes

Derivative Classifier Robert R. Butterworth
Name and Title
PROCESS STAFF ENGINEER

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EPD-DSS-89-0074

TRIP REPORT

INTERAGENCY MANUFACTURING OPERATIONS GROUP (IMOG)

STEERING COMMITTEE MEETING NOVEMBER 29, 1989

December 6, 1989

prepared by: Robert R. Butterworth
Digital Control & Systems Department
Building 730-A
Savannah River Site
Aiken, SC 29808
Tel (803)725-3583 FTS 239-3583

DOE COMPLEX ONLY

This report contains minutes and papers presented at the November 29, 1989 Interagency Manufacturing Operations Group Steering Committee Meeting.

This report is UNCLASSIFIED

BY Robert R Butterworth DATE 6-DEC-89
Authorized Derivative Classifier

DECEMBER 6, 1989

TRIP REPORT - ROBERT R. BUTTERWORTH

INTERAGENCY MANUFACTURING OPERATIONS GROUP (IMOG)

STEERING COMMITTEE MEETING NOVEMBER 29, 1989

As the Subgroup Chairman for the Process Automation & Control Technology Subgroup of IMOG, I was requested to attend the annual Steering Committee Meeting held this year at the Allied-Signal Kansas City Plant and summarize the past year's activities of the Subgroup.

The next IMOG Steering Committee Meeting will be held November 14 and 15, 1990 in Los Alamos.

The next Process Automation & Control Technology Subgroup Meeting will be held in June, 1990 in Rocky Flats.

IMOG ORGANIZATION

Membership Requirements

IMOG's purpose is to save money by exchanging manufacturing and technical information between the nuclear weapon sites. The criteria for membership is:

- Must be DP (Defense Program) funded
- Must be a GOCO (Government Owned/Contractor Operated)
- The Steering Committee member must be an employee of the site prime contractor.
- The site must have some manufacturing technology to exchange
- The facility must have requirement for Q Clearance

Mike Green, of Tritium, is the Savannah River Steering Committee member.

One of the business items at this meeting was to admit Idaho National Engineering Laboratory as full member of IMOG. Dave Woodall, of EG&G INEL was elected Steering Committee member. Some of the pertinent information about INEL is given in Attachment A.

Subgroups

IMOG has eleven Subgroups which provide the actual mechanism for exchanging information:

- Computer Integrated Manufacturing (CIM)
- Environmental Testing
- Metal Forming
- Machine Tool
- Measurement Technology
- Process Automation
- Joining
- Numerical Systems
- Mechanical Testing
- Gas Transfer
- Cleaning

One group, Product Definition, was voted out of existence because of lack of site interest and attendance.

Outside Contacts
IMOG conducts part of its technology transfer through joint meetings with other governmental committees, most notably:

o MATAG - The Department Of Defense technology exchange group set up similar to IMOG with defense contractors. MATAG conducts End Of Project demonstrations and documentation reviews for each of its development contracts. These are available to DOE contractors.

o JOWOG - A joint effort with Great Britain set up in 1958 to exchange nuclear weapon data. JOWOG consists of 40 committees dealing with all aspects of nuclear weapons from testing, development, deployment, tactical use, etc. IMOG interfaces with two JOWOG groups; JOWOG-22 for welding (joining), and JOWOG-39 for manufacturing. Under JOWOG-39 there are five subcommittees; CIM, Non-Destructive Examination, Gaging, Machining, and Robotics. The one of most interest to the Process Automation Subgroup is SUBWOG-39E CIM. JOWOG and SUBWOG meetings alternate between the US and UK on an approximate annual basis. One objective is to get at least 75% of the DOE contractors (8 sites) represented at the meetings.

PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP REPORT

After attending the Steering Committee Meeting I appreciate the fine work Gary Bowers of Y-12 did in getting the subgroup accepted as a permanent subgroup. He deserves our vote of thanks. Membership does not come easy.

My report to the IMOG Steering Committee is Attachment B. I also included a rough draft of our charter, Attachment C, which we can discuss at our next meeting in June 1990. We should address the possible overlap of the CIM subgroup.

All the sites are obligated to name at least one representative to each subgroup. Therefore, I will ask the sites currently without Process Automation membership to render names. A current list is Attachment D.

SUBGROUP MEETING GUIDELINES

Vendors can not present talks at IMOG sponsored meetings, however it is acceptable to adjourn an IMOG meeting and convene a vendor presentation back-to-back, using the local site procurement rules. Don't put vendor supplied information in IMOG minutes and make sure agendas are kept separate.

Guest speakers can be invited to IMOG meetings, but are not expected to stay through entire meeting, especially through

business portions.

An IMOG Steering Committee member is assigned to attend each subgroup meeting. Norman DeMeza, GEND, will attend the next Process Automation meeting.

The Subgroup Chairmen are responsible for distributing their meeting agendas to the Steering Committee and all other subgroups prior to the meetings.

Special items that need to be addressed in 1990 subgroup meetings include quantified benefits ($) gained by technical interchange, environmental issues in area of subgroup expertise, and software quality assurance.

DATA BASES & SOFTWARE QA

Nearly all subgroups are compiling databases of applications, usually on personal computers using Dbase III or some similar program. The question of who pays for the creation and maintenance of the databases arose. IMOG expects that the users who benefit will pay, IMOG has no money to spend.

A common requirement throughout the nuclear weapon sites is the implementation of software quality assurance procedures. It is my guess that a Software QA Subgroup will be formed in the next two to five years.

TIGER TEAMS

A subject of great interest was the visits of the DOE Tiger Teams to each site. So far the schedule has been:

RF December 1988	INEL Spring 1989
West Valley June 1989	Fernald June 1989
Y-12 October 1989	KCD Nov 6 - Dec 8, 1989
SNLA due December 23, 1989	GEND due January 16, 1990
SRS due January 29, 1990	LLNL due February 1990

In each case approximately 40 people stay for about 4 weeks investigating OSHA, ES&H, DOE regulation, and process training compliance.

ROCKY FLATS STATUS

A brief report on the status of Rocky Flats as reported at the Steering Committee Meeting is Attachment E. The status changes daily.

ACKNOWLEDGMENT

The information contained in this article was developed during the course of work done under Contract No DE-AC09-88SR18035 with the U.S. Department of Energy.

ATTACHMENT A

SOME FACTS ABOUT IDAHO NATIONAL ENGINEERING LABORATORY

The INEL is located in the Southeast corner of Idaho between the cities of Idaho Falls and Arco. It consists of roughly two sites; 890 square miles of desert test area and 14 administration and research buildings within the city of Idaho Falls.

It was established in 1949 as the National Reactor Testing Station and contains the largest concentration of nuclear reactors in the world. Over the years 52 reactors have been built, with 15 still operating. The site originally was a naval gunnery test range, testing guns made at Pocatello, ID.

The annual operating budget is about $1 Billion; 1/3 Defense, 1/3 Navy, and the rest mixed. EG&G, the prime contractor, receives about $450 Million annually.

The site has 11,000 employees, 2 government groups, and 5 major contractors:

Government:	DOE, 350, Contracts INEL, Three Mile Island, West Valley, Butte (MHD-CDIF), Denver, Grand Junction
	Navy, 1100, Mostly Naval Reactor training
Contractors:	EG&G, 4500, Administration of INEL, waste management, reactors
	WINCO, 1500, Runs ICCP chemical separation of Naval Fuel
	Argonne West, 500, Liquid metal reactors (space)
	Westinghouse Electric, 400, Naval reactors
	Argonne East, , Liquid metal reactors

Technology includes: nuclear reactor design, construction, operation, and testing; instrumentation; nuclear waste reduction and handling; computer networking and programming; and hazardous waste cleanup.

ATTACHMENT B

EPD-DSD-89-0070

PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP

REPORT FOR YEAR 1989

Prepared By: Robert R. Butterworth, Chairman

November 28, 1989

This report is classified UNCLASSIFIED

BY _____ DATE 28-Nov-89
Authorized Derivative Classifier

ATTACHMENT B

PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP

REPORT FOR YEAR 1989

The second officially sponsored Process Automation & Control Technology Subgroup (PACTS) was originally scheduled for August 1989 at the Sandia National laboratory in Albuquerque, but was rescheduled to September 19, 1989 at the Kansas City Division because of the early retirement of the Sandia host. The meeting was hosted by Bill Plant, Kansas City Division, and lasted two and one-half days; with two days of site reports and selected special talks, and one-half day of Kansas City facility tours.

ATTENDANCE

Weapons contractors represented were:

Rockwell International - Rocky Flats
EG&G Mound Applied Technologies - Mound Laboratory
Westinghouse Savannah River - Savannah River
GE Neutron Devices - Pinellas
Martin Marietta Energy Systems - Oak Ridge Y-12
Allied-Signal - Kansas City

Although not nominally a weapons contractor, Carl Yrene, of EG&G Idaho, Inc. from the Idaho National Engineering Laboratory attended as a guest.

William Jones, of the IMOG Steering Committee, attended as sponsor and observer.

Two sites that normally attend the process meetings were absent due to special circumstances -- the Sandia Albuquerque facility representative retired on short notice, and the Pantex members were involved in a special startup project.

PRESENTATIONS

The Kansas City Division gave presentations on the Flexible Manufacturing System, the Plastics Information Control System, the Direct Numeric Control System, CACTUS (Product Tracking/Data Collection), and the Focused Electronic Factory. All of these systems involve electronic data transfer and direct connection to process machines. A special presentation was also given on Software Quality Assurance.

Special site reports were presented by GE Neutron Devices on the Automated Assembly Of Thermal Batteries, Mound Laboratories on Multitasking on 386 Personal Computers, Oak Ridge on the Manufacturing Automation Protocol (MAP) and the DAE/IBM Project.

A vendor presentation by Allen/Bradley covered their new offering, the Pyramid Integrator.

INTERFACES WITH OTHER TECHNOLOGY GROUPS

As an offshoot of the DOE Mini-Micro Information Interchange Group some of the PACTS members attend the Mini-Micro meetings. Two such meetings were held in mid October 1989 at the Idaho National Engineering Laboratory. The Mini-Micro meeting this year covered the growth of personal computers in the office, but also included production applications and interconnection problems with vendors. The subsequent ninth annual Office Information Management Conference reflected the rapid growth of office systems and the necessity to directly gather information automatically at the source.

TECHNOLOGY THRUSTS

Several new areas are developing in the process automation and control field:

- Data transfers are being made over long distances and from many sources to many destinations over networks, necessitating the need

for access controls and gateways. The need for data from the source (process) is driving engineers to connect control equipment to open networks. This can cause problems if unauthorized access is allowed.

- Many networks are growing without controls. It is easy to buy equipment and create a network without considering whether it will talk to other networks. Most large sites presently have five or six different networks that are proprietary to different vendors and can not be connected without extraordinary engineering and programming resources.

- Software quality assurance and computer aided engineering are changing the way software is developed. Software creation is becoming more of an engineering task than an art, with attendant requirements for documentation, change control, specifications, etc.

- It is still difficult to connect on-line analytical instruments to process control systems. The interface requires too many manual assists and calibrations.

- The interface between a production operator and automatic machines is still not adequate from a human engineering viewpoint. The interface for office applications is better.

IDENTIFIABLE BENEFITS

1. Kansas City implementation of a Software Change Review Board - Kansas City from Mound.

2. Input of the COMETS material tracking system from Kansas City and Savannah River to Oak Ridge.

3. PMAP measurement and certification of transducers - information exchange between Mound and Kansas City.

4. Environmental measurement requirements defined based on emerging EH&S regulations - all sites, especially Rocky Flats and Oak Ridge.

5. MAP Manufacturing Application Protocol evolving status - Oak Ridge to all sites (Oak Ridge is lead MAP site).

6. SQA, SDM (Software Quality) information transfer - all sites, but especially from Kansas City.

7. Issue of standardization for procurement of process control devices. Consistency and inconsistencies between various sites regarding procurement.

8. Opportunity for technical personnel to present results of projects, career development.

9. Sharing experiences with Computer Aided Software Engineering tools - all sites, but especially Kansas City.

10. Rocky Flats process control system design input from Savannah River.

11. Shop floor architecture definition - into Savannah River from all sites.

12. Tour of individual facilities - appreciation of constraints and opportunities.

ADMINISTRATIVE DATA

Next meeting will be at Rocky Flats in June 1990, hosted by Thomas Hughes, (303)966-5282.

The Process Automation & Control Technology Subgroup officers are:

Robert R. Butterworth, Chairman
Westinghouse Savannah River Company
Building 730-A
Savannah River Site
Aiken, SC 29808
(803)725-3583, FTS 239-3583

Billy D. Plant, Vice Chairman
Allied -Signal Aerospace Company
Kansas City Division
PO Box 1159
Dept 871, MC45
Kansas City, MO 64141
(816)997-4775, FTS 8-997-4775

ATTACHMENT B

PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP

HISTORY

NEED ESTABLISHED	Mound,	March 1986
FIRST MEETING	Sandia Livermore,	November 1986
CHARTER MEETING	Oak Ridge Y-12,	May 19, 1987
INTERIM MEETING	Savannah River,	February 24, 1988
FIRST IMOG MEETING	GE Pinellas,	November 8, 1988
SECOND IMOG MEETING	Kansas City,	September 19, 1989
NEXT IMOG MEETING	Rocky Flats,	June, 1990
TENTATIVE MEETING	Sandia Albuquerque,	March, 1991

ATTACHMENT C

CHARTER

PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP

OF THE

INTERAGENCY MANUFACTURING OPERATIONS GROUP

The Process Automation & Control Technology Subgroup is under the sponsorship of the Interagency Manufacturing Operations Group for the purpose of implementing an active test, measurement, control, and instrumentation technology information exchange vehicle within the weapons complex.

The goals of the subgroup are:

1. To facilitate process automation and control technology hardware and software personnel in becoming more knowledgeable in the automation technology field so that appropriate automation and control techniques and best practices can be effectively applied to the maximum extent practicable throughout the weapons complex.

2. To focus upon the issues of automation technology as applied to testing, measurement, and control within the production and laboratory facilities; such as procurement, standards, training, networking, documentation, security, and safety.

3. To take the lead role in identifying new developments as related to these issues.

4. To assure that these developments are communicated to the weapons complex in an appropriate manner; such as reports, video tapes, and electronic mail.

The subgroup shall include at least one Facility Representative from each of the integrated weapons contractors.* The designated Facility Representative will be the focal point for all communications between the subgroup and the facility. The Facility Representatives, by mutual agreement among themselves, and with the concurrence of the Interagency Manufacturing Operations Group Steering Committee, will determine the goals and activities of the subgroup and the manner in which they will be accomplished.

**NOTE: The integrated weapons contractors are those determined by the IMOG Steering Committee to be eligible for IMOG membership.*

ATTATCHMENT C

CHARTER TO BE CONSIDERED AT NEXT MEETING

PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP (PACTS)

OF THE
INTERAGENCY MANUFACTURING OPERATIONS GROUP (IMOG)

PURPOSE

The IMOG Subgroup on Process Automation & Control Technology is established to encourage, coordinate, and take the lead in exchanging information within the DOE weapons complex for the automation of test, measurement, control, and instrument equipment as applied to production and laboratory processes.

The Process Automation & Control Technology Subgroup is established by the IMOG Steering Committee to expedite the exchange and/or transfer of technical information, ideas and views among the design and production agencies; particularly concerning standards, procurement, training, networking, documentation, quality, security, and safety.

SUBGROUP FUNCTIONS

1. Hold periodic meetings, approximately every nine months, to discuss technical information on process automation and control. These meetings will be rotated among the participating agency sites as decided by the members.

2. Publish minutes of all the PACTS meetings and disseminate technical data. Publish an updated list of process automation and control contacts from each of the participating agency sites.

3. Encourage all members to participate actively in Subgroup meetings by presenting papers and talks.

4. Maintain liaison with other IMOG and JOWOG Subgroups and appropriate agencies.

SCOPE

To encompass disciplines that are used to advance automatic control techniques and to identify solutions to concerns of mutual interest. This will include, but is not limited to, the following:

- Interfacing automatic process equipment to sensors, measuring instruments, actuators, and display units.

- Techniques and equipment for transmitting process and design data throughout the production or laboratory organization in an accurate, secure, and controlled manner.

- Evaluation of national consensus automation standards and their potential impact on the weapons complex. Recommendations to member agency sites concerning the adoption of these standards.

- Identification and evaluation of quality requirements as applied to process automation.

- Sharing of information on commercial process control equipment in order to identify mutual concerns and solutions.

ACTIVITIES

Specific activities of the IMOG PACTS shall include the following:

- Report on the capabilities, design , and performance of new and existing process control systems, data networks, and associated equipment.

- Exchange information, standards, procedures, and specifications on automation and other appropriate equipment to eliminate duplication of effort.

- Communicate information to vendors and others in the weapons complex related to concerns with proposed equipment, standards, or process control techniques.

- Report on areas closely related to or which impact the general area of process automation and control technology.

MEMBERSHIP

- The group shall include at least one Facility Representative from each of the integrated weapons contractors. The designated Facility Representative will be the focal point for all communications between the group and the facility.

- Each facility should appoint an Alternate Facility Representative to attend the meetings and to represent the Facility Representative in his absence.

ORGANIZATION

- The Chairman is the official officer of the Process Automation & Control Technology Subgroup. His term shall be for approximately two years and shall include approximately three meetings. He shall be elected by a majority vote of those attending the last meeting of the outgoing Chairman.

- The Facility Representative of the site at which each meeting is held is the Host of that meeting and responsible for arranging the meeting, the agenda, and publishing the results.

CHARTER APPROVAL AND AMENDMENT

- The charter may be amended by a majority vote of the Facility Representatives of the Subgroup and concurrence by the IMOG Steering Committee.

INTERAGENCY MANUFACTURING OPERATIONS GROUP ATTACHMENT D
PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP MEMBERSHIP

Representative	Alternate
Allied-Signal Kansas City Division	
Bill D. Plant MS D/871 (MC45) PO Box 1159 Kansas City, MO 64141-6159 FTS 997-4775 (816)997-4775	Mike Rimmer MS D/871 (MC45) PO Box 1159 Kansas City, MO 64141-6159 FTS 997-4764 (816)997-4764
Westinghouse Savannah River Company	
Robert R. Butterworth Building 730-A Savannah River Site Aiken, SC 29808 FTS 239-3583 (803)725-3583	Neil A. Johnson Building 704-F Savannah River Site Aiken, SC 29808 FTS 237-4305 (803)557-4305
Sandia National Laboratory Livermore	
Jim E. Hopwood Sandia National Laboratories 8284-2 PO Box 969 Livermore, CA 94551-0969 FTS 234-2165	To Be Determined
Sandia National Laboratory Albuquerque	
John Marcon, Jr. Sandia National Laboratories PO Box 5800, Div #2313 Albuquerque, NM 87185 FTS 844-3164 (505)844-3164	To Be Determined
Mason & Hanger, Pantex Plant	
Mike L. Dworzack Mason & Hanger, Pantex Plant PO Box 30020, MS 12-6 Amarillo, TX 79177 FTS 477-4058 (806)381-4058	Nancy L. Webster Mason & Hanger, Pantex Plant PO Box 30020, MS-Sys 12-106 Amarillo, TX 79177 FTS 477-3635 (806)381-3635

General Electric Pinellas

Dean Herrig
GE Aerospace
PO Box 2908, MS023
Largo, FL 34649-2908

FTS 848-8402
(813)541-8402

John Howell
GE Aerospace
PO BOX 2908, MS023
Largo, FL 34649-2908

FTS 848-8688
(813)541-8402

Martin Marietta Energy Systems, Inc. Y-12 Plant

Gary L. Bowers
Martin Marietta Energy Sys
PO Box 2009
Oak Ridge, TN 37831-8084

FTS 626-0919
(615)574-0919

Kenneth Kaiser
Martin Marietta Energy Sys
PO Box 2009
Oak Ridge, TN 37831-8084

FTS 626-2742
(615)576-2742

EG&G Mound

Wayne E. Kesling
EG&G Mound Applied Tech.
Mound Road, CDS-1
Miamisburg, OH 45352

FTS 774-3265
(513)865-3265

Jim Lindesmith
EG&G Mound Applied Tech.
Mound Road, A-152
Miamisburg, OH 45352

FTS 774-4095
(513)865-4095

EG&G Rocky Flats

Thomas A. Hughes
EG&G
PO Box 464, Bldg 881
Golden, CO 80401

FTS None
(303)966-5282

Roger Ballenger
EG&G
PO Box 464, Bldg 881
Golden, CO 80401

FTS None
(303)966-5255

David W. Rotherham
EG&G
PO Box 464, Bldg 850
Golden, CO 80401

FTS None
(303)966-7172

Lawrence Livermore National Laboratory

To Be Determined	To Be Determined

Los Alamos National Laboratory

To Be Determined	To Be Determined

Idaho National Engineering Laboratory

Carl Yrene EG&G Idaho Inc. PO Box 1625 Idaho Falls, ID 83415	Don Brown EG&G Idaho Inc. PO Box 1625 Idaho Falls, ID 83415
FTS ? ?	FTS 583-9506 (208)526-9506

ATTACHMENT E

THE CURRENT STORY AT ROCKY FLATS

At the IMOG Steering Committee Meeting November 29, 1989 in Kansas City Ken Ferrara of Rocky Flats passed on the following items:

o On August 1 a Denver Grand Jury started what is expected to be a 6 to 9 month investigation of the Rocky Flats operation to determine if any environmental, or other, laws have been violated. The FBI has turned over the 600,000 pages of records it collected and some employees have been called to testify. At this point the Grand Jury seems to be just collecting data. Rocky Flats has asked the Grand Jury for on-going status if anything which might affect operations is found. The Grand Jury agreed, but so far has passed on nothing.

o All four original February FBI allegations against Rocky Flats have been dismissed by a judge, based on no basis in fact. Most of the allegations were the result of charges made by a former employee who was laid off in a force reduction. Apparently he based his charges on rumors, suppositions, or quesses.

o The counter-charges made by Rockwell against DOE have been dismissed, but Rockwell may appeal.

o The new DOE contract with EG&G calls for the first year to be at cost plus fixed fee. ie: it is not an incentive contract. Although the exact terms will not be known until EG&G takes over in January, rumor at Rocky Flats has it that the fixed fee is about three times the maximum incentive allowed Rockwell.

o EG&G is replacing the Rockwell Plant Manager and adding three assistant plant managers (new position). All other supervision and organization remains unchanged.

o Admiral Barr and Sterostechi have spent the last two weeks in Rocky Flats reviewing the Safety Analysis Review (SAR) system and are to report to Admiral Watkins today, December 1. It was not clear whether he was to receive their report at Rocky Flats or in Denver at a press conference.

o As part of the turnover from Rockwell to EGG it is a DOE requirement that all SNM be inventoried. To accomplish this before January 1, 1990 (turnover date) Rocky Flats scheduled and shutdown all plutonium facilities (Plutonium Manufacturing and Plutonium Recovery) in October/November. They are now under a DOE restart requirement that they write the philosophy behind a safe restart and compare each procedure, etc. against OSHA, NRC, and DOE regulations to be sure they are in compliance with all rules. In addition the Safety Program Manager is to establish a pro-active safety system, ie: training, etc.

o As a result of the Tiger Team review in December 1988, all Nuclear Facility Operation Manuals are being rewritten to conform to NRC rules (NQA-1, etc.) and an extra shift has been added to cover people off for training.

o A limit on the volume of hazardous waste allowed on the Rocky Flats site has been set by the state of Colorado. In the past Rocky Flats sent their waste to the Idaho National Engineering Laboratory, but the Idaho governor prohibited that in September. As a result, the volume limit was hit in November, but Rocky Flats has compacted their waste to the point they recovered enough volume to keep operating until June 1990.

o Approximately 40% of Rocky Flats operations are directly tied into plutonium operations. Rocky Flats has 6000 employees.

IMOG STEERING COMMITTEE MEMBERS

DISTRIBUTION:

J. K. S. Walter, Jr.
Dept 7480
Sandia National Laboratories
PO Box 5800
Albuquerque, NM 87185

W. G. (Gary) Cooper
MS D/800 (2A42)
Allied-Signal Aerospace Company
Kansas City Division
PO Box 419159
Kansas City, MO 64141-6159

Steve Patterson
Lawrence Livermore National Laboratory
PO Box 808/L-332
Livermore, CA 94550

Dan Miller
Los Alamos National Laboratory
PO Box 1663/D472
Los Alamos, NM 87545

Roger Baroody
Sandia National Laboratories
PO Box 969, Dept 8280
Livermore, CA 94550

George Pappas
US Dept Of Energy
Albuquerque Operations Office
PO Box 5400
Albuquerque, NM 87122

Ray Taylor
Mason & Hanger, Pantex Plant
PO Box 30020
Amarillo, TX 79177

Mike Green
Bldg 235-H
Westinghouse Savannah River Company
Savannah River Site
Aiken, SC 29808

Fred Jones
Martin-Marietta
Y-12 Plant
PO Box Y
Oak Ridge, TN 37831

Norman DeMeza
General Electric Aerospace
PO Box 2908 MS017
Largo, FL 34294-2908

William H. Jones
EG&G Mound Applied Technologies
PO Box 3000 MS COS-4
Miamisburg, OH 45343-0987

David M. Woodall
EG&G Idaho, Inc.
PO Box 1625
Idaho Falls, ID 83415

Kenneth Ferrera
EG&G Rocky Flats
PO Box 464
Golden, CO 80402

INTERAGENCY MANUFACTURING OPERATIONS GROUP
PROCESS AUTOMATION & CONTROL TECHNOLOGY SUBGROUP MEMBERSHIP

Representative	Alternate
Allied-Signal Kansas City Division	
Bill D. Plant MS D/871 (MC45) PO Box 1159 Kansas City, MO 64141-6159 FTS 997-4775 (816)997-4775	Mike Rimmer MS D/871 (MC45) PO Box 1159 Kansas City, MO 64141-6159 FTS 997-4764 (816)997-4764
Westinghouse Savannah River Company	
Robert R. Butterworth Building 730-A Savannah River Site Aiken, SC 29808 FTS 239-3583 (803)725-3583	Neil A. Johnson Building 704-F Savannah River Site Aiken, SC 29808 FTS 237-4305 (803)557-4305
Sandia National Laboratory Livermore	
Jim E. Hopwood Sandia National Laboratories 8284-2 PO Box 969 Livermore, CA 94551-0969 FTS 234-2165	To Be Determined
Sandia National Laboratory Albuquerque	
John Marcon, Jr. Sandia National Laboratories PO Box 5800, Div #2313 Albuquerque, NM 87185 FTS 844-3164 (505)844-3164	To Be Determined
Mason & Hanger, Pantex Plant	
Mike L. Dworzack Mason & Hanger, Pantex Plant PO Box 30020, MS 12-6 Amarillo, TX 79177 FTS 477-4058 (806)381-4058	Nancy L. Webster Mason & Hanger, Pantex Plant PO Box 30020, MS-Sys 12-106 Amarillo, TX 79177 FTS 477-3635 (806)381-3635

General Electric Pinellas

Dean Herrig
GE Aerospace
PO Box 2908, MS023
Largo, FL 34649-2908

FTS 848-8402
(813)541-8402

John Howell
GE Aerospace
PO BOX 2908, MS023
Largo, FL 34649-2908

FTS 848-8688
(813)541-8402

Martin Marietta Energy Systems, Inc. Y-12 Plant

Gary L. Bowers
Martin Marietta Energy Sys
PO Box 2009
Oak Ridge, TN 37831-8084

FTS 624-0919
(615)574-0919

Kenneth Kaiser
Martin Marietta Energy Sys
PO Box 2009
Oak Ridge, TN 37831-8084

FTS 626-2742
(615)576-2742

EG&G Mound

Wayne E. Kesling
EG&G Mound Applied Tech.
Mound Road, COS-1
Miamisburg, OH 45352-3000

FTS 774-3265
(513)865-3265

Jim Lindesmith
EG&G Mound Applied Tech.
Mound Road, A-152
Miamisburg, OH 45352-3000

FTS 774-4095
(513)865-4095

EG&G Rocky Flats

Thomas A. Hughes
EG&G
PO Box 464, Bldg 130
Golden, CO 80401

FTS None
(303)966-5282

Roger Ballenger
EG&G
PO Box 464, Bldg 881
Golden, CO 80401

FTS None
(303)966-5255

David W. Rotherham
EG&G
PO Box 464, Bldg 850
Golden, CO 80401

FTS None
(303)966-7172

Lawrence Livermore National Laboratory

To Be Determined

To Be Determined

Los Alamos National Laboratory

To Be Determined

To Be Determined

Idaho National Engineering Laboratory

Carl Yrene
EG&G Idaho Inc.
PO Box 1625
Idaho Falls, ID 83415

FTS 583-0492
(208)526-0492

Don Brown
EG&G Idaho Inc.
PO Box 1625
Idaho Falls, ID 83415

FTS 583-9506
(208)526-9506