

JAN 11 1983

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WMHL: 3109.1  
3001.4

MEMORANDUM FOR: Robert E. Browning, Deputy Director  
Division of Waste Management

FROM: Michael J. Bell, Chief  
High-Level Waste Licensing  
Management Branch  
Division of Waste Management

SUBJECT: TRIP REPORT - MEETING OF DWPF/REPOSITORIES INTERSITE  
COORDINATION GROUP, OCTOBER 13, 1982

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 (Return to WM, 623-SS)

On October 13, 1982, I attended the organizational meeting of the DWPF/Repositories Intersite Coordination Group in Atlanta, Georgia. The group was set up by DOE to define requirements for DWPF waste form acceptance in deep geologic repositories, and is chaired by E. J. Hennelly, SRL. A meeting agenda and a list of attendees is attached.

The primary purpose of the meeting was to exchange information on schedules, organizations, plans, and lines of communication. J. Crandall, SRL, described the schedule for the DWPF program and C. McPheeters, ANL, described the organization, plans, schedules and status of the Materials Characterization Organization and the role of the newly formed Materials Integration Office at ANL. A copy of Mr. McPheeters' handouts is enclosed.

A major problem this group faces is how to conduct integrated tests on waste form and package performance given the division of responsibilities between the DWPF project, who will produce the waste form, and the repository site projects, who are responsible for the overall package design and its performance in the repository environment. SRL intends to conduct tests to determine leach rate of their waste form in specific repository environments. They are looking to the sites to provide them samples of host rock, to specify groundwater composition, and to specify the environmental conditions for the tests. On the other hand, the sites must perform tests of canister/overpack corrosion rates and backfill performance, and they are looking to SRL to define the glass frit composition and the waste characteristics. It was stated that no one is providing this information on the waste form for commercial high level waste.

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A concern was expressed by the group over the schedule for the Materials Characterization Center (MCC) to develop an integrated test procedure. MCC is not scheduled to develop an integrated package test procedure until 1986; however, SRL and the sites are directed to begin such tests in FY 1983. There was concern that if the test procedures used in 1983 differed from the later MCC procedure, NRC would not accept the test data for licensing. I stated that the MCC procedures were only intended to be one acceptable way of meeting NRC's data requirements and that if other procedures were used, NRC would review them on their own merits. The group was interested in the current status of the Part 60 technical criteria and I informed them we expected the Commission to begin to consider the criteria within the next few weeks and we were planning on publication by early 1983.

There was some discussion of the need for cost/benefit calculations on design decisions affecting DWPF and of how costs should be allocated to defense wastes placed in a commercial repository. I stated that NRC believed there was a need for a cost/benefit analysis of the overall system, since DWPF might be making decisions, such as waste form, that could affect overall repository costs. SRL stated that they believed this was unlikely, since their wastes would occupy only about 3% of a repository (60 acres out of a total of 2000).

The next meeting of the group is tentatively planned for February, 1983.

Original Signed by  
**MICHAEL J. BELL**  
 Michael J. Bell, Chief  
 High-Level Waste Licensing  
 Management Branch  
 Division of Waste Management

Enclosures:  
 As stated

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AGENDA  
DWPF/REPOSITORIES INTERSITE COORDINATION GROUP  
OCTOBER 13, 1982  
ATLANTA AIRPORT HILTON HOTEL  
CHEROKEE ROOM  
ATLANTA, GEORGIA

10:00	Opening Remarks	E. J. Hennelly
10:15	DWPF - Repository Schedules	J. L. Crandall
10:30	Status and Summary of DWPF/Repositories Test Programs, SRL	J. M. Plodinec
11:15	Role of MIO/MRB/MCC	J. C. Haugen
	<ul style="list-style-type: none"><li>• Coordination with Intersite Activities</li><li>• Scheduling Difficulties/Deadlines</li></ul>	
12:00	HOSTED WORKING LUNCH	
13:00	Major Unresolved Issues	All Participants
	<ul style="list-style-type: none"><li>• Cost Benefit - DWPF/Repositories</li><li>• Cost Allocation of DWPF Waste Forms in Repository</li></ul>	
14:00	Intersite Communication and Coordination Problems	All Participants
	<ul style="list-style-type: none"><li>• Communications</li><li>• Funding</li><li>• Scheduling</li></ul>	
15:00	Regulatory Activities:	
	<ul style="list-style-type: none"><li>• N/DFT-35 - ONWI</li><li>• The Role of DOE Specs</li><li>• Impact of 10 CFR-60</li><li>• Impact of National HLW Legislation</li></ul>	S. J. Basham All Participants All Participants All Participants
15:30	Summation	E. J. Hennelly
16:00	Adjourn	

# attendees

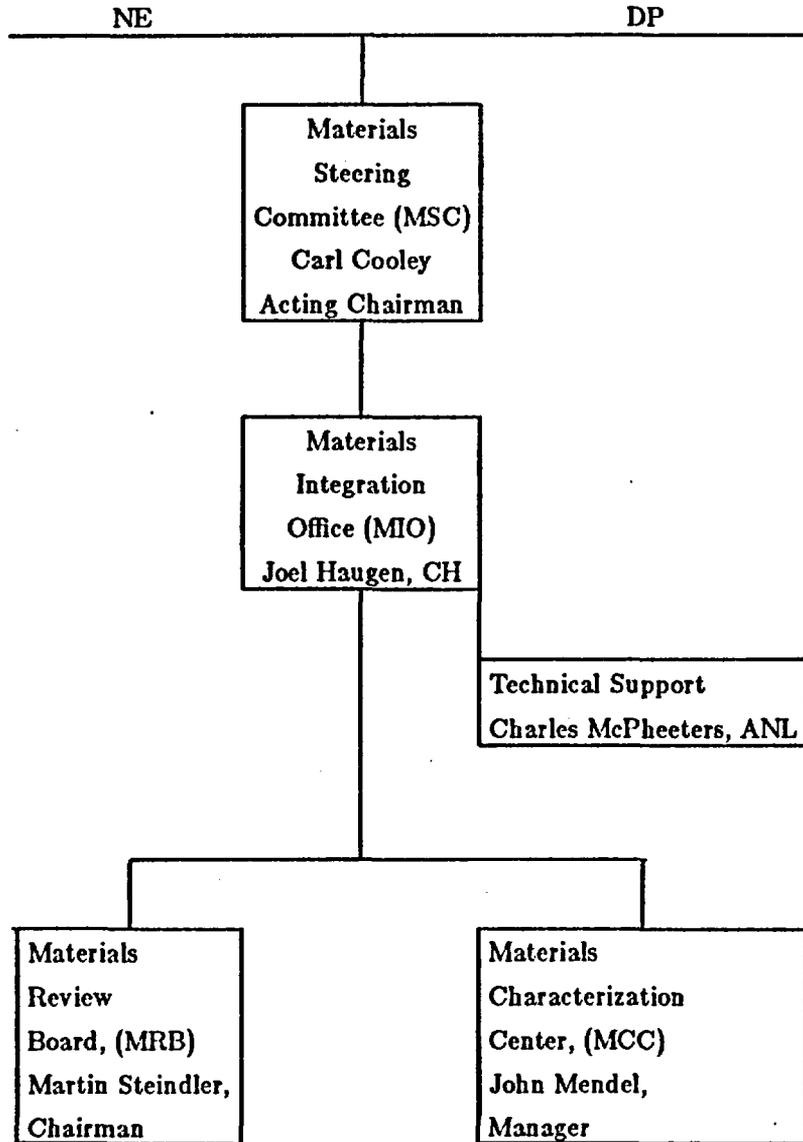
<u>Name</u>	<u>Organization</u>	<u>Phone No.</u>
JOEL HAUGEN	U.S. DOE	972-2093
SAM BASHAM	BATTELLE-ONWI	976-4173
Art Bauer	Battelle-ONI	976-4825
Paul O'Brien	SNLA/MNCOSI	844-4284
John Phodinec	SRL	FTS 239-2170
Don Fulmer	DOE-SR	239-2292
Bruce Wilson	DOE-SR	239-3915
V.M. Onvsky	LLNL	543-2228
PF Seltzer	BWIP	FTS-440-4000
Jack Crandall	SRL	239-3701
E.J. Honnelly	SRL	239-2828
W.R. Cornman	SRL	239-3808
Mildred Bell	NRC	427-4173
C.C. McPheeters	ANL - MID	FTS 972-4533

**DWPF/REPOSITORIES  
INTERSITE COORDINATION GROUP**

**ROLE OF THE MATERIALS INTEGRATION  
OFFICE (MIO)**

**October 13, 1982**

**MATERIALS CHARACTERIZATION ORGANIZATION, (MCO)**



## MATERIALS INTEGRATION OFFICE CHARTER SUMMARY

### I. OBJECTIVE.

Coordination of MCC and MRB activities with NE and DP programs. Integrated program guidance to MCC and MRB.

### II. AUTHORITY.

March 22, 1982 Memorandum, Coffman and Oertel to Bauer, CH.

### III. ORGANIZATION.

Centered at CH; MIO Program Manager, J. Haugen, CH; Contractor Support, C. McPheeters, ANL.

### IV. INTERFACES.

Directly with NE, DP, MSC, MCC, MRB, and Project/Program Offices. Support contractor interfaces directly with Project/ Programs.

### V. FUNCTIONS.

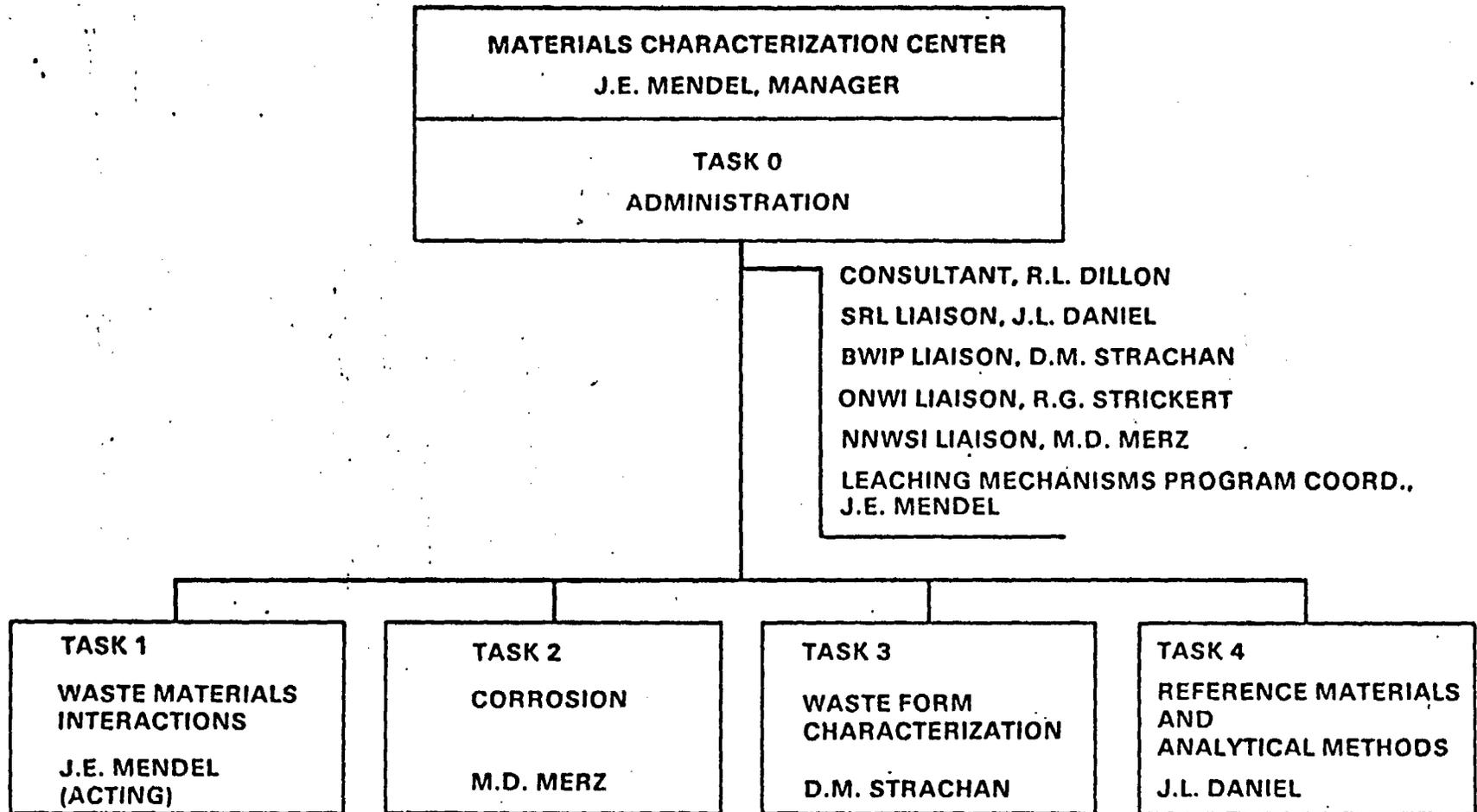
Decentralized program manager for MRB and MCC. Integrate MCC/MRB schedules and priorities with needs identified by Project/Program Offices. Development and review of MCC and MRB program plans, budgets, schedules and milestones. Program overview of MCC and MRB to assure that milestones are met and MCO objectives are accomplished. Provide DOE approval for publication of approved procedures and data.

### VI. DOCUMENTATION.

Budgets, milestones, schedules, program plans, priorities and supporting data.

### VII. FUNDING.

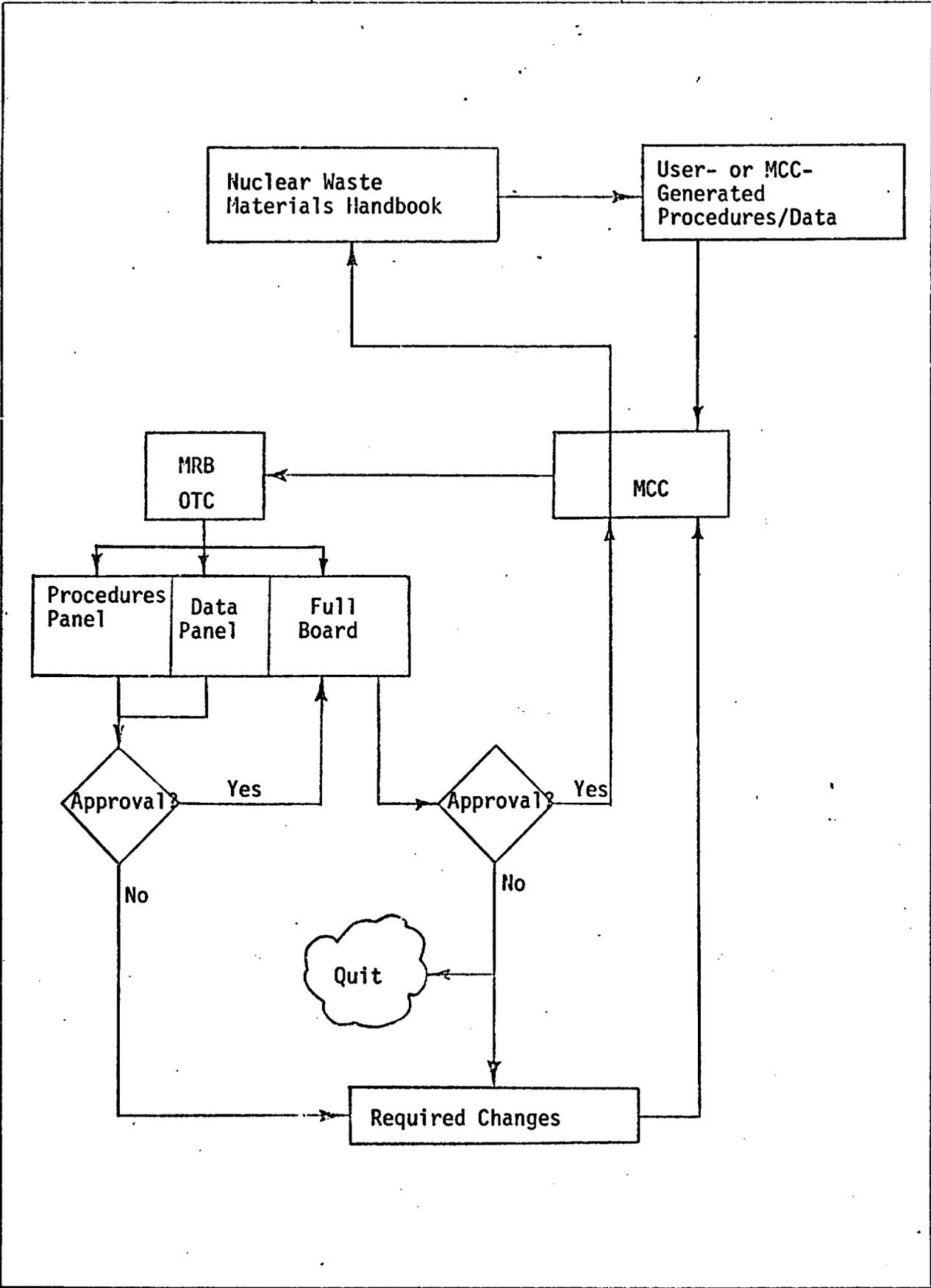
To CH by NE and DP, allocation recommended by MIO for HQ distribution to MCC through RL and to MRB through CH.



**MATERIALS REVIEW BOARD**  
**M. Steindler, ANL, Chairman**

	Procedures Panel	Data Panel
Institutional Representatives	T. Negas, NBS M. Bell, NRC J. Mendel, MCC M. Steindler, ANL  G. Wicks, SRL J. Harrar, LLNL W. Schulz, RHO R. Westerman, PNL F. Zurey, RI-RFP	T. Negas, NBS M. Bell, NRC J. Mendel, MCC M. Steindler, ANL  J. Berreth, Exxon W. Lackey, ORNL D. Moak, ONWI
	<b>Usassigned*</b>  ? _____, BWIP  ? _____, LLNL	
Individual Experts from Universities	R. Coble, MIT H. Birnbaum, Ill. D. Runnells, Colo.	W. Gerberich, Minn R. Clayton, Chicago
Individual Experts from Industry		J. Burke, Consultant G. Maczura, Alcoa S. Coburn, U.S. Steel

\*Institutional Representatives from Repository Sites.





MAJOR MEASURABLE MILESTONES FY 1983-1989  
NUCLEAR WASTE MATERIALS CHARACTERIZATION CENTER

WBS Element/Milestone	FY 1983				FY 1984				FY 1985				FY 1986				FY 1987				FY 1988				FY 1989				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
<u>00 - Administration</u>	A								G								D												
A - Issue Revised Program Plan (in conjunction with MIO)																													
B - Bimonthly Review with OTC-MRB and MIO of Schedule and Status of Submissions																													
C - Periodic Updating of PNL-3990 and Nuclear Waste Materials Handbook to Achieve Integrated Data Base on Waste Package Materials																													
D - Periodic Updating of Nuclear Waste Materials Handbook to Achieve Data Base for Use in Licensing Waste Package Materials																													
<u>01 - Waste Materials Interactions</u>	A	B	C	D	E	F	G	H																					
A - Hold Interactions Testing Workshop																													
B - Publish Summary of Interactions Testing Workshop																													
C - Submit Draft MCC-14 for Peer Review																													
D - Submit MCC-14 to MRB																													
E - Publish Progress Report on Codification of Interactions Testing																													
F - Issue Progress Report on Documentation of Radionuclide Solubility at High Temperatures																													
G - Submit MCC-14 to MRB for Full Approval																													
H - Issue Final Report on Documentation of Radionuclide Solubility at Higher Temperatures.																													

*Seattle, Nov*

MAJOR MEASURABLE MILESTONES FY 1983-1989

NUCLEAR WASTE MATERIALS CHARACTERIZATION CENTER

WBS Element/Milestone	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
<b>02 - Corrosion</b>	AB C DE	E	H		H		
A - Workshop on Corrosion Test Methods							
B - Issue Draft of Site-Specific Reference Solutions and Recommended Preparation Methods for Corrosion Testing							
C - Workshop on Special Issues of Stress Corrosion Testing							
D - Circulate Draft of MCC-105 for Comment							
E - Submit MCC-105 to MRB							
F - Publish Progress Report on Codification of Corrosion Tests for Prediction of Long Term Behavior in Repository Environment.							
G - Submit MCC-105 to MRB for Full Approval							
H - Continuing Review of Data Submissions and Performance Testing as Required to Achieve Integrated Data Base on Corrosion of Metallic Barriers in Repository Environment							
<b>03 - Waste Form Characterization</b>	A B	C DE	E G				
A - Submit MCC-1(R), MCC-3, MCC-4, and MCC-12 to MRB							
B - Submit Package of Leach Data on SRL and LLNL Waste Forms							
C - Submit MCC-8 and MCC-9 to MRB							
D - Submit MCC-1 to MRB for Full Approval							
E - Submit MCC-2, MCC-3, and MCC-4 to MRB for Full Approval							



STATUS OF MCC TEST METHODS AT BEGINNING OF FY 1983

Test Method	Title	Status
MCC-1	Static Leach Test	{ Final approved versions as provisional procedures printed and distributed.
MCC-2	Static, High-Temperature Leach Test	
MCC-6	Preparation and Characterization of Actinide-Doped Waste Forms	
MCC-11	Tensile Strength Test	{ Reviewed by Procedures Panel and Returned to MCC for revision.
MCC-3	Agitated Powder Leach Test	
MCC-4	Low-Flow-Rate Leach Test Method	{ Reviewed by OTC and returned to MCC for revision
MCC-5	Soxhlet Leach Test	
MCC-7	Recommended Practice for Testing Phase Stability	
MCC-8	High Temperature Vaporization Test	
MCC-9	Thermal Gas Generation Test	
MCC-10	Brittle-Materials Impact Test	{ Revision submitted to OTC. Next Action: Review by OTC.
MCC-12	Test Method for Determining Density Changes in Actinide- Doped Waste Glass	
MCC-14*	Waste Package Interactions Test Methods	{ Work started. Informa- tion gathered and pre- liminary test-method development.
MCC-101	Unstressed, Static, Immersion, Corrosion Test Method	{ Initial Submission to OTC: Next Action: Review by OTC.
MCC-102	Unstressed, Flowing, Immersion, Corrosion Test Method	
MCC-104	Stress Corrosion Cracking Rate Tension Test Method	
MCC-103	Stress-Corrosion-Cracking Susceptibility Test Method (Revision)	{ Approved provisionally by Procedures Panel. Revision submitted to OTC. Next Action: Submission to Board.
MCC-105*	Accelerated Corrosion Test Method	{ Work started. Informa- tion gathered and Initial Method Development.

\*May require separate test methods for separate repository conditions.