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8/26/92

Surveillance Report
HQ-SR-92-06
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U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF QUALITY ASSURANCE

SURVEILLANCE REPORT OF
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE (YMPO)
LAS VEGAS, NEVADA

SURVEILLANCE NO. HQ-SR-92-06

JUNE 22-24, 1992

IMPLEMENTATION OF DOCUMENT CHANGE PROPOSAL (DCP) 56
INTERIM APPROACH FOR THE TECHNICAL BASELINE

Prepared by: RD emmie Brown for TER
Thomas E. Rodgers
Surveillance Team Leader
Headquarters Quality Assurance Division

Date: 7/20/92

Approved By: R. W. Horton
for Donald G. Horton
Director
Office of Quality Assurance

Date: 3/21/92

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1.0 EXECUTIVE SUMMARY

Surveillance HQ-SR-92-06 was conducted to evaluate the flowdown of top level requirements from the Waste Management System Requirements Document (WMSR), Volumes I & IV, into the Project Level technical baseline documents. As the entire OCRWM technical baseline is being revised, Document Change Proposal (DCP) 56, Interim Approach for the Technical Baseline allows design and construction at the Yucca Mountain Site Characterization Project Office (YMPO) to proceed using the existing WMSR requirements. Therefore, it is essential that existing requirements flowdown. The surveillance was conducted at the Yucca Mountain Site Characterization Project Office (YMPO) in Las Vegas, Nevada from June 22-24, 1992. The surveillance team consisted of personnel from the Headquarters Quality Assurance Division (HQAD), the Yucca Mountain Quality Assurance Division (YMQAD), and the Systems Engineering Branch, RW-321. It was determined that adequate flowdown existed for those requirements directly related to waste isolation and safety as defined by the Code of Federal Regulations, Title 10, Part 60 (10CFR60). However, a Corrective Action Request (CAR) was issued to identify that lessor requirements were not reflected in the Project Level baseline documents. An information copy of the CAR is enclosed as Attachment 1. Three recommendations to enhance requirement traceability were made for management consideration.

2.0 SCOPE

Surveillance HQ-SR-92-06 was conducted to evaluate the implementation of DCP 56, Interim Approach for the Technical Baseline, as related to the Project Level technical baseline documents. Specifically, the flowdown of WMSR Volume I and IV requirements into Project Level documents was evaluated for:

- a) Yucca Mountain Mined Geologic Disposal System Requirements (YM MGDS SR) document YMP/CC-0010, Rev. 0
- b) Exploratory Studies Facility Design Requirements (ESFDR) document YMP/CC-0013, 7/29/91
- c) Section III - Mined Geologic Disposal System Requirements (YM MGDS SR) included in the Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing document, YMP/CM-0007, Rev. 6
- d) Section VI - Surface-Based Testing Facilities Requirements Document (SBTFRD) included in the Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing document, YMP/CM-0007, Rev. 6

Requirements flowdown was not evaluated for the Yucca Mountain Mined Geologic Disposal Repository Design Requirements (YM MGDS RDR) document YMP/CC-0011, Rev. 0 or the Waste Package Design Requirements (WPDR) document because they are still in the preliminary development stage, and no substantial design work has been performed at this time, other than ESF and SBT work.

The effectiveness of the Quality Management Procedure QMP-06-04 review process was also evaluated for all of the above documents, with the exception of the WPDR that remained in draft form at the time of the surveillance.

The surveillance team used checklists based on the requirements of the following documents: DCP 56, Interim Approach for the Technical Baseline, dated 2/6/92; WMSR, Volumes I & IV, Rev. 2, dated February, 1992; and QMP-06-04, Rev. 4, dated 5/6/92.

3.0 SURVEILLANCE TEAM

The surveillance team consisted of the following personnel:

Thomas Rodgers	HQAD	Surveillance Team Leader
Frank Kratzinger	YMQAD	Surveillance Team Member
Mark Senderling	DOE, RW-321	Technical Specialist
Markus Popa	DOE, RW-321	Observer

4.0 PERSONNEL CONTACTED DURING THE SURVEILLANCE

The following personnel were contacted during the course of the surveillance:

Mack Abhold, TRW/M&O, Site Specialist
Mirna Aleman, REECO, Administration
Steve Bodnar, TRW/M&O, Requirements Manager
Paul Chadwick, SAIC, Training Manager
Edward Cikanek, M&O/MK, Senior Engineer
Robert Constable, DOE/YMPO, Quality Assurance Engineer
Kenneth Elder, DOE/YMPO, General Engineer
Jim Gardiner, DOE/YMPO, ESF Branch Chief
Susan Jones, DOE YMPO, Regulatory Interactions Branch Chief
Raymond Mele, Weston, Engineering Task Manager
Jim Replogle, DOE/YMPO, General Engineer
Teresa Roberts, TRW/M&O, Records Specialist

Dennis Royer, DOE/YMPO, Acting Systems Branch Chief
Joe Rue, RSN, Training Coordinator
Ralph Schneider, SAIC, Senior Engineer
Susan Stonebraker, TOPS, Document Control Coordinator
Dean Stucker, DOE/RW-22, Senior Engineer
Mary Thompson, TRW/M&O, Configuration Control
Bernard Verne, DOE/YMPO, General Engineer
Charles Warren, YMQAD/MACTEC, Quality Assurance Engineer
Suzette Wheeler, TRW/M&O, Records Management Liaison

5.0 SURVEILLANCE RESULTS

5.1 Traceability of Requirements Flowdown

To ensure requirements were traceable from the upper-level requirements document to the lower-level documents, matrices were developed that considered a 100% sample of the requirements governing RW-20 activities in the areas of MGDS, ESF and SBT. This methodology was used to evaluate the following sets of documents (upper-level document/lower-level document):

- a) WMSR, Volume IV (DOE/RW-0268, Rev. 2)/YM MGDS SR (YMP/CC-0010, Rev. 0)
- b) YM MGDS SR (YMP/CC-0010, Rev. 0)/ESFDR (YMP/CC-0013, 7/29/91)
- c) WMSR, Volume IV (DOE/RW-0268, Rev. 2)/YM MGDS SR (YMP/CM-0007, Rev.6)
- d) YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD (YMP/CM-0007, Rev. 6)

Detailed results of this evaluation are contained in Attachment 2. It was determined that adequate flowdown existed for those requirements directly related to waste isolation and safety as defined by 10CFR60. However, CAR HQ-92-012 was issued to identify lessor requirements for which traceability could not be demonstrated. An information copy of the CAR is enclosed as Attachment 1.

5.2 QMP-06-04 Document Reviews

The surveillance team evaluated Document Review Sheets (DRS) resulting from the QMP-06-04 review process, as implemented for the following procedures:

a) YM MGDS SR (YMP/CC-0010, Rev. 0)

<u>Reviewer</u>	<u>Date</u>	<u>Comments</u>	<u>Type of Review</u>
W. Wilson	3/16/91	None	Management
S. Jones	3/18/91	Resolved	Management
W. Dixon	3/8/91	None	Management
P. Karnowski	3/18/91	Resolved	QA
V. Iorii	3/14/91	Resolved	Management
E. Petrie	3/18/91	Resolved	Management

b) ESFDR (YMP/CC-0013, Rev. 1)

<u>Reviewer</u>	<u>Date</u>	<u>Comments</u>	<u>Type of Review</u>
P. Karnowski	5/29/91	None	QA
H. Adkins	5/30/91	None	Management
J. Estella	5/29/91	None	Management
S. Jones	5/29/91	Resolved	Management

c) RDR (YMP/CC-0011, Rev. 0)

<u>Reviewer</u>	<u>Date</u>	<u>Comments</u>	<u>Type of Review</u>
H. Adkins	3/19/91	Resolved	Management
P. Karnowski	3/19/91	Resolved	QA
J. Estella	3/15/91	None	Management
H. Elder	3/22/91	Resolved	Management
W. Wilson	3/12/91	None	Management
S. Jones	3/19/91	Resolved	Management

d) SBTFRD (YMP/CM-0007, Rev. 6)

<u>Reviewer</u>	<u>Date</u>	<u>Comments</u>	<u>Type of Review</u>
H. Adkins	1/24/92	None	Management
V. Iorii	1/27/92	None Received	Management
E. Petrie	1/27/92	None	Management
J. Boak	1/24/92	None	Management
A. Williams	1/24/92	None	QA
W. Wilson	1/3/92	None	Management
R. Herbst	1/27/92	None Received	Management
T. Leonard	1/24/92	None	Management
R. Schreiner	1/27/92	Received Too Late	Technical
J. Nelson	1/27/92	None Received	Management
T. Blejwas	1/24/92	None	Technical
R. Datta	1/24/92	Resolved	Technical

No technical reviews were performed against the subject documents of a) through c) above. Although technical reviews were performed against the subject document of d), the review criteria failed to address the verification of requirements flowdown. This condition is identified in CAR HQ-92-012 (see Attachment 1).

The surveillance team evaluated the personnel qualifications of the following reviewers:

<u>Name</u>	<u>Organization</u>	<u>Document Reviewed</u>	<u>Type of Review</u>
R. Schreiner	FSN	SBTFRD (YMP/CM-0007, Rev. 6)	Technical
R. Datta	M&O	SBTFRD (YMP/CM-0007, Rev. 6)	Technical
H. Adkins	SAIC	ESFDR (YMP/CC-0013, Rev. 1)	Management
H. Elder	DOE	RDR (YMP/CC-0011, Rev. 0)	Management

The qualifications of the above personnel were verified to be adequate. However, objective evidence documenting the completion of QMP-06-04 training for R. Schreiner could not be located. This condition is identified in CAR HQ-92-012 (see Attachment 1).

6.0 RECOMMENDATIONS

- 6.1 Considerable confusion exists due to the fact that two Project Level technical baseline documents currently exist that have the same name but are controlled by different document identification numbers. Specifically, the Yucca Mountain Mined Geologic Disposal System Requirements (YM MGDS SR), YMP/CC-0010, Rev. 0 document essentially contains the system requirements governing the Exploratory Studies Facility. Section III - Mined Geologic Disposal System Requirements (YM MGDS SR) of the Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing, YMP/CM-0007, Rev. 6, document is essentially the same document as the YMP/CC-0010 document with several additional requirements to cover surface-based testing. In addition to the YM MGDS SR, the YMP/CM-0007 document also contains the Yucca Mountain Mined Geologic Disposal System Description (YM MGDS SD) and the Surface-Based Testing Facility Requirements Document (SBTFRD). This approach is not consistent with the methodology presented in the Yucca Mountain Project Document Hierarchy contained in Figure 1 of the YMP/CC-0010 document. It is recommended that this document hierarchy be implemented until transition to the newly proposed technical baseline documents occurs.
- 6.2 Appendix J of the ESFDR (YMP/CC-0013, 7/29/91) contains ESF Environmental Requirements derived from Federal, State, and Local regulations. Table 1 in Appendix J illustrates the source of the requirements.
- Table 1 does not address all of the requirements contained in the body of Appendix J. Other requirements, listed in the YM MGDS SR (YMP/CC-0010, Rev. 0) document are addressed in the body of the text, but are not listed in Table 1 (e.g., Executive Order 12088, Federal Compliance of Pollution Control Standards, is addressed in section 4.0 of Appendix J, but not listed in any table/crosswalk so that it can be easily located in the document).
- For traceability, it is recommended that Table 1 be expanded to include each regulation addressed in Appendix J, and to list the location in the source document where it originated (e.g., EO 12088 is derived from the SR constraints B56).
- 6.3 The only YMPO position currently on the Headquarter's DOE distribution list for OCRWM Program Level documents is the Project Manager. It was noted that, although this individual received a copy of the WMSR, Rev. 2, additional YMPO personnel having a "need-to-know" were unaware that the WMSR document had been revised. It is recommended that the distribution list be expanded to include the YMPO organization responsible for integrating OCRWM program requirements into the YMPO technical baseline.

ATTACHMENT 1

Information Copy of Corrective Action Request

OFFICE OF CIVILIAN
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 U.S. DEPARTMENT OF ENERGY
 WASHINGTON, D.C.

¹ CAR NO. 92-012
 DATE: _____
 PAGE: 09 OF _____
 QA

CORRECTIVE ACTION REQUEST

¹ Controlling Document
 Quality Management Procedure (QMP) 06-04 Rev 4 dated 10/28/91

² Related Report No.
 HQ-SR-92-06

³ Responsible Organization
 YMPO EDD, Systems Branch

⁴ Discussed With
 Dennis C. Rover, Acting Systems Branch Chief

⁵ Requirement:
 QMP-06-04, Step 14, 1st Note requires: "When a quality related document is prepared by the YMPO under the YMPO QA Program, DOE reviewers are responsible for performing sufficient verification to assure accuracy and adequacy of the document (e.g., format, flowdown, traceability)."

⁶ Adverse Condition:
 The QMP-06-04 document review process, as implemented, did not adequately ensure that the top level WMSR Volume I and IV requirements consistently flowed down into the Project Level technical baseline documents.
 A. The following document reviews were evaluated and considered inadequate:
 A.1 One QA review and five management reviews performed against the Yucca Mountain Mined Geologic Disposal System Requirements (YM MGDS SR), YMP/CC-3010, Rev. 0, document. No technical reviews were performed. The review criteria was not expanded to include flowdown verification.

⁷ Does a significant condition adverse to quality exist? Yes No X | ⁸ Does a stop work condition exist? Yes No X ; If Yes - Attach copy of SWO | ⁹ Response Due Date: 7/14/92
 If Yes, Circle One: A B C | If Yes, Circle One: A B C D

¹⁰ Required Actions: Remedial Extent of Deficiency Prevent Recurrence Root Cause Determination

¹¹ Recommended Actions:
 A. Expand the review criteria, as appropriate, to include the "verification of requirements flowdown" when technical reviews are performed.
 B. Include the requirements for which flowdown could not be demonstrated in the next scheduled revision to the appropriate Project Level documents.
 C. Locate the required training documentation. Determine any reviews adversely impacted.

Initiator: Thomas E. Rodgers Date 7/15/92 | ¹² Issuance Approved by: [Signature] Date 7/17/92
 Thomas E. Rodgers

¹³ Response Accepted
 QAR _____ Date _____ | ¹⁴ Response Accepted
 QADD _____ Date _____

¹⁵ Amended Response Accepted
 QAR _____ Date _____ | ¹⁶ Amended Response Accepted
 QADD _____ Date _____

¹⁷ Corrective Actions Verified
 CAR _____ Date _____ | ¹⁸ Closure Approved by:
 QADD _____ Date _____

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Block 6 (cont.)

- A.2 One QA review and three management reviews performed against the Exploratory Shaft Facility Design Requirements (ESFDR), Rev. 1. No technical reviews were performed. The review criteria was not expanded to include flowdown verification.
- A.3 One QA review, eight management reviews and three technical reviews performed against Section VI - Surface-Based Testing Facilities Requirements Document (SBTFRD) included in the Technical Requirements for the Yucca Mountain Site Characterization Project Surface-Based Testing, YMP/CM-0007, Rev. 6, document. Although technical reviews were performed, the technical review criteria failed to address flowdown.

B. Flowdown of the following requirements could not be demonstrated (100% sample):

- B.1 Yucca Mountain Mineo Geologic Disposal System Requirements (YM MGDS SR), YMP/CC-0010, Rev. 0

The following requirements from the Waste Management System Requirements (WMSR), Volume IV, document, could not be found in the Yucca Mountain Mineo Geologic Disposal System Requirements (YM MGDS SR), YMP/CC-0010, Rev. 0, document:

2.2.1(3.4)	33 CFR 323
2.2.1(3.12)	42 USC 3601 (SARA)
2.2.1(5)	DOE 5400.5
2.2.1(5.2)	DOE 3790.1A DOE 5483.1A DOE 5480.7 DOE 5480.9 DOE 5480.10
2.2.1.4.1.3(2.2)	30 CFR 31.9(a) 30 CFR 35.45(b)

- B.2 Exploratory Studies Facility Design Requirements (ESFDR), YMP/CC-0013, 7/29/91

The following requirements from Yucca Mountain Mineo Geologic Disposal System Requirements (YM MGDS SR), YMP/CC-0010, Rev. 0, could not be found in the Exploratory Studies Facility Design Requirements (ESFDR), YMP/CC-0013, 7/29/91, document:

B.	40 CFR 1500-1508 DOE 5440.1C 7 CFR 658 DOE 5400.1
B.6	Nevada Runoff/Erosion Regulations
B.7	NRS 444.440-.620
B.9	7 USC 136 40 CFR 162

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Block 6 (cont.)

- | | |
|------|--|
| B.13 | DOE 5400.1 |
| B.14 | 16 USC 1241 et. seq. |
| B.15 | 16 USC 228-666D
16 USC 1221-1240 |
| C. | 33 CFR XVII
33 CFR 57
DOE 5480.11
DOE/RW-0119 |
| G. | DOE 5700.6B |
| 3.B | 10 CFR 60.15(a) |

The following requirements from WMSR, Volume IV, could not be located in the ESFDR:

- | | |
|------------------|---|
| 2.2.1(3.4) | 33 CFR 323 |
| 2.2.1(5.2) | DOE 3790.1A
DOE 5483.1A
DOE 5480.7
DOE 5480.9
DOE 5480.10 |
| 2.2.1.4.1.3(2.2) | 30 CFR 31.9(a)
30 CFR 36.45(b) |

B.3 Section III - Mined Geologic Disposal System Requirements (YM MGDS SR) included in Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing, YMP/CM-0007, Rev. 6

The following requirements from the Waste Management System Requirements (WMSR), Volume IV, document, could not be found in Section III - Mined Geologic Disposal System Requirements (YM MGDS SR) included in Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing, YMP/CM-0007, Rev. 6, document:

- | | |
|-------------|---|
| 2.2.1(3.4) | 33 CFR 323 |
| 2.2.1(3.8) | 7 USC 136 et. seq.
40 CFR 162 |
| 2.2.1(3.12) | 42 USC 9601 (SARA) |
| 2.2.1(5) | DOE 5400.5 |
| 2.2.1(5.2) | DOE 3790.1A
DOE 5483.1A
DOE 5480.7
DOE 5480.9
DOE 5480.10 |

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2.2.1(7) DOE 6430.1A

2.2.1(7.1) DOE 6430.1A

B.4 Section VI - Surface-Based Testing Facilities Requirements Document (SBTFRD) included in Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing, YMP/CM-0007, Rev. 5

The following requirements from Section III - Mined Geologic Disposal System Requirements (YM MGDS SR) included in Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing, YMP/CM-0007, Rev. 5, document could not be found in the Surface-Based Testing Facilities Requirements Document (SBTFRD):

P.C. 2.2.1(4)	DOE/RW-0214
P.C. 2.2.1(4)	DOE/RW-0215
B.	40 CFR 1500-1508 DOE 5440.1C DOE 5400.1
3.6	Nevada Runoff/Erosion Regulations
3.11	DOE 5484.1 DOE 5480.1B
3.12	DOE 5400.1
3.13	16 USC 1241 et. seq.
3.14	16 USC 665-668D 16 USC 1331-1340
C.	29 CFR XVII (other than 29 CFR 1910, 1926) DOE/RW-0119
G.	DOE 5700.6B

The following requirements from WMSR, Volume IV, could not be located in the SBTFRD:

2.2.1(5.1)	DOE 3790.1A DOE 5483.1A DOE 5480.7 DOE 5480.9 DOE 5480.10
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C. The following reviewer training could not be verified (sample size of 4):

C.1: Randolph L. Schreiner of Ratheon Services Nevada (RSN) conducted a technical review of the Surface Based Testing Facility Requirements Document (SBTFRD), Revision 6. Objective evidence documenting training to OMP-06-04 could not be located.

ATTACHMENT 2

Matrices Used to Verify Requirements Traceability

To ensure requirements were traceable from the upper-level requirements document to the lower-level documents, matrices were developed consisting of three columns: (1) the upper-level requirement number, (2) the source document from where the requirement originated, and (3) the location (i.e., page number) in the lower-level document. If the requirement was not applicable to the lower-level document (e.g., mining regulations are not applicable to surface-based testing activities), the matrix was marked N/A in the location column. If the requirement was applicable, and could not be found in the lower-level document, the matrix was marked NOT FOUND.

This methodology was used for the following sets of documents (upper level document/lower-level document):

- a) WMSR, Volume IV (DOE/RW-0268, Rev. 2)/YM MGDS SR (YMP/CC-0010, Rev. 0)
- b) YM MGDS SR (YMP/CC-0010, Rev. 0)/ESFDR (YMP/CC-0013, 7/29/91)
- c) WMSR, Volume IV (DOE/RW-0268, Rev. 2)/YM MGDS SR (YMP/CM-0007, Rev. 6)
- d) YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD (YMP/CM-0007, Rev. 6)

The YM MGDS Repository and Waste Package Design Requirements documents were not evaluated because they are still in the preliminary development stage, and no substantial design work has been performed at this time, other than ESF and SBT work.

Evaluation results are as follows:

- a) **WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix**

<u>WMSR IV #</u>	<u>Source Document</u>	<u>Location In SR Page/Section #</u>
<u>2.2.1 Manage Waste</u>		
2.2.1(1)	NWPAA, Sect.302	7, A
PC 2.2.1(1)	WMSR IV, Appendix B	N/A
2.2.1(2)	NWPAA	7, A
2.2.1(2.1)	10 CFR 60.3(b)	N/A

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1(3)	40 CFR 191	- N/A
	10 CFR 60	16, E
	42 USC 4321 et. seq.	7, B
	40 CFR 1500-1508	7, B
	DOE 5440.1C	7, B
	42 USC 6901 (RCRA)	7, B
	40 CFR 260-272	7, B
	10 CFR 962	N/A
	DOE 5400.3	N/A
	7 CFR 658	7, B
	DOE 5400.1	7, B
2.2.1(3.1)	42 USC 7401	7, B.1
	40 CFR 50	7, B.1
	40 CFR 60	7, B.1
	40 CFR 61	7, B.1
2.2.1(3.2)	42 USC 7401	7, B.1
2.2.1(3.3)	33 USC 1251, Sect. 402	8, B.3
2.2.1(3.4)	33 CFR 323	<u>NOT FOUND</u>
	33 USC 1251	8, B.3
2.2.1(3.5)	40 CFR 141	8, B.4
	40 CFR 143	8, B.4
2.2.1(3.6)	42 USC 6901 et. seq.	7, B
2.2.1(3.7)	15 USC 2601 et. seq.	7, B.8
2.2.1(3.8)	7 USC 136, et. seq.	8, B.9
	40 CFR 162	9, B.9
2.2.1(3.9)	42 USC 4901	9, B.10
2.2.1(3.10)	42 USC 300f	9, B.11
2.2.1(3.11)	10 CFR 60	9, B.12
	10 CFR 20	N/A
	DOE 5484.1	9, B.12
	DOE 5480.1B	9, B.12

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1(3.12)	42 USC 9601, SARA	<u>NOT FOUND</u>
2.2.1(3.13)	DOE 5400.1	9, 13
2.2.1(3.14)	10 CFR 60.132(d)	N/A
2.2.1(4)	10 CFR 60, Subpart G DOE 5700.6B (superseded)	10, H 10, H
PC 2.2.1(4)	DOE/RW-0214 DOE/RW-0215	7, 1 7, 1
2.2.1(4.1)	10 CFR 60.152	16, E
2.2.1(4.2)	10 CFR 60.151	16, E
2.2.1(4.3)	DOE 5700.6B (superseded)	10, H
2.2.1(5)	40 CFR 191 10 CFR 20 10 CFR 60 29 CFR XVII 30 CFR 57	N/A N/A 16, E 9, C 9, C
	DOE 5480.4 DOE 5400.5 DOE 5480.11 DOE/RW-0119	9, C <u>NOT FOUND</u> 9, C 9, C
2.2.1(5.1)	29 CFR 1910 29 CFR 1926 29 CFR 1960	9, C 9, C 9, C
2.2.1(5.2)	DOE 3790.1A DOE 5483.1A DOE 5480.4 DOE 5480.7 DOE 5480.9 DOE 5480.10 10 CFR 60	<u>NOT FOUND</u> <u>NOT FOUND</u> 9, C <u>NOT FOUND</u> <u>NOT FOUND</u> <u>NOT FOUND</u> 16, E

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1(6)	10 CFR 60 10 CFR 75	16, E N/A
2.2.1(7)	DOE 6430.1A	9, D
2.2.1(7.1)	DOE 6430.1A	9, D
2.2.1(8)	NWPA Sec 114(d), 148(c)	7, A
2.2.1(8.1)	10 CFR 60.21(c)	16, E
2.2.1(8.2)	10 CFR 60.130	16, E
2.2.1(8.3)	10 CFR 60.131(b)(7)	N/A
2.2.1(8.4)	DOE 5480.1B DOE 5480.5 DOE 5500.3	9, B.12 N/A N/A
2.2.1(8.5)	10 CFR 60.131(b)(1)	16, E
2.2.1(8.6)	10 CFR 60.131(b)(2)	16, E
2.2.1(8.7)	10 CFR 60.131(b)(3)(i)	16, E
2.2.1(8.8)	10 CFR 60.131(b)(3)(ii)	16, E
2.2.1(8.9)	10 CFR 60.131(b)(3)(iii)	16, E
2.2.1(8.10)	10 CFR 60.131(b)(3)(iv)	16, E
2.2.1(8.11)	10 CFR 60.131(b)(4)(i)	16, E
2.2.1(8.12)	10 CFR 60.131(b)(4)(ii)	16, E
2.2.1(8.13)	10 CFR 60.131(b)(5)(i)	N/A
2.2.1(8.14)	10 CFR 60.131(b)(5)(ii)	N/A
2.2.1(8.15)	10 CFR 60.131(b)(5)(iii)	N/A

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1(8.16)	10 CFR 60.131(b)(6)	16, E
2.2.1(8.17)	10 CFR 60.131(b)(8)	16, E
2.2.1(8.18)	10 CFR 60.132(a)	N/A
PC 2.2.1(8.18)	WMSR IV, Appendix B	N/A
2.2.1(8.19)	10 CFR 60.132(b)	N/A
2.2.1(8.20)	10 CFR 60.132(c)(1)	N/A
2.2.1(8.21)	10 CFR 60.132(c)(2)	N/A
2.2.1(8.22)	10 CFR 60.132(e)	N/A
2.2.1(8.23)	10 CFR 60.137	16, E
2.2.1(8.24)	10 CFR 60	16, E

2.2.1.1 Accept Waste

2.2.1.2 Transport Waste

2.2.1.2.3 Receive Waste

2.2.1.2.3(1)	Receive shipments of SNF & HLW	N/A
PC 2.2.1.2.3(1)	WMSR IV, Appendix B	N/A
2.2.1.2.3(1.1)	10 CFR 60.3(a)	N/A
2.2.1.2.3(1.2)	Rail Shipments	N/A
2.2.1.2.3(2)	10 CFR 60 40 CFR 191, Subpart A	16, E N/A

a) **WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix**

2.2.1.2.3.1 Inspect and Verify Waste

2.2.1.2.3.1(1)	Inspect Shppng Cntnts	N/A
2.2.1.2.3.1(2)	Inspect for Explosives	N/A
2.2.1.2.3.1(3)	Decontamination	N/A
2.2.1.2.3.1(4)	10 CFR 60.132(d)	N/A
2.2.1.2.3.1(5)	Visual Inspection	N/A

2.2.1.2.3.2 Unload Waste

2.2.1.2.3.2(1)	Remove Shipping Contents	N/A
2.2.1.2.3.2(2)	10 CFR 60.131 10 CFR 60.132 40 CFR 191, Subpart A	16, E N/A N/A
2.2.1.2.3.2(3)	10 CFR 961	N/A

2.2.1.3 Store Waste

2.2.1.3(1)	NWPAA	7, A
2.2.1.3(2)	NWPAA Subtitle C, 141(b)	7, A
2.2.1.3.(2.1)	10 CFR 60.111 40 CFR 191, Subpart A	16, E N/A

2.2.1.4 Dispose of Waste

2.2.1.4(1)	NWPAA, Section 2	7, A
PC 2.2.1.4(1)	WMSR IV, Appendix B	N/A
2.2.1.4(2)	10 CFR 60 40 CFR 191, Subpart B	16, E N/A

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1.4(3)	NWPAA, Section 122 10 CFR 60.111(b)	7, A 16, E
2.2.1.4(3.1)	10 CFR 60.111(b)(1) 10 CFR 60.111(b)(3)	16, E 16, E
2.2.1.4(3.2)	10 CFR 60.133(c)	16, E
2.2.1.4(4)	10 CFR 60.15 10 CFR 60.16 10 CFR 60.17 10 CFR 60.18 10 CFR 60.122	16, E 16, E 16, E N/A 16, E
PC 2.2.1.4(4)	WMSR IV, Appendix F	N/A
2.2.1.4(4.1)	10 CFR 60.15(a) 10 CFR 60.15(b)	N/A 16, E
PC 2.2.1.4(4.1)	WMSR IV, Appendix E	16, E
2.2.1.4(4.2)	NWPAA 113(c)(1) 10 CFR 60.15(c)	7, A 16, E
2.2.1.4(4.3)	10 CFR 60.16	16, E
2.2.1.4(4.4)	10 CFR 60.122(a)	16, E
<u>2.2.1.4.1 Process Waste</u>		
2.2.1.4(1)	10 CFR 60.112 10 CFR 60.113	16, E 16, E
PC 2.2.1.4.1(1)	WMSR IV, Appendix B	N/A
2.2.1.4.1(2)	10 CFR 60 40 CFR 191, Subpart A	16, E N/A
2.2.1.4.1(2.1)	40 CFR 191.03(a)	N/A

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1.4.1(3)	10 CFR 60.112 10 CFR 60.113	-16, E 16, E
PC 2.2.1.4.1(3)	WMSR IV, Appendix B	N/A
2.2.1.4.1(4)	10 CFR 60 40 CFR 191	16, E N/A
2.2.1.4.1(5)	10 CFR 60.111	16, E
2.2.1.4.1(5.1)	10 CFR 60.111(a)	16, E
2.2.1.4.1(5.2)	10 CFR 20.201 10 CFR 20.105 10 CFR 20.106 10 CFR 20.303 DOE 5400.5	N/A N/A N/A N/A N/A
2.2.1.4.1(5.3)	10 CFR 60.131(a)	16, E
2.2.1.4.1(5.4)	10 CFR 20.101 10 CFR 20.103 10 CFR 20.104 10 CFR 20.108 DOE 5480.11 10 CFR 20.202	N/A N/A N/A N/A N/A N/A
2.2.1.4.1(5.5)	10 CFR 20.203 10 CFR 20.204	N/A N/A
2.2.1.4.1(6)	10 CFR 60.135	N/A
2.2.1.4.1(7)	NWPAA, Section 114	7, A
PC 2.2.1.4.1(7)	70,000 MTU max	N/A
2.2.1.4.1(7.1)	NWPAA, Section 161	7, A

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1.4.1.1 Package Waste for Emplacement

2.2.1.4.1.1(1)	10 CFR 60 DOE/RW-0239	16, E N/A
2.2.1.4.1.1(2)	10 CFR 60.135(b)(1)	N/A
2.2.1.4.1.1(3)	10 CFR 60.135(b)(2)	N/A
2.2.1.4.1.1(4)	10 CFR 60.135(b)(3)	N/A
2.2.1.4.1.1(5)	10 CFR 60.135(b)(4)	N/A
2.2.1.4.1.1(6)	10 CFR 60.135(c)(1) 10 CFR 60.135(c)(2)	N/A N/A
2.2.1.4.1.1(7)	10 CFR 60.135(c)(3)	N/A

2.2.1.4.1.2 Transfer Waste to Emplacement Site

2.2.1.4.1.2(1)	Wst Pckgs at Rep Horizon	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
2.2.1.4.1.2(2)	10 CFR 60.131(b)(10)	16, E

2.2.1.4.1.3 Prepare Waste Emplacement Area

2.2.1.4.1.3(1)	NWPAA 10 CFR 60	7, A 16, E
PC 2.2.1.4.1.3(1)	WMSR IV, Appendix B	N/A
2.2.1.4.1.3(2)	10 CFR 60.131(b)(9)	16, E
2.2.1.4.1.3(2.1)	30 CFR 57	9, C

a) **WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix**

2.2.1.4.1.3(2.2)	29 CFR 1926.800(C) 30 CFR 31.9(a) 30 CFR 36.45(b) 30 CFR 57	9, C <u>NOT FOUND</u> <u>NOT FOUND</u> 9, C
2.2.1.4.1.3(2.3)	30 CFR 57 29 CFR 1926.21	9, C 9, C
2.2.1.4.1.3(2.4)	30 CFR 57	9, C
2.2.1.4.1.3(2.5)	30 CFR 57	9, C
2.2.1.4.1.3(2.6)	30 CFR 57	9, C
2.2.1.4.1.3(2.7)	30 CFR 57	9, C
2.2.1.4.1.3(2.8)	30 CFR 57	9, C
2.2.1.4.1.3(3)	10 CFR 60.133(a)	16, E
2.2.1.4.1.3(4)	10 CFR 60.133(b)	16, E
2.2.1.4.1.3(5)	10 CFR 60.133(d)	16, E
2.2.1.4.1.3(6)	10 CFR 60.133(e)(1)	16, E
2.2.1.4.1.3(7)	10 CFR 60.133(e)(2)	16, E
2.2.1.4.1.3(8)	10 CFR 60.133(g)	16, E
2.2.1.4.1.3(9)	10 CFR 60.133(i)	16, E
2.2.1.4.1.3(10)	10 CFR 60.133(f)	16, E
<u>2.2.1.4.1.4 Emplace Waste</u>		
2.2.1.4.1.4(1)	NWPAA 10 CFR 60	7, A 16, E
2.2.1.4.1.4(2)	10 CFR 60 DOE 5480.4	16, E 9, C

a) WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix

2.2.1.4.1.4(3)	10 CFR 60 DOE 5480.11	16, E N/A
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2.2.1.4.1.4(4)	10 CFR 60	16, E
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2.2.1.4.2 Isolate Waste

2.2.1.4.2(1)	10 CFR 60.102(e) 10 CFR 60.112 10 CFR 60.113	N/A 16, E 16, E
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2.2.1.4.2(1.1)	10 CFR 60.113(a)(2)	16, E
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2.2.1.4.2(2)	10 CFR 60.112 10 CFR 60.113	16, E 16, E
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2.2.1.4.2(2.1)	10 CFR 60.112	16, E
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2.2.1.4.2(2.2)	10 CFR 60.133(h)	16, E
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2.2.1.4.2(2.3)	10 CFR 60.134(b)	16, E
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2.2.1.4.2(2.4)	40 CFR 191.13(a)	N/A
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2.2.1.4.2(2.5)	40 CFR 191.15	N/A
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2.2.1.4.2(2.6)	40 CFR 191.16(a)	N/A
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2.2.1.4.2(2.7)	40 CFR 191.16(b)	N/A
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2.2.1.4.2(3)	10 CFR 60 40 CFR 191	16, E N/A
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2.2.1.4.2.1 Limit Groundwater Access to Waste

2.2.1.4.2.1(1)	10 CFR 60	16, E
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2.2.1.4.2.1(2)	10 CFR 60.122(b)(5)	N/A
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2.2.1.4.2.1(3)	10 CFR 60.133(a)(1)	16, E
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a) **WMSR IV/YM MGDS SR (YMP/CC-0010, Rev. 0) Requirements Matrix**

2.2.1.4.2.1(3.1) 10 CFR 60.134(a) 16, E

2.2.1.4.2.1(4) 10 CFR 60.133(d) 16, E

2.2.1.4.2.1(5) 10 CFR 60.133(f) 16, E

2.2.1.4.2.2 Limit Adverse Chemical Interaction

2.2.1.4.2.2(1) 10 CFR 60.135 N/A

2.2.1.4.2.2(2) 10 CFR 60.135(a) N/A

2.2.1.4.2.3 Limit Radioactive Release

2.2.1.4.2.3(1) 10 CFR 60 16, E
40 CFR 191 N/A

2.2.1.4.2.3(2) 10 CFR 60.113(a)(1)(i) 16, E

2.2.1.4.2.3(3) 10 CFR 60.113(a)(1)(ii) 16, E

2.2.1.4.2.4 Limit Effects of Disruptions to Post Closure Conditions

2.2.1.4.2.4(1) 10 CFR 60 16, E
40 CFR 191 N/A

2.2.1.4.2.4(2) 10 CFR 60.51(a)(2) N/A

2.2.1.4.2.4(3) 10 CFR 60.121(a) N/A

2.2.1.4.2.4(4) 10 CFR 60.121(b) N/A

2.2.1.4.2.4(5) 10 CFR 60.121(c) N/A

b) YM MGDS SR/ESFDR Requirements Matrix

<u>YM MGDS SR #</u>	<u>Source Document</u>	<u>Location In ESFDR</u>
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YM MGDS

Performance Criteria:

Comply with all WMSR performance Criteria:

PC 2.2.1(1)	WMSR IV, Appendix B	N/A
PC 2.2.1(4)	DOE/RW-0214 DOE/RW-0215	Introduction Introduction
PC 2.2.1(8.18)	WMSR IV, Appendix B	N/A
PC 2.2.1.2.3(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4(4)	WMSR IV, Appendix F	N/A
PC 2.2.1.4(4.1)	WMSR IV, Appendix E	Appendix F
PC 2.2.1.4.1(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1(3)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1(7)	70,000 MTU max	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1.3(1)	WMSR IV, Appendix B	N/A

b) YM MGDS SR/ESFDR Requirements Matrix

Constraints:

A.	NWPAA	Appendix E-1
B.	40 CFR 191	N/A
	10 CFR 60	Appendix F
	42 USC 4321 et. seq. (NEPA)	J-11
	40 CFR 1500-1508	<u>NOT FOUND</u>
	DOE 5440.1C	<u>NOT FOUND</u>
	42 USC 6901 (RCRA)	J-6
	40 CFR 260-272	J-6
	10 CFR 962	N/A
	DOE 5400.3	N/A
	7 CFR 658	<u>NOT FOUND</u>
	DOE 5400.1	<u>NOT FOUND</u>
B.1	42 USC 7401	J-2
	40 CFR 50	J-2
	40 CFR 60	J-2
	40 CFR 61	J-2
	NRS 445.401-.601	J-2
B.2	42 USC 7401	J-2
B.3	33 USC 1251, Sect. 402	J-5
B.4	40 CFR 141	J-4
	40 CFR 143	J-4
B.5	CERCLA	J-6
	EO 12088	J-4
	EO 11988	J-12
	NRS 445.131-.399	J-5
	NRS 533	J-3
	NRS 534	J-3
	49 USC 1801 et. seq.	J-6
	42 USC 1996	J-8
	36 CFR 296	J-8
	43 CFR 7	J-8

b) YM MGDS SR/ESFDR Requirements Matrix

B.6	NV RUNOFF/EROSION REGS	<u>NOT FOUND</u>
B.7	42 USC 6901 (RCRA) NRS 459.400-.910 NRS 444.440-.620 NRS 444.570-.748	J-6 J-6 <u>NOT FOUND</u> J-6
B.8	15 USC 2601 et. seq. (TSCA)	J-6
B.9	7 USC 136 40 CFR 162	<u>NOT FOUND</u> <u>NOT FOUND</u>
B.10	42 USC 4901	J-13
B.11	42 USC 300f	J-4
B.12	10 CFR 60 10 CFR 20 DOE 5484.1 DOE 5480.1B	Appendix F N/A E-2 E-1
B.13	DOE 5400.1	<u>NOT FOUND</u>
B.14	16 USC 470 16 USC 470aa, et. seq. 16 USC 432 16 USC 1241, et. seq. 16 USC 461-469	J-8 J-8 J-8 <u>NOT FOUND</u> J-8
B.15	16 USC 1531, et. seq. 16 USC 668-668D 16 USC 1331-1340	J-7 <u>NOT FOUND</u> <u>NOT FOUND</u>
C.	40 CFR 191 10 CFR 20 10 CFR 60 29 CFR XVII 30 CFR 57 DOE 5480.4 DOE 5400.3	N/A N/A Appendix F <u>NOT FOUND</u> <u>NOT FOUND</u> E-1 N/A

b) **YM MGDS SR/ESFDR Requirements Matrix**

	DOE 5480.11 DOE/RW-0119	<u>NOT FOUND</u> <u>NOT FOUND</u>
D.	DOE 6430.1A	E-2
E.	10 CFR 60.15 10 CFR 60.16 10 CFR 60.17 10 CFR 60.18 10 CFR 60.122	Appendix F Appendix F Appendix F N/A Appendix F
F.	10 CFR 60.130	Appendix F
G.	DOE 5700.6B (superseded) 10 CFR 60, Subpart G	<u>NOT FOUND</u> E-1

1.0 SITE:

Performance Criteria:

1a.	10 CFR 60.122	Appendix F
1b.	10 CFR 60.111	Appendix F
2.	10 CFR 60.112 10 CFR 60.113	Appendix F Appendix F

Constraints:

A.	10 CFR 60.122(a)	Appendix F
B.	10 CFR 60.112	Appendix F

2.0 REPOSITORY

Performance Criteria:

1.	WMSR IV, PC 2.2.1.4(4.1)	Appendix F
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b) YM MGDS SR/ESFDR Requirements Matrix

3.0 SYSTEM PERFORMANCE EVALUATION

Performance Criteria:

1a.	10 CFR 60.21	Appendix F
1b.	High confidence evaluation	Various Locations

Constraint:

A.	10 CFR 60.21	Appendix F
B.	10 CFR 60.15(a)	<u>NOT FOUND</u>
	10 CFR 60.15(b)	Appendix F
C.	NWPAA Sec 113 (c)(1) 10 CFR 60.15(c)	E-1 Appendix F
D.	10 CFR 60.16	Appendix F
E.	WMSR IV, APPENDIX E	Appendix F
F.	10 CFR 60.135	N/A

Additional WMSR IV, ESF-related requirements which do not flow down to YM MGDS SR:

2.2.1(3.4)	33 CFR 323	<u>NOT FOUND</u>
2.2.1(3.12)	42 USC 9601, SARA	J-6
2.2.1(5)	DOE 5400.5	J-10
2.2.1(5.2)	DOE 3790.1A	<u>NOT FOUND</u>
	DOE 5483.1A	<u>NOT FOUND</u>
	DOE 5480.7	<u>NOT FOUND</u>
	DOE 5480.9	<u>NOT FOUND</u>
	DOE 5480.10	<u>NOT FOUND</u>
2.2.1.4.1.3(2.2)	30 CFR 31.9(a)	<u>NOT FOUND</u>
	30 CFR 36.45(b)	<u>NOT FOUND</u>

c) WMSR IV/YM MGDS SR (YMP/CM-0007, Rev. 6) Requirements Matrix

<u>WMSR IV #</u>	<u>Source Document</u>	<u>Location In SR Page/Section #</u>
<u>2.2.1 Manage Waste</u>		
2.2.1(1)	NWPAA, Sect.302	III-6, A
PC 2.2.1(1)	WMSR IV, Appendix B	N/A
2.2.1(2)	NWPAA	III-6, A
2.2.1(2.1)	10 CFR 60.3(b)	N/A
2.2.1(3)	40 CFR 191	N/A
	10 CFR 60	III-14, D
	42 USC 4321 et. seq.	III-6, B
	40 CFR 1500-1508	III-6, B
	DOE 5440.1C	III-6, B
	42 USC 6901 (RCRA)	III-6, B
	40 CFR 260-272	III-6, B
	10 CFR 962	N/A
	DOE 5400.3	N/A
	7 CFR 658	III-6, B
	DOE 5400.1	III-6, B
2.2.1(3.1)	42 USC 7401	III-6, B.1
	40 CFR 50	III-6, B.1
	40 CFR 60	III-6, B.1
	40 CFR 61	III-6, B.1
2.2.1(3.2)	42 USC 7401	III-6, B.1
2.2.1(3.3)	33 USC 1251, Sect. 402	III-7, B.3
2.2.1(3.4)	33 CFR 323	<u>NOT FOUND</u>
	33 USC 1251	III-7, B.3
2.2.1(3.5)	40 CFR 141	III-7, B.4
	40 CFR 143	III-7, B.4
2.2.1(3.6)	42 USC 6901 et. seq.	III-6, B

c) WMSR IV/YM MGDS SR (YMP/CM-0007, Rev. 6) Requirements Matrix

2.2.1(3.7)	15 USC 2601 et. seq.	III-7, B.8
2.2.1(3.8)	7 USC 136, et. seq. 40 CFR 162	<u>NOT FOUND</u> <u>NOT FOUND</u>
2.2.1(3.9)	42 USC 4901	III-8, B.9
2.2.1(3.10)	42 USC 300f	III-8, B.10
2.2.1(3.11)	10 CFR 60 10 CFR 20 DOE 5484.1 DOE 5480.1B	III-8, B.11 N/A III-8, B.11 III-8, B.11
2.2.1(3.12)	42 USC 9601, SARA	<u>NOT FOUND</u>
2.2.1(3.13)	DOE 5400.1	III-8, B.12
2.2.1(3.14)	10 CFR 60.132(d)	N/A
2.2.1(4)	10 CFR 60, Subpart G DOE 5700.6B (superseded)	III-9, G III-9, G
PC 2.2.1(4)	DOE/RW-0214 DOE/RW-0215	III-6, 1. III-6, 1.
2.2.1(4.1)	10 CFR 60.152	III-14, D
2.2.1(4.2)	10 CFR 60.151	III-14, D
2.2.1(4.3)	DOE 5700.6B (superseded)	III-9, G
2.2.1(5)	40 CFR 191 10 CFR 20 10 CFR 60 29 CFR XVII 30 CFR 57 DOE 5480.4 DOE 5400.5 DOE 5480.11 DOE/RW-0119	N/A N/A III-14, D III-8, C III-8, C III-8, C <u>NOT FOUND</u> III-8, C III-8, C

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1(5.1)	29 CFR 1910 29 CFR 1926 29 CFR 1960	III-8, C III-8, C III-8, C
2.2.1(5.2)	DOE 3790.1A DOE 5483.1A DOE 5480.4 DOE 5480.7 DOE 5480.9 DOE 5480.10	<u>NOT FOUND</u> <u>NOT FOUND</u> III-8, C <u>NOT FOUND</u> <u>NOT FOUND</u> <u>NOT FOUND</u>
2.2.1(6)	10 CFR 60 10 CFR 75	III-14, D N/A
2.2.1(7)	DOE 6430.1A	<u>NOT FOUND</u>
2.2.1(7.1)	DOE 6430.1A	<u>NOT FOUND</u>
2.2.1(8)	NWPA Sec 114(d), 148(c)	III-6, A
2.2.1(8.1)	10 CFR 60.21(c)	III-14, D
2.2.1(8.2)	10 CFR 60.130	III-14, D
2.2.1(8.3)	10 CFR 60.131(b)(7)	N/A
2.2.1(8.4)	DOE 5480.1B DOE 5480.5 DOE 5500.3	III-8, B.11 N/A N/A
2.2.1(8.5)	10 CFR 60.131(b)(1)	III-14, D
2.2.1(8.6)	10 CFR 60.131(b)(2)	III-14, D
2.2.1(8.7)	10 CFR 60.131(b)(3)(i)	III-14, D
2.2.1(8.8)	10 CFR 60.131(b)(3)(ii)	III-14, D
2.2.1(8.9)	10 CFR 60.131(b)(3)(iii)	III-14, D

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1(8.10)	10 CFR 60.131(b)(3)(iv)	III-14, D
2.2.1(8.11)	10 CFR 60.131(b)(4)(i)	III-14, D
2.2.1(8.12)	10 CFR 60.131(b)(4)(ii)	III-14, D
2.2.1(8.13)	10 CFR 60.131(b)(5)(i)	N/A
2.2.1(8.14)	10 CFR 60.131(b)(5)(ii)	N/A
2.2.1(8.15)	10 CFR 60.131(b)(5)(iii)	N/A
2.2.1(8.16)	10 CFR 60.131(b)(6)	III-14, D
2.2.1(8.17)	10 CFR 60.131(b)(8)	III-14, D
2.2.1(8.18)	10 CFR 60.132(a)	N/A
PC 2.2.1(8.18)	WMSR IV, Appendix B	N/A
2.2.1(8.19)	10 CFR 60.132(b)	N/A
2.2.1(8.20)	10 CFR 60.132(c)(1)	N/A
2.2.1(8.21)	10 CFR 60.132(c)(2)	N/A
2.2.1(8.22)	10 CFR 60.132(e)	N/A
2.2.1(8.23)	10 CFR 60.137	III-14, D
2.2.1(8.24)	10 CFR 60	III-14, D

2.2.1.1 Accept Waste

2.2.1.2 Transport Waste

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1.2.3 Receive Waste

2.2.1.2.3(1)	Receive shipments of SNF & HLW	N/A
PC 2.2.1.2.3(1)	WMSR IV, Appendix B	N/A
2.2.1.2.3(1.1)	10 CFR 60.3(a)	N/A
2.2.1.2.3(1.2)	Rail Shipments	N/A
2.2.1.2.3(2)	10 CFR 60 40 CFR 191, Subpart A	III-14, D N/A

2.2.1.2.3.1 Inspect and Verify Waste

2.2.1.2.3.1(1)	Inspect Shppng Cntnts	N/A
2.2.1.2.3.1(2)	Inspect for Explosives	N/A
2.2.1.2.3.1(3)	Decontamination	N/A
2.2.1.2.3.1(4)	10 CFR 60.132(d)	N/A
2.2.1.2.3.1(5)	Visual Inspection	N/A

2.2.1.2.3.2 Unload Waste

2.2.1.2.3.2(1)	Remove Shipping Contents	N/A
2.2.1.2.3.2(2)	10 CFR 60.131 10 CFR 60.132 40 CFR 191, Subpart A	III-14, D N/A N/A
2.2.1.2.3.2(3)	10 CFR 961	N/A

2.2.1.3 Store Waste

2.2.1.3(1)	NWPAA	III-6, A
2.2.1.3(2)	NWPAA Subtitle C, 141(b)	III-6, A

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1.3.(2.1)	10 CFR 60.111 40 CFR 191, Subpart A	III-14, D N/A
<u>2.2.1.4 Dispose of Waste</u>		
2.2.1.4(1)	NWPAA, Section 2	III-6, A
PC 2.2.1.4(1)	WMSR IV, Appendix B	N/A
2.2.1.4(2)	10 CFR 60 40 CFR 191, Subpart B	III-14, D N/A
2.2.1.4(3)	NWPAA, Section 122 10 CFR 60.111(b)	III-6, A III-14, D
2.2.1.4(3.1)	10 CFR 60.111(b)(1) 10 CFR 60.111(b)(3)	III-14, D III-14, D
2.2.1.4(3.2)	10 CFR 60.133(c)	III-14, D
2.2.1.4(4)	10 CFR 60.15 10 CFR 60.16 10 CFR 60.17 10 CFR 60.18 10 CFR 60.122	III-14, D III-14, D III-14, D N/A III-14, D
PC 2.2.1.4(4)	WMSR IV, Appendix F	N/A
2.2.1.4(4.1)	10 CFR 60.15(a) 10 CFR 60.15(b)	N/A III-14, D
PC 2.2.1.4(4.1)	WMSR IV, Appendix E	III-14, D
2.2.1.4(4.2)	NWPAA 113(c)(1) 10 CFR 60.15(c)	III-6, A III-14, D
2.2.1.4(4.3)	10 CFR 60.16	III-14, D
2.2.1.4(4.4)	10 CFR 60.122(a)	III-14, D

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1.4.1 Process Waste

2.2.1.4(1)	10 CFR 60.112 10 CFR 60.113	III-14, D III-14, D
PC 2.2.1.4.1(1)	WMSR IV, Appendix B	N/A
2.2.1.4.1(2)	10 CFR 60 40 CFR 191, Subpart A	III-14, D N/A
2.2.1.4.1(2.1)	40 CFR 191.03(a)	N/A
2.2.1.4.1(3)	10 CFR 60.112 10 CFR 60.113	III-14, D III-14, D
PC 2.2.1.4.1(3)	WMSR IV, Appendix B	N/A
2.2.1.4.1(4)	10 CFR 60 40 CFR 191	III-14, D N/A
2.2.1.4.1(5)	10 CFR 60.111	III-14, D
2.2.1.4.1(5.1)	10 CFR 60.111(a)	III-14, D
2.2.1.4.1(5.2)	10 CFR 20.201 10 CFR 20.105 10 CFR 20.106 10 CFR 20.303 DOE 5400.5	N/A N/A N/A N/A N/A
2.2.1.4.1(5.3)	10 CFR 60.131(a)	III-14, D
2.2.1.4.1(5.4)	10 CFR 20.101 10 CFR 20.103 10 CFR 20.104 10 CFR 20.108 DOE 5480.11 10 CFR 20.202	N/A N/A N/A N/A N/A N/A
2.2.1.4.1(5.5)	10 CFR 20.203 10 CFR 20.204	N/A N/A

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1.4.1(6)	10 CFR 60.135	N/A
2.2.1.4.1(7)	NWPAA, Section 114	III-6, A
PC 2.2.1.4.1(7)	70,000 MTU max	N/A
2.2.1.4.1(7.1)	NWPAA, Section 161	III-6, A
<u>2.2.1.4.1.1 Package Waste for Emplacement</u>		
2.2.1.4.1.1(1)	10 CFR 60 DOE/RW-0239	III-14, D N/A
2.2.1.4.1.1(2)	10 CFR 60.135(b)(1)	N/A
2.2.1.4.1.1(3)	10 CFR 60.135(b)(2)	N/A
2.2.1.4.1.1(4)	10 CFR 60.135(b)(3)	N/A
2.2.1.4.1.1(5)	10 CFR 60.135(b)(4)	N/A
2.2.1.4.1.1(6)	10 CFR 60.135(c)(1) 10 CFR 60.135(c)(2)	N/A N/A
2.2.1.4.1.1(7)	10 CFR 60.135(c)(3)	N/A
<u>2.2.1.4.1.2 Transfer Waste to Emplacement Site</u>		
2.2.1.4.1.2(1)	Wst Pckgs at Rep Horizon	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
2.2.1.4.1.2(2)	10 CFR 60.131(b)(10)	III-14, D
<u>2.2.1.4.1.3 Prepare Waste Emplacement Area</u>		
2.2.1.4.1.3(1)	NWPAA 10 CFR 60	III-6, A III-14, D

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

PC 2.2.1.4.1.3(1)	WMSR IV, Appendix B	N/A
2.2.1.4.1.3(2)	10 CFR 60.131(b)(9)	III-14, D
2.2.1.4.1.3(2.1)	30 CFR 57	III-8, C
2.2.1.4.1.3(2.2)	29 CFR 1926.800(C) 30 CFR 31.9(a) 30 CFR 36.45(b) 30 CFR 57	III-8, C N/A N/A III-8, C
2.2.1.4.1.3(2.3)	30 CFR 57 29 CFR 1926.21	III-8, C III-8, C
2.2.1.4.1.3(2.4)	30 CFR 57	III-8, C
2.2.1.4.1.3(2.5)	30 CFR 57	III-8, C
2.2.1.4.1.3(2.6)	30 CFR 57	III-8, C
2.2.1.4.1.3(2.7)	30 CFR 57	III-8, C
2.2.1.4.1.3(2.8)	30 CFR 57	III-8, C
2.2.1.4.1.3(3)	10 CFR 60.133(a)	III-14, D
2.2.1.4.1.3(4)	10 CFR 60.133(b)	III-14, D
2.2.1.4.1.3(5)	10 CFR 60.133(d)	III-14, D
2.2.1.4.1.3(6)	10 CFR 60.133(e)(1)	III-14, D
2.2.1.4.1.3(7)	10 CFR 60.133(e)(2)	III-14, D
2.2.1.4.1.3(8)	10 CFR 60.133(g)	III-14, D
2.2.1.4.1.3(9)	10 CFR 60.133(i)	III-14, D
2.2.1.4.1.3(10)	10 CFR 60.133(f)	III-14, D

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1.4.1.4 Emplace Waste

2.2.1.4.1.4(1)	NWPAA 10 CFR 60	III-6, A III-14, D
2.2.1.4.1.4(2)	10 CFR 60 DOE 5480.4	III-14, D III-8, C
2.2.1.4.1.4(3)	10 CFR 60 DOE 5480.11	III-14, D N/A
2.2.1.4.1.4(4)	10 CFR 60	III-14, D

2.2.1.4.2 Isolate Waste

2.2.1.4.2(1)	10 CFR 60.102(e) 10 CFR 60.112 10 CFR 60.113	N/A III-14, D III-14, D
2.2.1.4.2(1.1)	10 CFR 60.113(a)(2)	III-14, D
2.2.1.4.2(2)	10 CFR 60.112 10 CFR 60.113	III-14, D III-14, D
2.2.1.4.2(2.1)	10 CFR 60.112	III-14, D
2.2.1.4.2(2.2)	10 CFR 60.133(h)	III-14, D
2.2.1.4.2(2.3)	10 CFR 60.134(b)	III-14, D
2.2.1.4.2(2.4)	40 CFR 191.13(a)	N/A
2.2.1.4.2(2.5)	40 CFR 191.15	N/A
2.2.1.4.2(2.6)	40 CFR 191.16(a)	N/A
2.2.1.4.2(2.7)	40 CFR 191.16(b)	N/A
2.2.1.4.2(3)	10 CFR 60 40 CFR 191	III-14, D N/A

c) WMSR IV/YM MGDS SR (YMP/CC-0007, Rev. 6) Requirements Matrix

2.2.1.4.2.1 Limit Groundwater Access to Waste

2.2.1.4.2.1(1)	10 CFR 60	III-14, D
2.2.1.4.2.1(2)	10 CFR 60.122(b)(5)	N/A
2.2.1.4.2.1(3)	10 CFR 60.133(a)(1)	III-14, D
2.2.1.4.2.1(3.1)	10 CFR 60.134(a)	III-14, D
2.2.1.4.2.1(4)	10 CFR 60.133(d)	III-14, D
2.2.1.4.2.1(5)	10 CFR 60.133(f)	III-14, D

2.2.1.4.2.2 Limit Adverse Chemical Interaction

2.2.1.4.2.2(1)	10 CFR 60.135	N/A
2.2.1.4.2.2(2)	10 CFR 60.135(a)	N/A

2.2.1.4.2.3 Limit Radioactive Release

2.2.1.4.2.3(1)	10 CFR 60 40 CFR 191	III-14, D N/A
2.2.1.4.2.3(2)	10 CFR 60.113(a)(1)(i)	III-14, D
2.2.1.4.2.3(3)	10 CFR 60.113(a)(1)(ii)	III-14, D

2.2.1.4.2.4 Limit Effects of Disruptions to Post Closure Conditions

2.2.1.4.2.4(1)	10 CFR 60 40 CFR 191	III-14, D N/A
2.2.1.4.2.4(2)	10 CFR 60.51(a)(2)	N/A
2.2.1.4.2.4(3)	10 CFR 60.121(a)	N/A
2.2.1.4.2.4(4)	10 CFR 60.121(b)	N/A
2.2.1.4.2.4(5)	10 CFR 60.121(c)	N/A

d) YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD Requirements Matrix

<u>YM MGDS SR #</u>	<u>Source Document</u>	<u>Location In SBTFRD</u>
<u>YMP/CM-0007</u>		
<u>YM MGDS</u>		
Performance Criteria:		
Comply with all WMSR performance Criteria:		
PC 2.2.1(1)	WMSR IV, Appendix B	N/A
PC 2.2.1(4)	DOE/RW-0214 DOE/RW-0215	<u>NOT FOUND</u> <u>NOT FOUND</u>
PC 2.2.1(8.18)	WMSR IV, Appendix B	N/A
PC 2.2.1.2.3(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4(4)	WMSR IV, Appendix F	N/A
PC 2.2.1.4(4.1)	WMSR IV, Appendix E	Various Locations
PC 2.2.1.4.1(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1(3)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1(7)	70,000 MTU max	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1.2(1)	WMSR IV, Appendix B	N/A
PC 2.2.1.4.1.3(1)	WMSR IV, Appendix B	N/A
Constraints:		
A.	NWPAA	VI-7, A

d) **YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD Requirements Matrix**

B.	40 CFR 191 10 CFR 60 42 USC 4321 et. seq. (NEPA) 40 CFR 1500-1508 DOE 5440.1C 42 USC 6901 (RCRA) 40 CFR 260-272 10 CFR 962 DOE 5400.3 7 CFR 658 DOE 5400.1	N/A Various Locations VI-D-26 <u>NOT FOUND</u> <u>NOT FOUND</u> VI-D-15, 6.1 VI-D-15, 6.1 N/A N/A VI-D-21, 9.0 <u>NOT FOUND</u>
B.1	42 USC 7401 40 CFR 50 40 CFR 60 40 CFR 61 NRS 445.401-.601	VI-D-3, 2.0 VI-D-6 VI-D-6 VI-D-3 VI-D-6
B.2	42 USC 7401	VI-D-3, 2.0
B.3	33 USC 1251, Sect. 402	VI-D-11, 5.1
B.4	40 CFR 141 40 CFR 143	VI-D-9, 4.1 VI-D-9, 4.1
B.5	CERCLA EO 12088 EO 11988 NRS 445.131-.399 NRS 533 NRS 534 49 USC 1801 et. seq. 42 USC 1996 36 CFR 296 43 CFR 7	VI-D-16, 6.2 VI-D-9, 4.1 VI-D-27, 12.0 VI-D-13, 5.2 VI-D-8, 3.0 VI-D-8, 3.0 VI-D-16, 6.2 VI-D-19, 8.0 VI-D-19, 8.0 VI-D-19, 8.0
B.6	NV RUNOFF/EROSION REGS	<u>NOT FOUND</u>

d) **YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD Requirements Matrix**

B.7	42 USC 6901 (RCRA) NRS 459.400-.910 NRS 444.440-.620 NRS 444.570-.748	VI-D-15, 6.1 VI-D-15, 6.1 VI-D-15 VI-D-15
B.8	15 USC 2601 et. seq. (TSCA)	VI-D-16
B.9	42 USC 4901	VI-D-28, 13.0
B.10	42 USC 300f	VI-D-9, 4.1
B.11	10 CFR 60 10 CFR 20 DOE 5484.1 DOE 5480.1B	Various Locations N/A <u>NOT FOUND</u> <u>NOT FOUND</u>
B.12	DOE 5400.1	<u>NOT FOUND</u>
B.13	16 USC 470 16 USC 470aa, et. seq. 16 USC 432 16 USC 1241, et. seq. 16 USC 461-469	VI-D-19, 8.0 VI-D-19, 8.0 VI-D-19, 8.0 <u>NOT FOUND</u> VI-D-17, 7.0
B.14	16 USC 1531, et. seq. 16 USC 668-668D 16 USC 1331-1340	VI-D-17, 7.0 <u>NOT FOUND</u> <u>NOT FOUND</u>
C.	40 CFR 191 10 CFR 20 10 CFR 60 29 CFR XVII (other than 1910, 1926 - VI-7, 1c) 30 CFR 57 DOE 5480.4 DOE 5400.3 DOE 5480.11 DOE/RW-0119	N/A N/A Various Locations <u>NOT FOUND</u> N/A VI-D-23 N/A VI-D-23 <u>NOT FOUND</u>
D.	10 CFR 60.15-18, -122	Various Locations

d) YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD Requirements Matrix

E.	10 CFR 60.130	Various Locations
F.	10 CFR 60	Various Locations
G.	DOE 5700.6B (superseded) 10 CFR 60, Subpart G	<u>NOT FOUND</u>
H.	10 CFR 60	Various Locations

1.0 SITE:

Performance Criteria:

1a.	10 CFR 60.122	N/A
1b.	10 CFR 60.111	N/A
2.	10 CFR 60.112	N/A
	10 CFR 60.113	N/A

Constraints:

A.	10 CFR 60.122(a)	N/A
B.	10 CFR 60.112	N/A

2.0 REPOSITORY

No Requirements.

3.0 SYSTEM PERFORMANCE EVALUATION

Performance Criteria:

1a.	10 CFR 60.21	N/A
1b.	High confidence evaluation	N/A

Constraint:

A.	10 CFR 60.21	N/A
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d) **YM MGDS SR (YMP/CM-0007, Rev. 6)/SBTFRD Requirements Matrix**

B.	10 CFR 60.15(a)	Various Locations
	10 CFR 60.15(b)	Various Locations
C.	NWPAA Sec 113 (c)(1) 10 CFR 60.15(c)	VI-7, A Various Locations
D.	10 CFR 60.16	Various Locations
E.	WMSR IV, APPENDIX E	N/A
F.	10 CFR 60.135	N/A

Additional WMSR IV, requirements which do not flow down to YM MGDS SR (YMP/CM-0007):

2.2.1(3.4)	33 CFR 323	VI-D-11, 5.1
2.2.1(3.8)	7 USC 136, et. seq. 40 CFR 162	VI-D-16 VI-D-16
2.2.1(3.12)	42 USC 9601 (SARA)	VI-D-16, 6.2
2.2.1(5)	DOE 5400.5	VI-D-23, 10.0
2.2.1(5.1)	DOE 3790.1A DOE 5483.1A DOE 5480.7 DOE 5480.9 DOE 5480.10	<u>NOT FOUND</u> <u>NOT FOUND</u> <u>NOT FOUND</u> <u>NOT FOUND</u> <u>NOT FOUND</u>
2.2.1(7)	DOE 6430.1A	VI-7, 1a
2.2.1.4.1.3(2.2)	30 CFR 31.9(a) 30 CFR 36.45(b)	N/A N/A