

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.1.1-2
Explicit description of the needed information:	Provide a table that shows the design basis summaries of the ventilation exhaust shaft - emplacement side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.1.1.2-1
Explicit description of the needed information:	Provide a figure showing the stratigraphic section at the ventilation exhaust shaft - emplacement side centerline.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
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If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.1.1.3-1
Explicit description of the needed information:	Provide a site plan for the ventilation exhaust shaft - emplacement side collar.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.1.3-2 and 4.1.2.4.1.1.3-3
Explicit description of the needed information:	Provide general arrangement/layout drawings of the ventilation exhaust shaft - emplacement side collar.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.1.1.4-1
Explicit description of the needed information:	Provide a cross section view of the ventilation exhaust shaft - emplacement side collar lining and support.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.1.5-1 and 4.1.2.4.1.1.5-2
Explicit description of the needed information:	Provide a long section and general arrangement drawing of the ventilation exhaust shaft - emplacement side layout.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
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If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.1.6-1
Explicit description of the needed information:	Provide a summary table of the key ventilation exhaust shaft - emplacement side lining and support characteristics.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.7-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.1.7-1 through 4.1.2.4.1.1.7-8
Explicit description of the needed information:	Provide a series of typical cross section drawings that show the stratigraphic units throughout the ventilation exhaust shaft - emplacement side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.8-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.1.8-1 through 4.1.2.4.1.1.8-2
Explicit description of the needed information:	Provide general arrangement drawings that show the site drainage for the ventilation exhaust shaft - emplacement side collar.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.1.9-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.1.1.9-1
Explicit description of the needed information:	Provide a general arrangement drawing showing the ventilation exhaust shaft - emplacement side drainage.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.2.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.2.1-1
Explicit description of the needed information:	Provide a table of representative airflow(s) during repository operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Information Need Number:	INN 4.1.2.4.1.2.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.2.2-1
Explicit description of the needed information:	Provide the general specifications of the High Efficiency Particular Air Filters.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.2.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.2.2-1, 4.1.2.4.1.2.2-2, and 4.1.2.4.1.2.2-3
Explicit description of the needed information:	Provide the general arrangement drawings of the emplacement exhaust shaft - emplacement side ventilation system.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.2.2-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.2.2-4, 4.1.2.4.1.2.2-5, and 4.1.2.4.1.2.2-6
Explicit description of the needed information:	Provide the general arrangement drawings of the exhaust air bypass the HEPA Filter System.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.2.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.2.3-1
Explicit description of the needed information:	Provide a summary of the safety features and measures of the ventilation exhaust shaft - emplacement side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.2.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.2.3-2
Explicit description of the needed information:	Identify the credible accident scenarios versus shaft - emplacement side safety features and measures to mitigate accident severity.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Information Need Number:	INN 4.1.2.4.1.2.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.2.4-1
Explicit description of the needed information:	Provide a summary maintenance schedule and description for the ventilation exhaust shaft - emplacement side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.2.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.2.5-1
Explicit description of the needed information:	Provide the design validation and performance monitoring plan summary and instrument schedule for the ventilation exhaust shaft - emplacement side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.3.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.3.1-1
Explicit description of the needed information:	Provide a layout drawing showing the operational seal locations. In addition, provide a general description of the operational seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
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Information Need Number:	INN 4.1.2.4.1.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.1.3.2-1
Explicit description of the needed information:	Provide the post-closure seal locations. In addition, provide a general description of the post-closure seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Date information will be available:	
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MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.1.3.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.1.3.2-1, 4.1.2.4.1.3.2-2, and 4.1.2.4.1.3.2-3
Explicit description of the needed information:	Provide a series of general arrangement drawings that show the post closure seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.1.1-1
Explicit description of the needed information:	Provide a table showing the general characteristics of the ventilation exhaust shaft - development side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Information Need Number:	INN 4.1.2.4.2.1.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.1.1-2
Explicit description of the needed information:	Provide a table that shows the design basis summaries of the ventilation exhaust shaft - emplacement side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.2.1.2-1
Explicit description of the needed information:	Provide a figure showing the stratigraphic section at the ventilation exhaust shaft - development side centerline.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.2.1.3-1
Explicit description of the needed information:	Provide a site plan of the ventilation exhaust shaft- - development side collar.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Information Need Number:	INN 4.2.1.2.4.2.1.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.2.1.3-2 and 4.1.2.4.2.1.3-3
Explicit description of the needed information:	Provide general arrangement/layout drawings of the ventilation exhaust shaft - development side collar.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.2.1.4-1
Explicit description of the needed information:	Provide a cross section view of the ventilation exhaust shaft - development side collar lining and support.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.2.1.5-1 and 4.1.2.4.2.1.5-2
Explicit description of the needed information:	Provide a long section and general arrangement drawing of the ventilation exhaust shaft - development side layout.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Information Need Number:	INN 4.1.2.4.2.1.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.1.6-1
Explicit description of the needed information:	Provide a summary table of the key ventilation exhaust shaft - development side lining and support characteristics.
Information will be used to support:	
The Information is needed by/for (date or event):	
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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.2.1.7-1 through 4.1.2.4.2.1.7-8
Explicit description of the needed information:	Provide a series of typical cross section drawing that show the stratigraphic units throughout the ventilation exhaust shaft - development side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.2.1.8-1 and 4.1.2.4.2.1.8-2
Explicit description of the needed information:	Provide a general arrangement drawing that shows the site drainage for the ventilation exhaust shaft - development side collar.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

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Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.4.2.1.9-1
Explicit description of the needed information:	Provide a general arrangement drawing showing the ventilation exhaust shaft - development side drainage.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.2.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.2.1-1
Explicit description of the needed information:	Provide representative airflows during repository operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.2.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.2.3-1
Explicit description of the needed information:	Provide a summary of the safety features and measures of the emplacement side exhaust shaft - development side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.2.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.2.3-2
Explicit description of the needed information:	Identify the credible accident scenarios versus shaft - development side safety features and measures to mitigate accident severity.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.2.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.2.4-1
Explicit description of the needed information:	Provide a summary maintenance schedule and description for the ventilation exhaust shaft - development side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.2.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.2.5-1
Explicit description of the needed information:	Provide the design validation and performance monitoring plan summary and instrument schedule for the ventilation exhaust shaft - development side.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.3.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.3.1-1
Explicit description of the needed information:	Provide a layout drawing showing the operational seal locations. In addition, provide a general description of the operational seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.4.2.3.2-1
Explicit description of the needed information:	Provide the post-closure seal locations. In addition, provide a general description of the post-closure seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.4.2.3.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.4.2.3.2-1, 4.1.2.4.2.3.2-2, and 4.1.2.4.2.3.2-3
Explicit description of the needed information:	Provide a series of general arrangement drawings that show the post closure seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a detailed description of the personnel and material shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.1.1-1
Explicit description of the needed information:	Provide a table showing the general characteristics of the personnel and material shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.1.1-2
Explicit description of the needed information:	Provide a table that shows the design basis summaries.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.5.1.2-1
Explicit description of the needed information:	Provide figure showing the stratigraphic section at the personnel and material shafts centerline.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.5.1.3-1
Explicit description of the needed information:	Provide a site plan of the personnel and material shafts portal.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.5.1.3-2 and 4.1.2.5.1.3-3
Explicit description of the needed information:	Provide a general arrangement/layout drawing of the personnel and material shafts portal.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.5.1.4-1
Explicit description of the needed information:	Provide a cross section view of the personnel and material shafts portal lining and support.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.5.1.5-1 and 4.1.2.5.1.5-2
Explicit description of the needed information:	Provide a plan and general arrangement drawing of the personnel and material shafts layout.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.1.6-1
Explicit description of the needed information:	Provide a summary table of the key personnel and material shafts lining and support characteristics.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.7-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.5.1.7-1 through 4.1.2.5.1.7-8
Explicit description of the needed information:	Provide a series of typical cross section drawing that show the stratigraphic units throughout the personnel and material shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.8-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.5.1.8-1 and 4.1.2.5.1.8-2
Explicit description of the needed information:	Provide a general arrangement drawing that shows the site drainage for the personnel and material shafts portal.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.1.9-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.5.1.9-1
Explicit description of the needed information:	Provide a general arrangement drawing showing the personnel and material shafts drainage.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.1-1
Explicit description of the needed information:	Provide the general specifications of the hoisting equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.5.2.1-1, 4.1.2.5.2.1-2, and 4.1.2.5.2.1-3
Explicit description of the needed information:	Provide the general arrangement drawings for the hoisting equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.2-1
Explicit description of the needed information:	Provide the representative airflow(s) during repository operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.3-1
Explicit description of the needed information:	Provide a summary of the personnel and material shafts safety features and measures.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.3-2
Explicit description of the needed information:	Provide the credible accident scenarios versus the personnel and material shafts safety features and measures to mitigate accident severity.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.4-1
Explicit description of the needed information:	Provide a summary operating schedule for the personnel and material shafts operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.5-1
Explicit description of the needed information:	Provide a summary maintenance schedule and description for the personnel and material shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.2.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.2.6-1
Explicit description of the needed information:	Provide the design validation and performance monitoring plan summary and instrument schedule for the personnel and material shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.3.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.3.1-1
Explicit description of the needed information:	Provide a layout drawing showing the operational seal locations. In addition, provide a general description of the operational seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.5.3.2-1
Explicit description of the needed information:	Provide the post-closure seal locations. In addition, provide a general description of the post-closure seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.5.3.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.5.3.2-1, 4.1.2.5.3.2-2, and 4.1.2.5.3.2-3
Explicit description of the needed information:	Provide a series of general arrangement drawings that show the post closure seals.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a description of the GROA decommissioning system.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.1-1
Explicit description of the needed information:	Provide a summary of the operational seal locations and types.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.2-1
Explicit description of the needed information:	Table of Post-Closure seal locations and type summaries.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.2.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.6.2.5-1, 4.1.2.6.2.5-2, and 4.1.6.2.5-3
Explicit description of the needed information:	Provide the general arrangement drawings of other plugs or bulkheads.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.3.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.3.1-1
Explicit description of the needed information:	Provide the properties of the backfill materials located in shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.3.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.3.1-2
Explicit description of the needed information:	Provide the properties of the backfill materials located in the ramps.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.3.2-1
Explicit description of the needed information:	Provide the properties of the seal materials used in the shafts.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.3.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.3.2-2
Explicit description of the needed information:	Provide the properties of the ramp seal materials.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.3.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.3.3-1
Explicit description of the needed information:	Provide the properties of other plug or bulkhead materials.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.4.1-1
Explicit description of the needed information:	Provide the general specifications for the shaft backfilling equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.6.4.1-1
Explicit description of the needed information:	Provide a sequence diagram showing the shaft backfill operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.1-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.6.4.1-2, 4.1.2.6.4.1-3, and 4.1.2.6.4.1-4
Explicit description of the needed information:	Provide a set of general arrangement drawings showing the shaft backfilling equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.4.2-1
Explicit description of the needed information:	Provide the general specifications of the ramp backfilling equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.6.4.2-1
Explicit description of the needed information:	Provide a sequence diagram showing the ramp backfill operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.2-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.6.4.2-2, 4.1.2.6.4.2-3, and 4.1.2.6.4.2-4
Explicit description of the needed information:	Provide a set of general arrangement drawings showing the ramp backfilling equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.4.3-1
Explicit description of the needed information:	Provide the general specifications of the shaft sealing equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.6.4.3-1
Explicit description of the needed information:	Provide a sequence diagram showing the shaft sealing operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.3-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.6.4.3-2, 4.1.2.6.4.3-3, and 4.1.2.6.4.3-4
Explicit description of the needed information:	Provide a set of general arrangement drawings showing the shaft sealing equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.4.4-1
Explicit description of the needed information:	Provide the general specifications of the ramp sealing equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.4-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.6.4.4-1
Explicit description of the needed information:	Provide a sequence diagram showing the ramp sealing operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.4-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.6.4.4-2, 4.1.2.6.4.4-3, and 4.1.2.6.4.4-4
Explicit description of the needed information:	Provide a set of general arrangement drawings showing the ramp sealing equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.2.6.4.5-1
Explicit description of the needed information:	Provide the general specifications of any other plug or bulkhead equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.5-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.2.6.4.5-1
Explicit description of the needed information:	Provide a sequence diagram showing any other plug or bulkhead operations.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.2.6.4.5-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.2.6.4.5-2, 4.1.2.6.4.5-3, and 4.1.2.6.4.5-4
Explicit description of the needed information:	Provide a set of general arrangement drawings showing any other plug or bulkhead equipment.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3-1
Explicit description of the needed information:	Table containing the identification and classification important to safety, retrievability, or isolation of SSCs for the underground facility.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3-2
Explicit description of the needed information:	Table of inspection schedules for SSCs for the underground facility.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3-3
Explicit description of the needed information:	Table containing testing schedule for SSCs for the underground facility.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3-4
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3-4
Explicit description of the needed information:	Table containing the maintenance schedule for the SSCs for the underground facility.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.1.1.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	<p>Table 4.1.3.1.1.1-1: Categories of Rock Quality for the Repository Rock Mass</p> <p>Table 4.1.3.1.1.1-2: Geomechanical Data Important to Mechanical Excavation</p> <p>Table 4.1.3.1.1.1-3: Excavated Volumes for Planned Openings</p>
Explicit description of the needed information:	These tables summarize the bases for excavation system design. Rock quality categories are given for the anticipated range of rock conditions. Pertinent geomechanical data include physical and mechanical properties, jointing conditions, quartz content, and comminution parameters. Expected volumes of excavated material are given for the different parts of the ACD layout, such as accesses, and emplacement drifts.
Information will be used to support:	Choice and design of excavation method
The Information is needed by/for (date or event):	The start of LA preparation
Most likely source of the Information:	ESF testing and mapping. ACD layout documents.
Information Source Description:	The RIB will provide the principal geomechanical data. ACD documents, especially drawings, will include excavation locations, functions, and necessary dimensions.
Does the supporting data need to be QA?	The geomechanical data should be QA. Excavated volumes are for scoping purposes.

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Date information will be available:	
Deliverable providing information:	
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Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.1.1.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.1.1.2-1 through 4: Primary Excavation Methods for TBD Design Table 4.1.3.1.1.2-1: Performance Data for TBD Design - Primary Methods
Explicit description of the needed information:	These figures show various TBM designs that are considered as the primary means of drift excavation. Designs are included for 7.62 m diameter drifts down to 2 m diameter or less. Performance data includes such data as penetration rate, cutter costs, and recommended machine specifications.
Information will be used to support:	Consideration of primary excavation methods for the repository.
The Information is needed by/for (date or event):	The start of LA Design (LAD).
Most likely source of the Information:	ACD documents, ESF site data, manufacturers' data
Information Source Description:	Criteria for excavations based on ACD and geomechanical and other site data gathered during ESF will form the basis for TBM selection and design. Performance data will come from ESF excavation monitoring and from manufacturers.
Does the supporting data need to be QA?	No

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.1.1.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.1.1.3-1 through 4: Mechanical Excavator Designs - Secondary Methods Table 4.1.3.1.1.3-1: Performance Data for Mechanical Excavation Methods - Secondary Methods
Explicit description of the needed information:	These figures show various mechanical excavator designs (roadheaders, mini-disc cutters, and others) that are considered as a secondary means of excavation. Designs are included for excavation of drifts, alcoves, and shafts. Performance data includes such data as penetration rate, cutter costs, and recommended machine specifications.
Information will be used to support:	Consideration of primary excavation methods for the repository.
The Information is needed by/for (date or event):	ACD documents, ESF excavation performance data, manufacturers' and research data.
Most likely source of the Information:	Criteria for excavations based on ACD, geomechanical, and other site data obtained during ESF will form the basis for mechanical excavator selection and design. Performance data will come from ESF excavation monitoring, manufacturers, and research contractors.
Information Source Description:	Unknown at this time.
Does the supporting data need to be QA?	

SKELETON TEXT

Date: 03/31/95

YMP/94-05, Rev. 0

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.1.2.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.1.2.1-1: Geoengineering Data for Repository Ground Control
Explicit description of the needed information:	These data include (1) loading conditions (excavation, seismic, and thermal), (2) design data (thermal and mechanical properties of tuff and engineered materials, and waste characteristics), and (3) repository layout.
Information will be used to support:	Ground support design.
The Information is needed by/for (date or event):	Initial LAD.
Most likely source of the Information:	ESF testing and monitoring, thermal analysis for LAD.
Information Source Description:	ESF testing and monitoring results and data from the RIB will provide the principal geomechanical data. Information on material performance under thermal conditions is needed. Layout descriptions will depend on ACD documents.
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

I-4.1-297

The above Annotated Outline text is guidance that may be used for the future development of an MGDS facility License Application.

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.1.2.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.1.2.2-1: Characteristics of the Damaged Rock Zone Table 4.1.3.1.2.2-2: Ground Support for Rock Mass Categories
Explicit description of the needed information:	Rock mass classification parameters (Q, RMR, and RQD) for application of empirical support selection methods. Stress, temperature, and moisture condition during repository stages, including emplacement and retrieval stages. Results of numerical analyses, including: ventilation and cooling analysis, short and long-term drift stability analysis. Empirical and analytical estimates of the geometry and nature of the damaged rock zone. Case descriptions for (1) draft sections of differing sizes and applications, (2) intersections, (3) structural impacts, and (4) stratigraphic impacts.
Information will be used to support:	Ground support design.
The Information is needed by/for (date or event):	Initial LAD.
Most likely source of the Information:	Analyses performed during repository design.
Information Source Description:	Data collected during ESF testing and excavation will provide principal input for design analyses.
Does the supporting data need to be QA?	Unknown at this time.

SKELETON TEXT

Date: 03/31/95

YMP/94-05, Rev. 0

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.2-1
Explicit description of the needed information:	Provide the performance requirements, design descriptions, and operating descriptions for each of the muck handling systems. Provide the performance requirements for muck handling equipment in Table 4.1.3.2-1.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.3.2-1
Explicit description of the needed information:	Provide a layout drawing of the muck handling equipment and include units or systems such as load-haul-dump and belt conveyors and the disposition of tuff rock removed from the development and emplacement areas.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figure(s) 4.1.3.3.1.2-1: Pressure Relationship Between Development and Emplacement Systems
Explicit description of the needed information:	Figure(s) showing the absolute pressure gradients throughout the intake, subsurface, and exhaust for each of the two systems. The point of showing this is to demonstrate that the pressure in the emplacement system will always be lower than in the development system. This is a requirement to ensure that potential leakage is always from lower rad risk areas toward higher risk areas. Two figures may be needed: one which shows the worst case development scenario along with the corresponding emplacement system conditions; and one with the worst case emplacement scenario with the corresponding development system conditions. [The worst cases of the two systems will occurs years apart.]
Information will be used to support:	Ventilation description
The Information is needed by/for (date or event):	The start of final LA preparation
Most likely source of the Information:	
Information Source Description:	The ventilation design effort in which computer modeling will be used to solve the ventilation networks developed. The absolute pressures at the network nodes will be graphed to produce the figure.
Does the supporting data need to be QA?	Unknown at this time.

SKELETON TEXT

Date: 03/31/95

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INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.3.1.3-1, 4.1.3.3.1.3-2, 4.1.3.3.1.3-3
Explicit description of the needed information:	Approximately three figures, each with multiple sketches, may be used to depict the various ventilation control devices required to direct and control the flow of air in the subsurface.
Information will be used to support:	Ventilation description
The Information is needed by/for (date or event):	The start of final LA preparation
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time.

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	--

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.3.1.4-1
Explicit description of the needed information:	This table will contain data on the capacities of the fans and filtering systems required for the ventilation systems
Information will be used to support:	Ventilation description in Construction LA
The Information is needed by/for (date or event):	The start of final construction LA preparation
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.3.1.6-1
Explicit description of the needed information:	The maintenance intervals of the major ventilation system components will be described in this table.
Information will be used to support:	Ventilation description in Construction LA.
The Information is needed by/for (date or event):	The start of Construction LA preparation.
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time.

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.8-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.3.3.1.8-1
Explicit description of the needed information:	The emplacement mode and average package spacing would be needed to prepare this figure.
Information will be used to support:	Ventilation description in LA
The Information is needed by/for (date or event):	Start of final LA preparation
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.8-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.3.1.8-2, 4.1.3.3.1.8-3, 4.1.3.3.1.8-4
Explicit description of the needed information:	These curves will show cooling effects of ventilation air in a heated drift for a range of drift lengths, airflow quantities, and areal heat loads. The information needed to develop the curves will include thermal information from the waste stream and knowledge of the repository layout, ventilation flowpaths, and thermal management strategy.
Information will be used to support:	Ventilation description in LA
The Information is needed by/for (date or event):	Start of LA preparation
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.1.9-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.3.1.9-1 through -13
Explicit description of the needed information:	Figures that show the evolution of the ventilation systems as the repository is constructed, operated, maintained, and decommissioned. The repository layout and schedule for development and emplacement will be the primary inputs required to begin preparation of these figures.
Information will be used to support:	The description of the ventilation systems in the LA
The Information is needed by/for (date or event):	The start of preparation of the final version of the construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.2.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.3.2.1-1
Explicit description of the needed information:	The layout of the underground shop area in the development system will be needed to start this activity. The figure will show the flowpaths and control devices needed to distribute airflow in this area.
Information will be used to support:	Ventilation description in LA
The Information is needed by/for (date or event):	The start of preparation of the construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.2.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.3.2.2-1
Explicit description of the needed information:	Unit airflow quantities will be assigned to each activity to be carried out in the subsurface. These assignments will be based on the requirements for health and safety, regulatory requirements, cooling, etc.
Information will be used to support:	Description of the ventilation systems in the Construction LA
The Information is needed by/for (date or event):	The start of preparation of the Construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.2.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Tables 4.1.3.3.2.3-1 through 4.1.3.3.2.3-8
Explicit description of the needed information:	The information contained in these tables will include the airflow quantity required for each of the time periods and the associated pressure and power requirements to supply that air quantity. Development of the information will entail assignment of air quantities and computer modeling of the flow network for each time period.
Information will be used to support:	Description of the Ventilation systems in the Construction LA
The Information is needed by/for (date or event):	The start of final Construction LA Preparation
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.3.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.3.3.3.1-1
Explicit description of the needed information:	The layout of the underground shop area in the emplacement system will be needed to start this activity. The figure will show the flowpaths and control devices needed to distribute airflow in this area.
Information will be used to support:	Ventilation description in LA
The Information is needed by/for (date or event):	The start of preparation of the construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.3.3.2-1
Explicit description of the needed information:	Unit airflow quantities will be assigned to each activity to be carried out in the subsurface. These assignments will be based on the requirements for health and safety, regulatory requirements, cooling, etc.
Information will be used to support:	Description of the ventilation system in the Construction LA
The Information is needed by/for (date or event):	The start of preparation of the Construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.3.3.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665 Dan McKenzie (702) 794-1863
Primary LA AO Table or Figure INN supports (if applicable):	Tables 4.1.3.3.3.3-1 through 4.1.3.3.3.3-7
Explicit description of the needed information:	The information contained in these tables will include the airflow quantity required for each of the time periods and the associated pressure and power requirements to supply that air quantity. Development of the information will entail assignment of air quantities and computer modeling of the flow network for each time period. Description of the Ventilation systems in the Construction LA
Information will be used to support:	The start of final Construction LA Preparation
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	Unknown at this time
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	<p>Provide the results of a systems study, which includes a thermal management study, that identifies the key parameters affecting waste emplacement, and provides a flexible design that allows for emplacement in accordance with the emplacement licensing strategy. Specific parameters needed are as follows:</p> <ol style="list-style-type: none"> 1) KW/package at receipt 2) KW/package for emplacement 3) Receipt rate (assumed to be 3000 MTU/year) 4) Emplacement rate 5) Retrieval Period (assumed to be less than or equal to 100 years) 6) Near field environment 7) Max capacity of lag storage 8) Underground layout 9) definition of Substantially Completed CONSTRUCTION in accordance with 60.41(a) (when are we able to apply for a license amendment to receive, possess, and emplace waste) 10) Capacity of repository at closure (with size and location of expansion)
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	

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Date: 03/31/95

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Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4.1.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.3.4.1.1-1 Table 4.1.3.4.1.1-2
Explicit description of the needed information:	These tables summarize design basis information for the waste emplacement system
Information will be used to support:	Design of the waste emplacement concept
The Information is needed by/for (date or event):	The start of LAD.
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4.1.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figures 4.1.3.4.1.2-1 through -3
Explicit description of the needed information:	These figures show the layout of emplacement drifts and the mode of emplacement.
Information will be used to support:	Description of emplacement method
The Information is needed by/for (date or event):	The start of LAD
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4.1.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	N/A
Explicit description of the needed information:	Description of backfill in drifts. Should have same level of discussion as for backfill in ramps and shafts.
Information will be used to support:	Description of the underground facility.
The Information is needed by/for (date or event):	TBD
Most likely source of the Information:	Subsurface, Waste Package
Information Source Description:	None identified.
Does the supporting data need to be QA?	Yes

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4.1.3-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.3.4.1.3-1 Figure 4.1.3.4.1.3-2 Table 4.1.3.4.1.3-1 Table 4.1.3.4.1.3-2
Explicit description of the needed information:	These figures and tables give designs and design parameters for waste handling equipment for emplacement and for transport of waste packages from surface facilities to subsurface emplacement locations. Equipment design parameters include loads, environmental factors, and radiation shielding considerations.
Information will be used to support:	Waste emplacement and transport equipment design
The Information is needed by/for (date or event):	The start of LAD
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4.2.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Refer to Table 4.1.3.1.2.1-1 in Section 4.1.3.1, Excavation and Ground Support Systems
Explicit description of the needed information:	These data include (1) loading conditions (excavation, seismic, and thermal), (2) design data (thermal and mechanical properties of tuff and engineered materials, and waste characteristics), and (3) repository layout
Information will be used to support:	Ground support design
The Information is needed by/for (date or event):	Initial LAD
Most likely source of the Information:	ESF testing and monitoring, thermal analysis for LAD
Information Source Description:	ESF testing and monitoring results and data from the RIB will provide the principal geomechanical data. Information on material performance under thermal conditions is needed. Layout descriptions will depend on ACD documents.
Does the supporting data need to be QA?	The geomechanical data should be QA. Status of other data is unknown at this time.

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.4.2.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Refer to Table 4.1.3.1.2.2-1 and Table 4.1.3.1.2.2-2 in Section 4.1.3.1, Excavation and Ground Support Systems
Explicit description of the needed information:	Rock mass classification parameters (Q, RMR, and RQD) for application of empirical support selection methods. Stress, temperature, and moisture conditions during repository stages, including emplacement and retrieval stages. Results of numerical analyses, including: ventilation and cooling analysis, short and long-term drift stability analysis. Empirical and analytical estimates of the geometry and nature of the damaged rock zone. Analysis will include description and evaluation of various types of underground openings (drift/drift, drift/shaft, and drift/ramp) and with various geologic elements (drift/fault, drift/geologic contact, etc.).
Information will be used to support:	Ground support design
The Information is needed by/for (date or event):	Initial LAD
Most likely source of the Information:	Analyses performed during repository design
Information Source Description:	Data collected during ESF testing and excavation will provide principal input for design analyses.
Does the supporting data need to be QA?	Unknown at this time.

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Date: 03/31/95

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INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.6-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Descriptions of all subsurface emergency systems. Backup power and communications systems, fire alarm and control systems, and evacuation signaling systems should be described. Includes differences in emergency systems for development and emplacement areas.
Information will be used to support:	Description of the repository subsurface operations area in the Construction LA.
The Information is needed by/for (date or event):	The start of Construction LA preparation.
Most likely source of the information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.7-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	This section will contain a description of the communication system(s) envisioned for use in the repository subsurface, and between the surface and subsurface areas. A Title I level of design detail should be sufficient to adequately describe this feature.
Information will be used to support:	Description of the subsurface repository operations area in the Construction LA.
The Information is needed by/for (date or event):	The start of preparation of the final Construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.3.9-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a discussion of all aspects of the preparation of the subsurface facility for permanent closure. The process should be described from shutdown and removal of equipment through emplacement of backfill (if used), placement of seals and bulkheads, sealing of local anomalies (as required), and location selection and placement of seals. Long term drainage considerations should also be discussed.
Information will be used to support:	Description of the repository subsurface design in the construction LA
The Information is needed by/for (date or event):	The start of preparation of the final construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a description of the layouts of the facilities for radiation protection in the GROA and the radiological design features for each system described in section 4.1 of the LA Annotated Outline that are employed to meet the standards in 10 CFR 20, other appropriate NRC guidance and any applicable standards provided by the EPA.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	N/A
Explicit description of the needed information:	Projected radiation exposures to workers and the general public from handling, storage, retrieval, emplacement, and isolation of waste packages during normal operations, anticipated operational occurrences, and accident conditions that are expected to prevail until permanent facility closure. Use guidelines in LA Section 4.1 to provide this information.
Information will be used to support:	Calculated radiation exposure during facility operation.
The Information is needed by/for (date or event):	TBD
Most likely source of the Information:	Waste Package, Repository Design
Information Source Description:	None identified
Does the supporting data need to be QA?	Yes

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a design ALARA manual
Information will be used to support:	The design ALARA manual will be used to ensure that ALARA is considered early in the design of the facility.
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4-4
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide an operations ALARA manual.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.4.1-1
Explicit description of the needed information:	Within the emplacement side of the subsurface repository operations area, certain areas will be controlled to prevent access by personnel. One or more drawings will be used to show the location of these areas. Information such as barrier door thickness, barrier door locations, locations of decontamination areas (if needed), and planned traffic patterns will be shown.
Information will be used to support:	Description of the subsurface repository operations in the construction LA
The Information is needed by/for (date or event):	The start of preparation of the construction LA
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.4.1-1
Explicit description of the needed information:	
Information will be used to support:	Provide a description of the facilities and equipment used for radiation protection. Provide Table 4.1.4.1-1 that lists SSCs intended for radiation protection.
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.4.2-1
Explicit description of the needed information:	Provide the figure(s) necessary to adequately represent the radiation zones within the GROA.
Information will be used to support:	The development of the ALARA program at the GROA.
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Those design features which contribute to the attainment of ALARA will be described. The measures which will be taken and design features that will be incorporated to minimize exposure will be discussed. Included will be descriptions of the measures taken to reduce maintenance requirements in higher exposure areas, lower rad levels in areas where personnel must be present, and control contamination spread. The design features utilized from Reg Guide 8.8 will be discussed. A discussion of how the ventilation systems will contribute to the control of contamination movement will also be provided.
Information will be used to support:	Design description of the subsurface repository in the construction LA.
The Information is needed by/for (date or event):	The start of preparation of the final construction LA.
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

Date: 03/31/95

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.2-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	N/A
Explicit description of the needed information:	Measures taken to maintain radiological safety and minimize contamination during handling, storage, retrieval, and emplacement of radioactive waste packages during normal operations, anticipated operational occurrences, and accident conditions.
Information will be used to support:	Description of radiological protection measures.
The Information is needed by/for (date or event):	TBD
Most likely source of the Information:	Not identified
Information Source Description:	Not identified
Does the supporting data need to be QA?	Yes

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.2.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.4.2.4-1
Explicit description of the needed information:	Provide the ventilation system component parameters important to effluent analyses.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.3.1.1-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.4.3.1.1-1
Explicit description of the needed information:	Provide the typical fission and activation products and subsequent decay daughters in typical PWR and BWR fuel assemblies.
Information will be used to support:	Shielding and effluent calculations
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.3.1.1-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.4.3.1.1-2
Explicit description of the needed information:	Provide the photon, neutron, and heat source terms for typical SNF types.
Information will be used to support:	Shielding, effluent, and thermal calculations.
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.3.1.1-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	<p>Description of radiological protection measures.</p> <p>Types of radioactive effluents expected to be discharged into the underground facility as a result of operational occurrences and accident conditions, and consequences of the release of those radionuclides. Discuss any effluents that could pass to the general environment or to the surface facility, and assess dose consequences to workers and the public. Include, for each effluent, an estimate of the quantity that could be released, rate of release, and point of origin.</p>
Information will be used to support:	TBD
The Information is needed by/for (date or event):	Not identified.
Most likely source of the Information:	Not identified.
Information Source Description:	Yes
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

I-4.1-341

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.3.1.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Identify the ventilation system(s) that will handle airborne radioactive sources.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.3.2-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide the name and a description of the computer codes used in the shielding analyses.
Information will be used to support:	The development of shielding calculations.
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.3.2-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.4.3.2-1
Explicit description of the needed information:	Provide the minimum shielding requirements for GROA facilities. In addition, provide the design parameters for the shielding used for each of the sources identified in Subsection 4.1.4.3.2
Information will be used to support:	The shielding calculations, and to minimize personnel exposures.
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.4-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	This section will address the use of radiation monitors in the GROA. Figure(s) will show the proposed locations of monitors. Rationale for the selection of alarm setpoints will be discussed. Information will be provided on alternate power supply, monitoring range, sensitivity, and accuracy. Also discussed will be the required frequency of monitor calibration and the method(s) of calibration. Rationale for selected monitor and readout locations will be discussed. Information on airborne monitoring will be provided as indicated.
Information will be used to support:	Subsurface repository design description in the construction LA.
The Information is needed by/for (date or event):	The start of preparation of the final construction LA.
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	Unknown at this time.

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

I-4.1-345

The above Annotated Outline text is guidance that may be used for the future development of an MGDS facility License Application.

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.4-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a discussion about the use of portal monitors to monitor personnel leaving the facility to prevent the spread of contamination. Identify the locations at which the portal monitors will be used.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.4-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.4.4-1
Explicit description of the needed information:	Describe and provide the location of the fixed-area monitors and continuous airborne monitoring instrumentation.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.4-4
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Figure 4.1.4.4-2
Explicit description of the needed information:	Provide an illustration of the fixed-area radiation monitoring system. Include sample pumps and collectors.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.4.4-5
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.4.4-1
Explicit description of the needed information:	Tabulation of the monitoring instrumentation design parameters.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.5-1
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a discussion on the interfaces between the GROA and waste management systems such as transportation.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.5-2
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	Table 4.1.5-1
Explicit description of the needed information:	<p>Provide a description of the SSCs that interface between surface facilities, shafts and ramps, and the underground facility. The description should include:</p> <p>Ventilation system Hoisting system Communication system Emergency system Utility system Operation Support system Instrumentation and Control system</p>
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	

Date: 03/31/95

MGDS LA Annotated Outline Form A: Information Need	
Information Need Number:	INN 4.1.5-3
Section Number and Title:	4.1 DESCRIPTION OF THE GROA SSCs
Lead Author/Support Author and Phone:	Ken Ashe (702) 794-7665
Primary LA AO Table or Figure INN supports (if applicable):	
Explicit description of the needed information:	Provide a discussion on the interface between safety related and non-safety related systems.
Information will be used to support:	
The Information is needed by/for (date or event):	
Most likely source of the Information:	
Information Source Description:	
Does the supporting data need to be QA?	

INTEGRATOR (PMO):	
Date information will be available:	
Deliverable providing information:	
If the data needed is QA, then the QA source document number is:	