

The Future of the
State-Licensed Disposal Area

Objectives:

- Initiate dialogue with the CTF and public regarding the SDA.
- Introduce the staff that take care of the SDA.
- Briefly summarize SDA history and performance information.
- Explain some differences between the SDA decision and the WVDP decisions.
- Share our current thinking regarding the future of the SDA.

NYSERDA

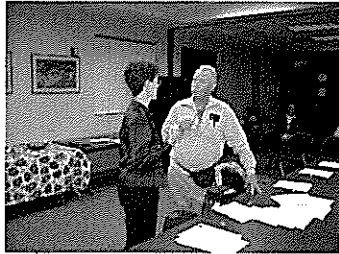


The Future of the State-Licensed Disposal Area

Dialogue

Please note your questions
and concerns.

Please note the additional
information you may want.



**We would like this to
be the beginning of
an ongoing discussion.**



The Future of the State-Licensed Disposal Area

History

What is an SDA?

How did the SDA come to be?

Why is the SDA where it is?

What is in the SDA?

NYSERDA



NYSERDA



What is an SDA?

State – Licensed....

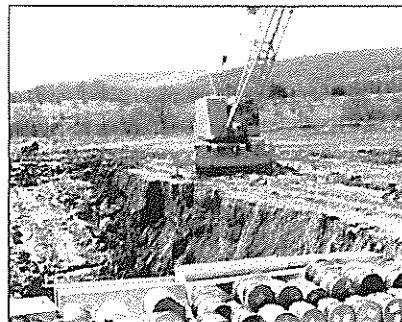
NYS Department of Health License
and NYS Department of Environmental
Conservation Permit

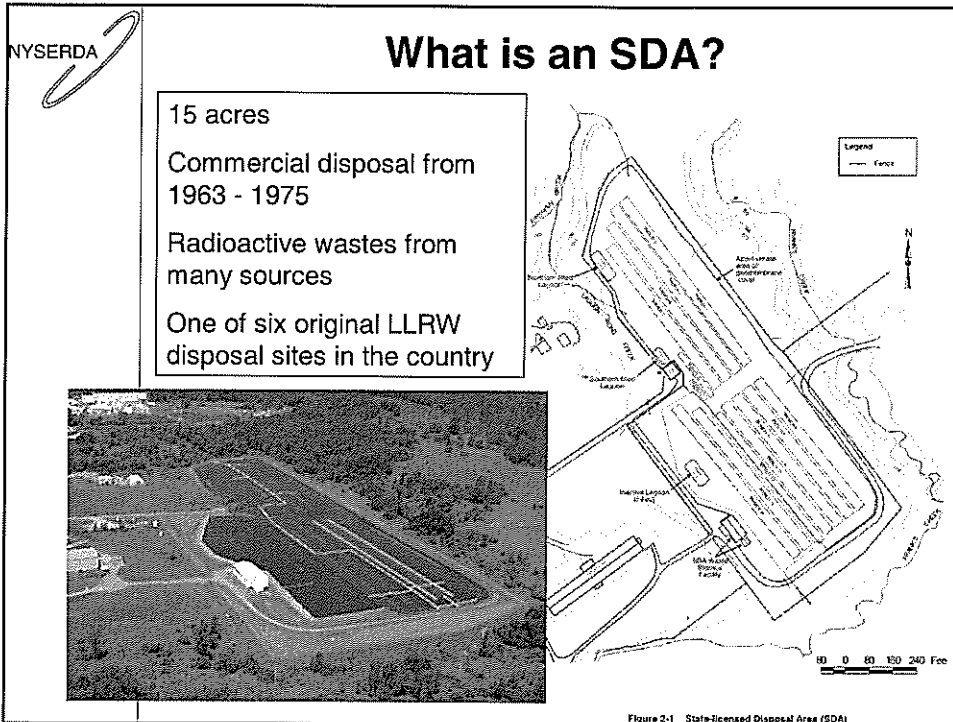
Disposal....

of radioactive wastes

Area...

north and south areas
with 14 disposal trenches





The Future of the State-Licensed Disposal Area

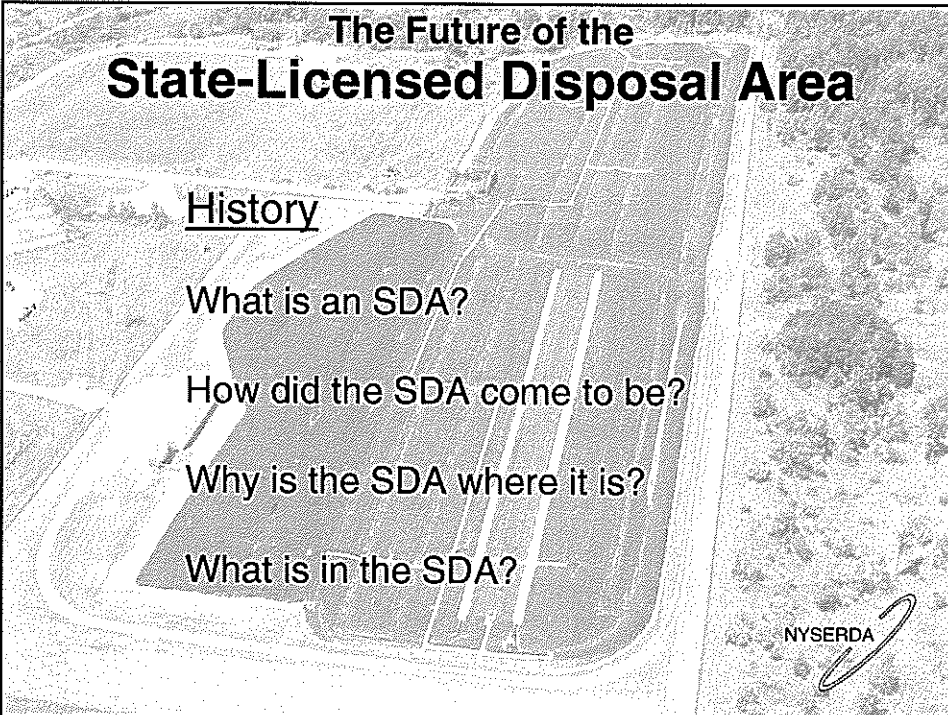
History

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What is in the SDA?



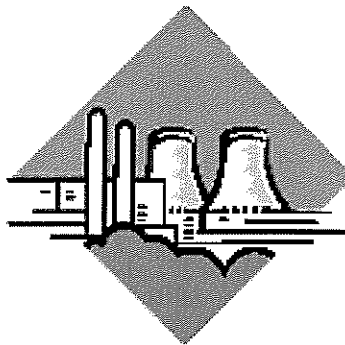
NYSERDA

How did the SDA come to be? Part of Commercializing Nuclear Industry

1954 – Atomic Energy Act

Federal policy to commercialize nuclear fuel cycle

Atomic Energy Commission (AEC) began actively promoting the rapid development of nuclear power for civilian purposes

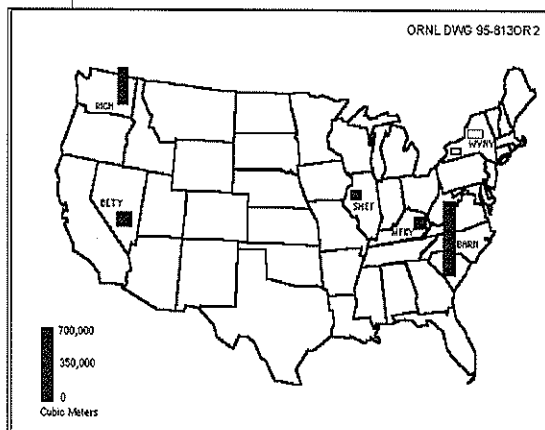


Commercialization of nuclear power necessitated waste management and disposal options

How did the SDA come to be? Part of Commercializing Nuclear Industry

Waste Management

Prior to 1960 – Disposal of Radioactive Waste Provided by AEC
At sites in Oak Ridge, Tennessee and in Idaho



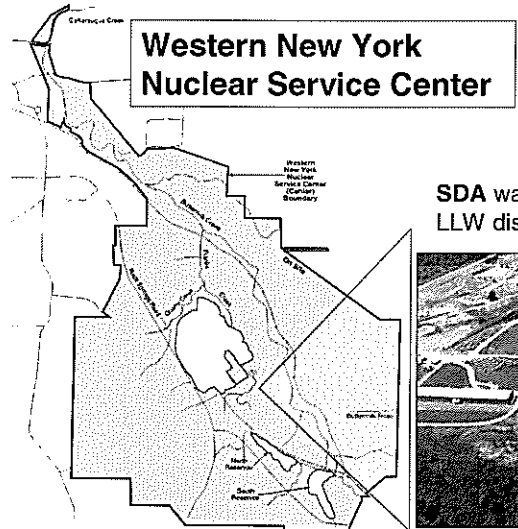
1960 - "Regional" Land Disposal Sites

AEC endorsed the establishment of regional land disposal sites by the private sector for commercially generated low-level waste (LLW)

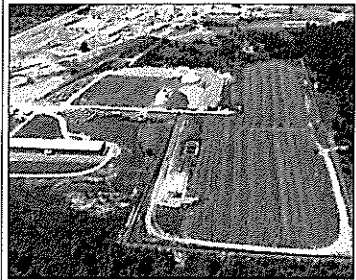
1962 - 1971 - Six Commercial LLW Disposal Sites Opened
SDA was one of these six sites



How did the SDA come to be? Part of Commercializing Nuclear Industry



SDA was one of six commercial LLW disposal facilities



The Future of the State-Licensed Disposal Area

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- What is an SDA?
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- Why is the SDA where it is?
- What is in the SDA?

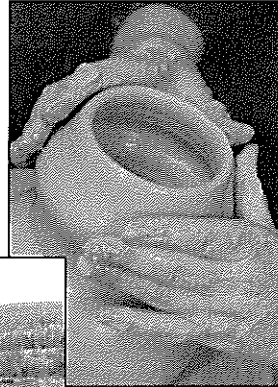
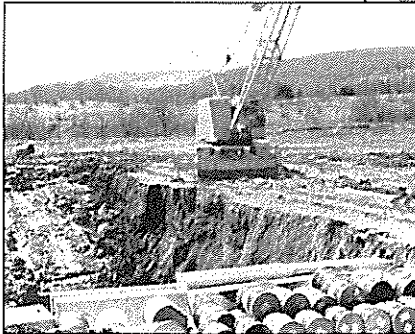
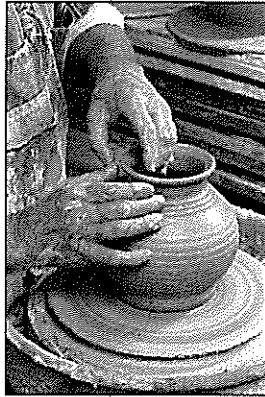




Why is the SDA where it is?

In one word:

CLAY!

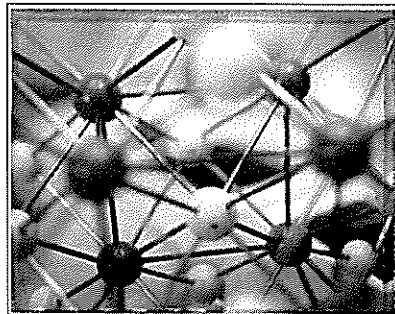
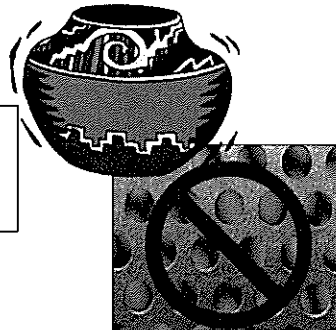


Why is the SDA where it is?

Key Advantages of CLAY:

Great water barrier!

- Tight
- Relatively impermeable



Binds Large Radionuclides

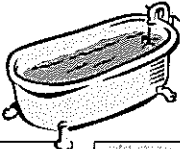
- Immobilizes
- Inhibits migration

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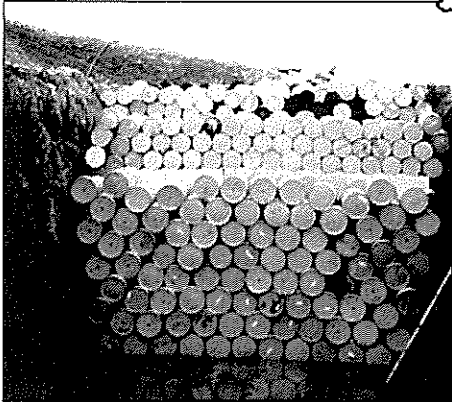
Why is the SDA where it is?

Key Disadvantages of CLAY:

Great water barrier! – Bathtub effect



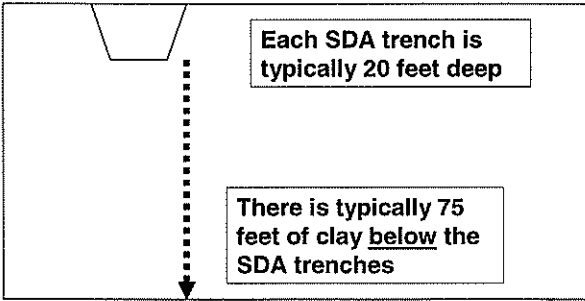
Susceptible to slumping and erosion



NYSERDA

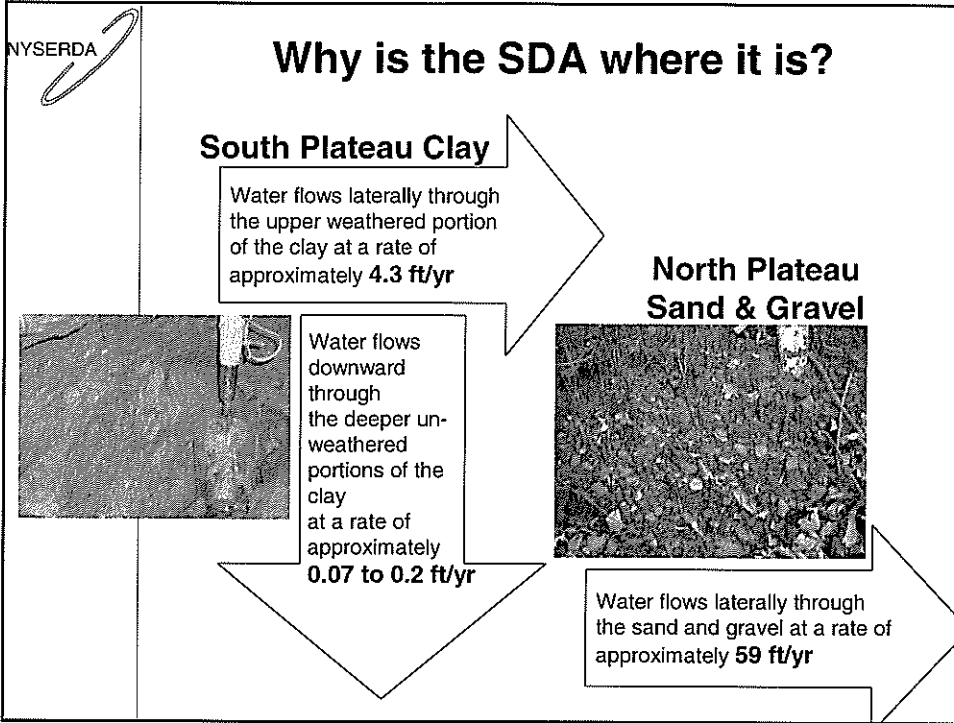
Why is the SDA where it is?

CLAY at the SDA:



Each SDA trench is typically 20 feet deep

There is typically 75 feet of clay below the SDA trenches



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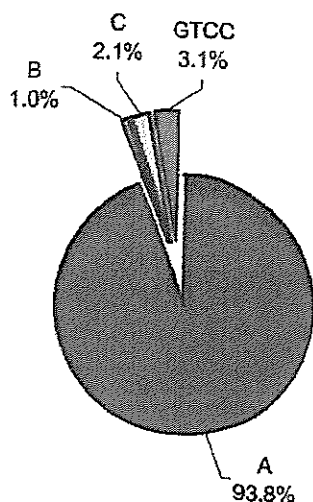
History

- What is an SDA?
- How did the SDA come to be?
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- What is in the SDA?

NYSERDA

What is in the SDA?

SDA Waste Volumes by Class



Variety of Waste Sources

- Wastes from fuel reprocessing plant
- Institutions like hospitals and colleges
- Nuclear power plants
- Industries
- Waste Brokers
- Decontamination Facilities
- Others

The Future of the State-Licensed Disposal Area

Performance

What problems have occurred at the SDA?

What actions have been taken to prevent these problems?

Have these actions worked?

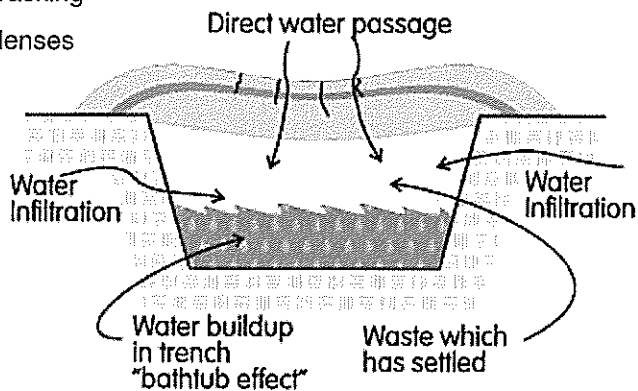
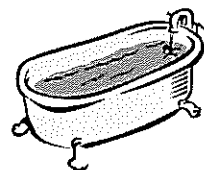
What additional problems could occur?



What problems have occurred at the SDA?

Water Infiltration / "Bath-tubbing"

- Cap thickness
- Settling of waste
- Cap cracking
- Sand lenses
- Peat



The Future of the State-Licensed Disposal Area

Performance

What problems have occurred at the SDA?

What actions have been taken to prevent these problems?

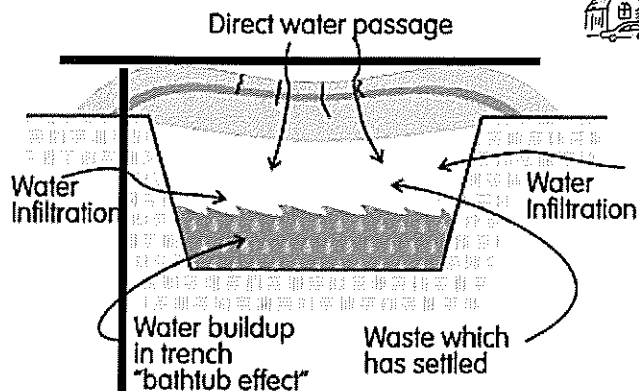
Have these actions worked?

What additional problems could occur?



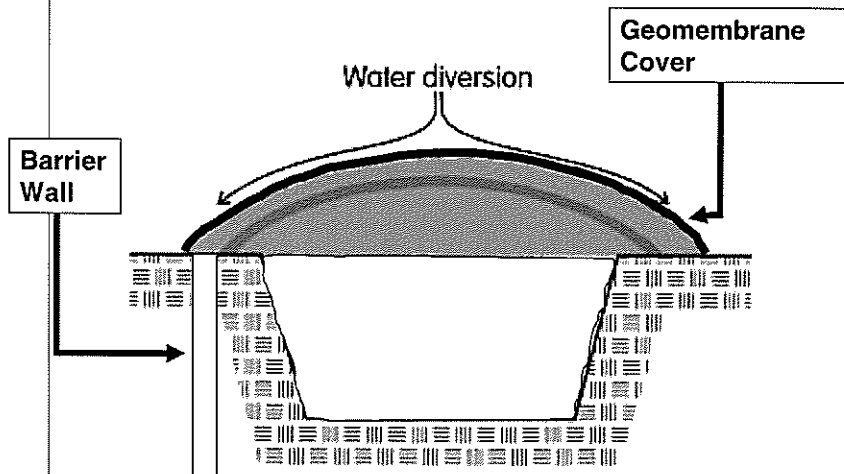
What actions have been taken to prevent these problems?


We have cut off the water paths!

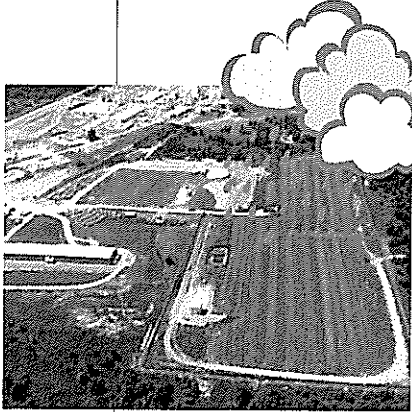
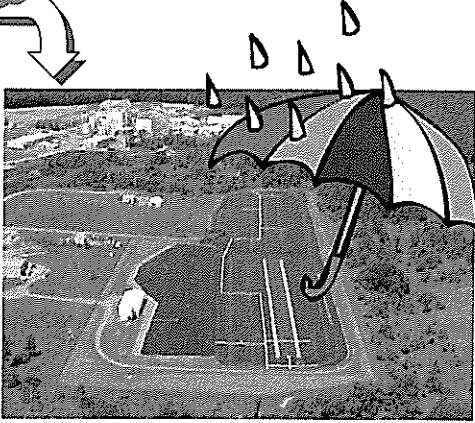


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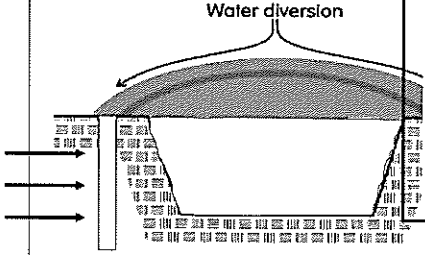
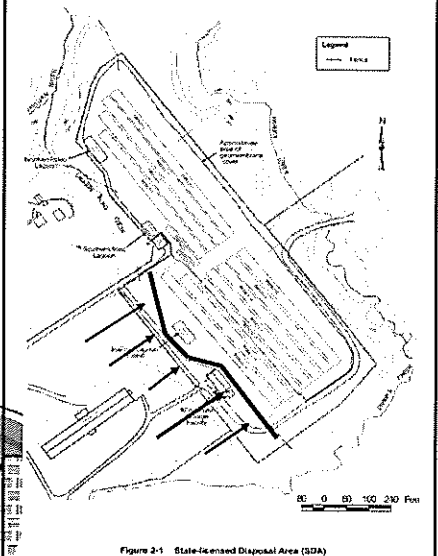

What actions have been taken to prevent these problems?

Geomembrane cover cut off vertical water infiltration path


What actions have been taken to prevent these problems?

Below-grade barrier wall cut off horizontal water flow

Water diversion

Figure 2-1 State-licensed Disposal Area (SDA)

The Future of the State-Licensed Disposal Area

Performance

What problems have occurred at the SDA?

What actions have been taken to prevent these problems?

Have these actions worked?

What additional problems could occur?

NYSERDA



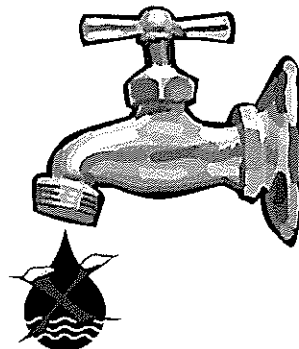
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Have these actions worked?

In one word:



YES!



Water levels in the SDA trenches have not increased since the infiltration controls were installed.

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Performance

What problems have occurred at the SDA?

What actions have been taken to prevent these problems?

Have these actions worked?

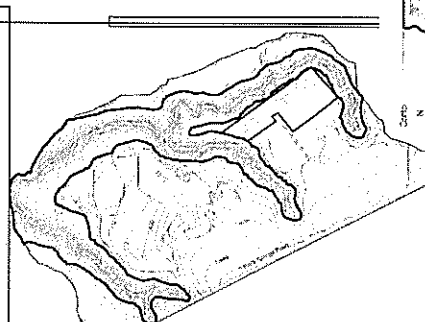
What additional problems could occur?

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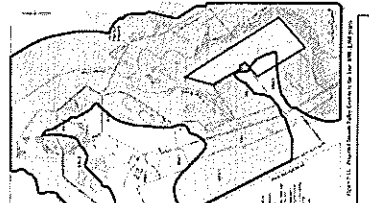
What additional problems could occur?

Erosion

Erosion predictions are uncertain!



2005 Predecisional DEIS Prediction
1000 years in the future



1996 DEIS Prediction
1000 years in the future

No confidence in erosion predictions:

- What units will be impacted?
- When the units will be impacted?
- How much waste will be released?

What additional problems could occur?

Erosion

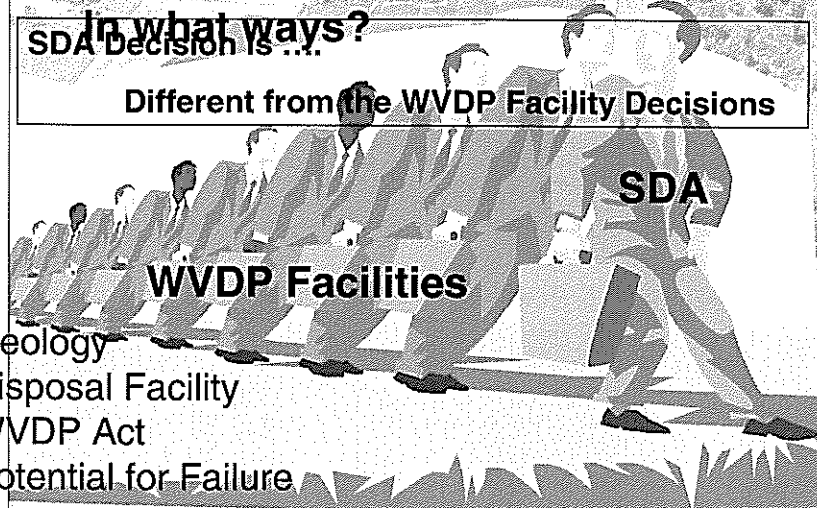
While erosion predictions are uncertain...



It is certain that...

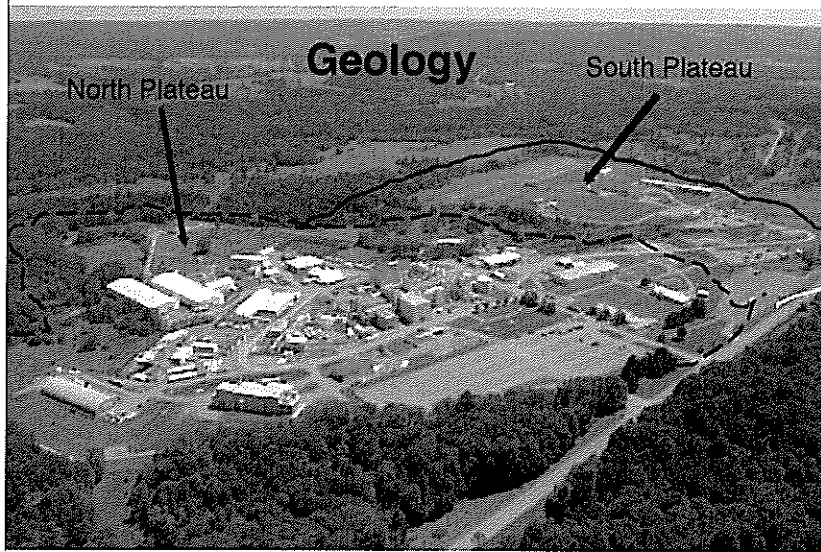
Erosion must be actively mitigated if the SDA is to remain in place.

In what ways?
SDA Decision Is ...
Different from the WVDP Facility Decisions



- Geology
- Disposal Facility
- WVDP Act
- Potential for Failure

**SDA Decision is
Different from the WVDP Facility Decisions**

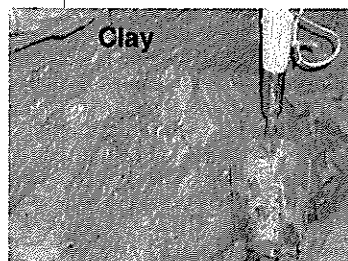


**SDA Decision is
Different from the WVDP Facility Decisions**

Geology

North Plateau - Location of most of WVDP facilities

- Sand and gravel geology
- Highly permeable
- Water flow rates of 59 ft/yr



South Plateau - Location of the SDA

- Clay geology
- Low permeability
- Water flow rates of 0.07 to 0.2 ft/yr

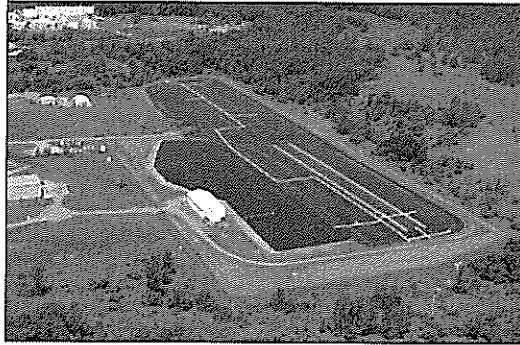
SDA Decision is

Different from the WVDP Facility Decisions

Disposal Facility

The SDA is already a disposal facility.

No major action or decision is needed to turn it into a disposal facility

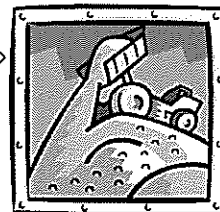
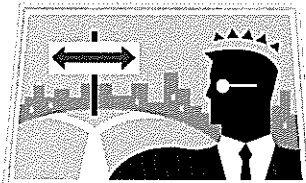


SDA Decision is

Different from the WVDP Facility Decisions

Disposal Facility does not currently exist on the north plateau

A major decision would be needed to create a new disposal facility on the north plateau

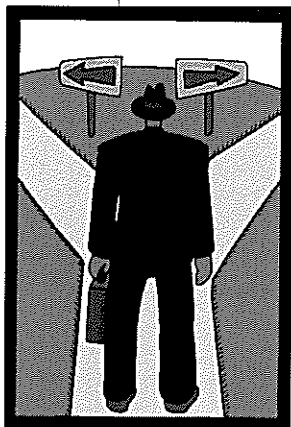


A major action would be needed to create a new disposal facility on the north plateau

SDA Decision is

Different from the WVDP Facility Decisions

WVDP Act



“The Secretary shall decontaminate and decommission....”

DOE must choose a decommissioning path

SDA Decision is

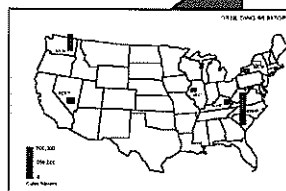
Different from the WVDP Facility Decisions

WVDP Act is not applicable to the SDA.

Decommissioning is not a requirement for the six existing commercial disposal areas.

The SDA has...

- A viable owner - NYSERDA
- A viable operator - NYSERDA
- A compliant licensee - NYSERDA
- A compliant permittee - NYSERDA
- A committed steward - NYSERDA



NYSERDA has the option of staying on our current path of monitoring and maintaining the SDA

SDA Decision is

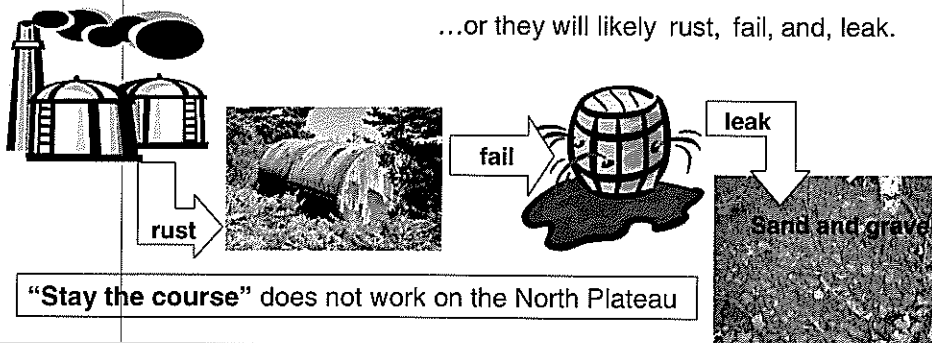
Different from the WVDP Facility Decisions

Potential for Failure

Decision and Action Needed on North Plateau to Avoid Failure

WVDP underground carbon steel tanks that are 40+ years old must be filled or removed ...

...or they will likely rust, fail, and, leak.



“Stay the course” does not work on the North Plateau

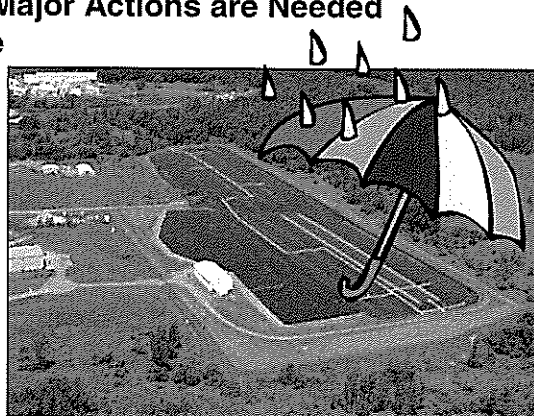
SDA Decision is

Different from the WVDP Facility Decisions

Potential for Failure

At the SDA No Major Actions are Needed to Avoid Failure

The SDA is an existing disposal area that is performing well in its current configuration.



Monitor and maintain is an option for the SDA

The Future of the State-Licensed Disposal Area

Future

What about the long-term?

What is the current staff proposal?

What is the rationale?

NYSERDA

NYSERDA

Preliminary Thoughts!

Only a Staff Proposal!

Predecisional!

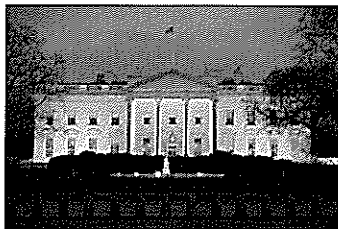
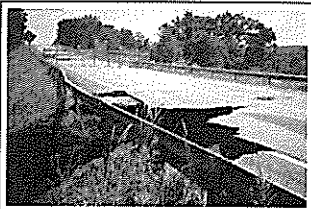
Not Decided!

Not Approved!

What about the long-term?

If by "long-term" we mean a **forever** decision that needs to be made **NOW** and never revisited then ...

"Dig It Up"



Because...

Erosion cannot be abated **forever** without continuous active management

and...

We cannot assume that government will exist **forever** to actively manage the facility

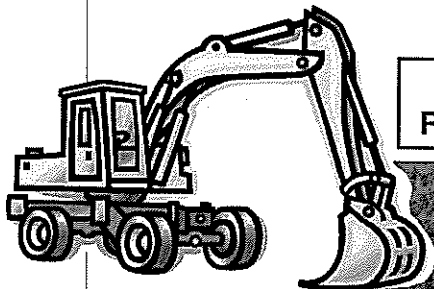
NYSERDA's Question:

Is a **forever** decision necessary NOW?

What about the long-term?

Options

"Dig It Up" NOW



"Monitor and Maintain" for Reevaluation in the FUTURE

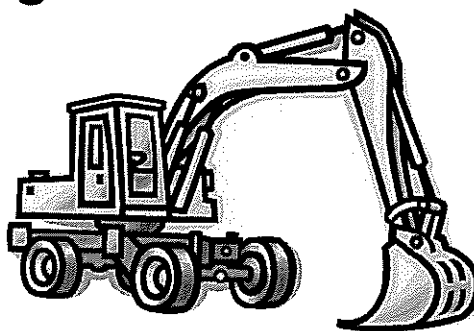


What about the long-term?

“Dig It Up” NOW

✓ **Positives**

✓ **Negatives**



What about the long-term?

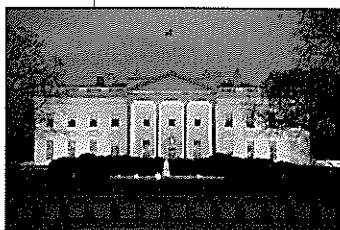
A forever decision NOW = “Dig it Up”

Positives



✓ **Out of our backyard –
Removes local long-term risk**

✓ **No need to trust government to provide
proper care and make good decisions in
the future**



✓ **No need to monitor the government's
actions in the future**

What about the long-term?

A forever decision NOW = "Dig it Up"

Positives



Problem not passed on to future generations of this community



More jobs in the near term



Reduced future costs



What about the long-term?

A forever decision NOW = "Dig it Up"

Negatives



Moved to someone else's backyard - Risk is transferred



Increased near-term risk to workers, drivers and local environment



Some other community has to trust their government



Some wastes have no home - "orphan wastes"



NYSERDA

What about the long-term?

A forever decision NOW = "Dig it Up"

Negatives

- ✓ Human access to the wastes increases potential for mismanagement
- ✓ Large costs to NYS taxpayers in the near term
- ✓ Jobs go away after "Dig it Up"

NYSERDA

What about the long-term?

"Dig it Up" NOW

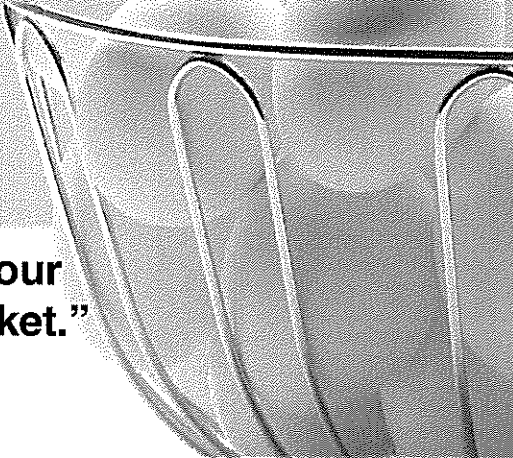
Positives	Negatives
Out of <u>our</u> backyard – Removes local long-term risk	Moved to someone else's backyard – Risk is transferred
No need to trust government to provide proper care and make good decisions in the future	Increased near-term risk to workers, drivers and local environment
No need to monitor the government's actions in the future	Some other community has to trust their government
Problem not passed on to future generation of this community	Human access to the wastes increases potential for mismanagement
More jobs in the near term	Some wastes have no home "orphan wastes"
Reduced future costs	Large costs to NYS taxpayers in the near term
	Jobs go away after "Dig it Up"

NYSERDA

What about the long-term?

“Monitor and Maintain” for Reevaluation in the FUTURE

“Not putting all our eggs in one basket.”

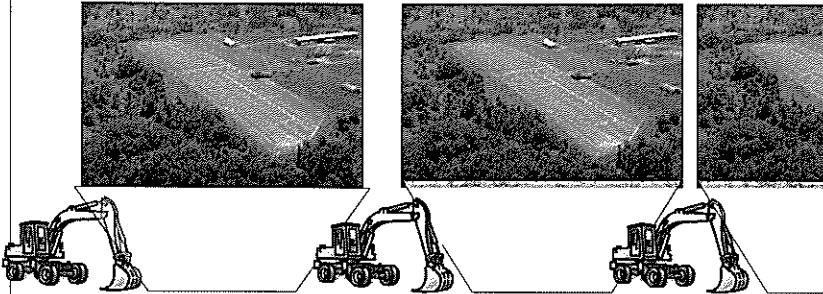


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What about the long-term?

“Monitor and Maintain” for Reevaluation in the FUTURE

At the SDA, we have the possibility for short increments of time (e.g., 30 years) to preserve our ability to choose for or against “Dig It Up.”



Year

2006	2036	2066
?	?	?

What about the long-term?

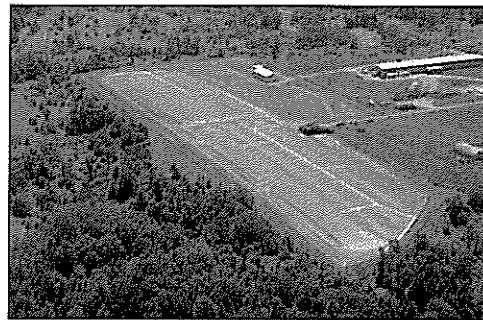
“Monitor and Maintain” for
Reevaluation in the FUTURE



Positives



Negatives



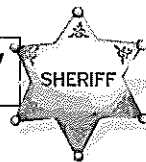
What about the long-term?

“Monitor and Maintain” for
Reevaluation in the FUTURE

Positives



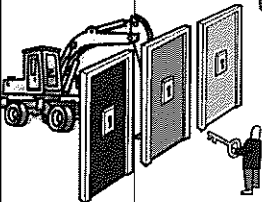
Protective of public health & safety
and the environment



Minimal near-term costs



Preserves the option to “Dig It Up” or
do something different in the future



Does not allow human access to the
wastes thus avoiding the potential
for mismanagement



NYSERDA



What about the long-term?

“Monitor and Maintain” for Reevaluation in the FUTURE

Positives

- ✓ Does not transfer the risk to someone else’s backyard
- ✓ Does not create “orphan wastes”
- ✓ Stable level of employment at the SDA

Home?

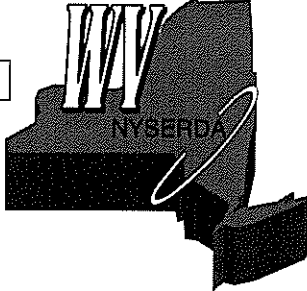


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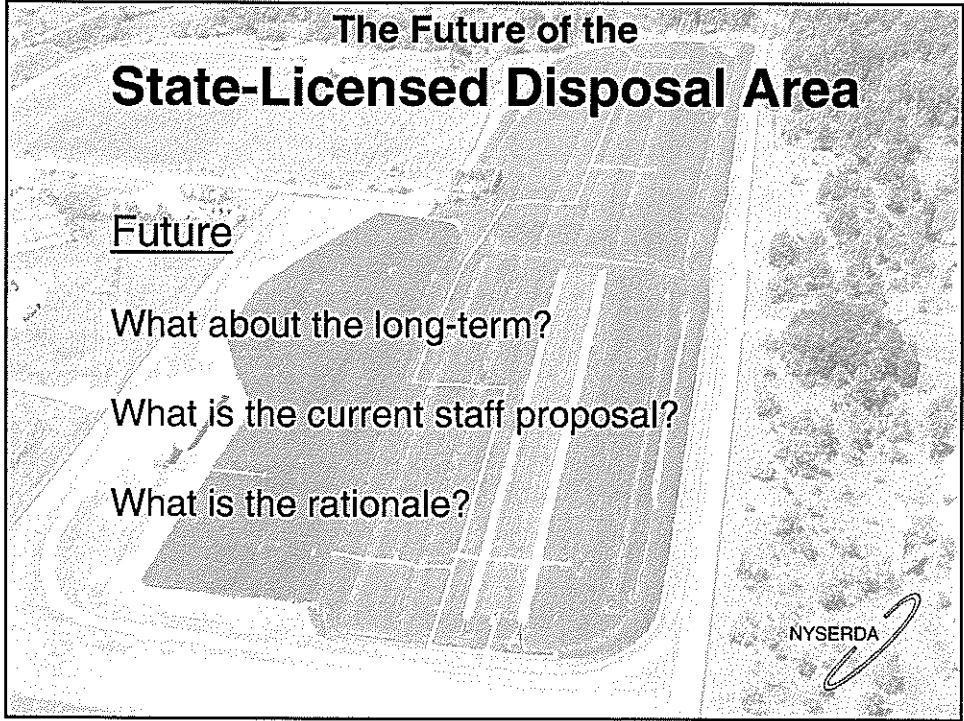
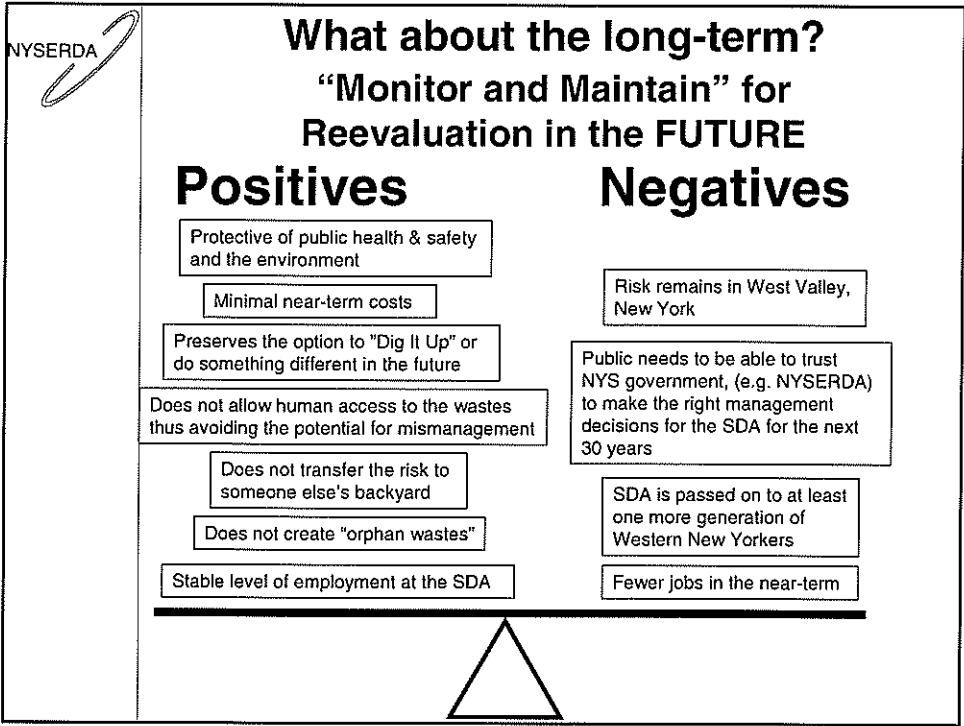
What about the long-term?

“Monitor and Maintain” for Reevaluation in the FUTURE

Negatives

- ✓ Risk remains in West Valley, New York
- ✓ Public needs to be able to trust NYS government, (e.g., NYSERDA) to make the right management decisions for the SDA for the next 30 years
- ✓ SDA is passed on to at least one more generation of Western New Yorkers
- ✓ Fewer jobs in the near term

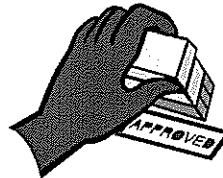


What is the current staff proposal?

Only a Staff Proposal!

We still need

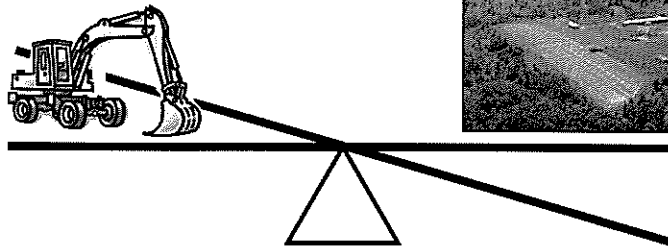
- To comply with the State Environmental Quality Review Act (SEQRA)




- Regulatory approvals
- Management and Board approval


What is the current staff proposal?


“Monitor and Maintain” for Reevaluation in the FUTURE





What is the current staff proposal?
**“Monitor and Maintain” for
 Reevaluation in the FUTURE**


For a period of time (e.g., 30 years)
 NYSERDA believes the SDA can be
 safely managed in place...

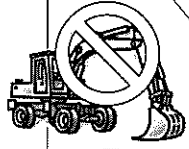


 water infiltration can be prevented
 and
 erosion can be mitigated



while preserving our ability to implement
 the “Dig It Up” option at some point in
 the future.


What is the current staff proposal?
**“Monitor and Maintain” for
 Reevaluation in the FUTURE**



Year 2006 2036
?

What is the current staff proposal?

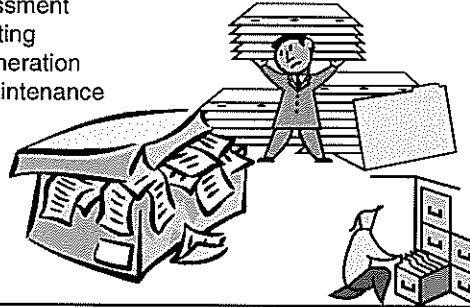
“Monitor and Maintain” for
Reevaluation in the FUTURE

REQUIREMENTS



Active Onsite Management

- Environmental monitoring
- Facility inspections
- Facility maintenance
- Data assessment
- Data reporting
- Record generation
- Record maintenance



What is the current staff proposal?

“Monitor and Maintain” for
Reevaluation in the FUTURE

REQUIREMENTS



Periodic Reevaluation

Human health and environment
still protected?

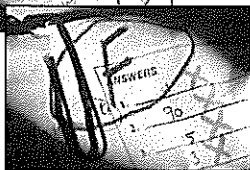
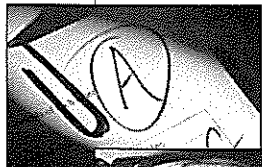
Water infiltration controls still
working?

Erosion controls still working?

New science and technology developments
that support exhumation?

New waste management or destruction options?

Others?





What is the current staff proposal?

“Monitor and Maintain” for
Reevaluation in the FUTURE

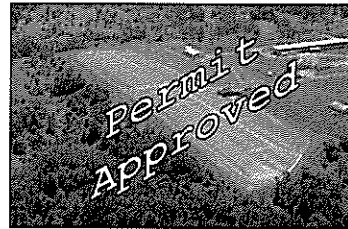
REQUIREMENTS



Regulatory Oversight



- Permits and licenses
- Approval of actions and decisions
- Compliance Inspections
- Enforceable – violations, fines, penalties



The Future of the State-Licensed Disposal Area

Future


What about the long-term?

What is the current staff proposal?

What is the rationale?

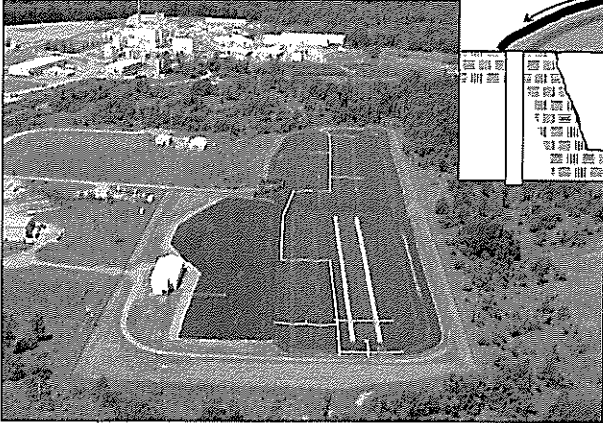
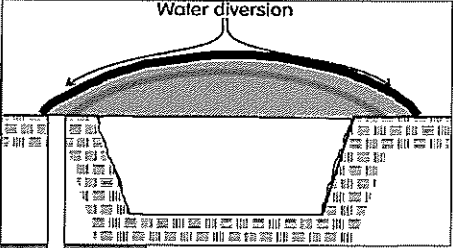
NYSERDA






What is the rationale?


The SDA is performing well.

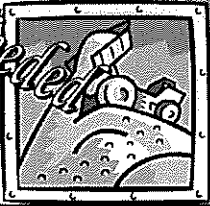


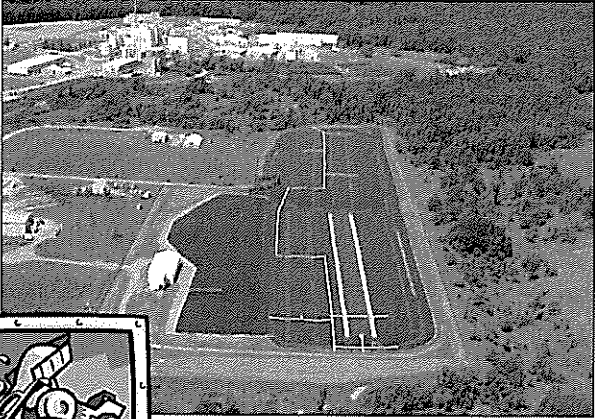
What is the rationale?

Already a disposal facility
- No major action needed to turn it into one



Not Needed





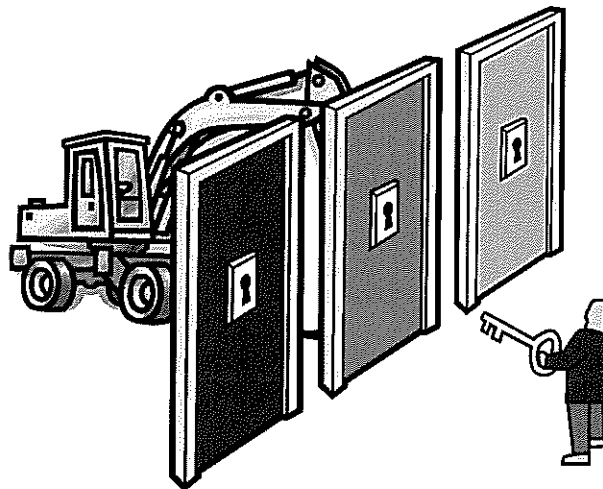
What is the rationale?

Large cost to "Dig It Up" NOW
yields minimal near-term benefits.



What is the rationale?

Preserves option to "Dig It Up" LATER





The Future of the
State-Licensed Disposal Area

Dialogue

What are your questions and concerns?

What additional information do you want?

**We would like this to be the beginning of
an ongoing discussion.**

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