WEBINAR TRANSCRIPT

This document provides the transcript from a public meeting (webinar) that was held on March 25, 2019, to discuss enforcement decisions and recent inspection activities at San Onofre Nuclear Generating Station. The recent inspections were conducted in response to an incident that resulted in the misalignment of a multi-purpose canister loaded with spent fuel at the San Onofre Nuclear Generating Station.

Hosts of Webinar:

Linda Howell, Deputy Director
Division of Nuclear Materials Safety
Region IV

Lee Brookhart, Senior ISFSI Inspector
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety
Region IV

Good afternoon, and thank
you for joining the webinar.
My name is Linda Howell.
I'm the deputy director of Region IV's
Division of Nuclear Materials Safety.
With me is Mr. Lee Brookhart,
the Region's senior
dry fuel storage inspector.
The purpose of this afternoon's meeting is
to share information
concerning NRC's final
enforcement decision involving information
developed during special
inspection conducted
to review circumstances associated
with an August 3rd, 2018,
canister misalignment incident
at the San Onofre Nuclear
Generating Station, or SONGS.
The special inspection
included on-site reviews
from September 10th through 14th, 2018,
as well as subsequent in-office reviews
of information provided by the licensee.
On November 8th, 2018, we first presented
preliminary special inspection results
during a public webinar
and shared information
about the August 3rd incident.
The special inspection
findings were documented
in a report that was published
on November 28th, 2018,
and an errata to the
report was later issued

on December 19th, 2018.
The inspection report described
two apparent violations
and included a notice of
violation for three issues
of lesser safety significance.
Since that time, Southern
California Edison and the NRC
participated in a predecisional
enforcement conference
to discuss the two apparent violations
on January 24th, 2019.
The predecisional enforcement
conference was open
to public observation
via webinar broadcast.
During the enforcement conference,
NRC discussed the safety significance
of the apparent violations,
and Southern California
Edison was provided
an opportunity to present its position
on the safety significance of the issues.
Southern California Edison also discussed
numerous corrective actions
that had been completed at SONGS.
The inspection report,
information presented
during the November 8th webinar,
and during the predecisional
enforcement conference
is available in the Spotlight portion
of the NRC's public webpage.
In addition, we have posted
presentation materials

to be used during our meeting today
as well as the final enforcement action
that was issued to
Southern California Edison
earlier today.
As you see on the agenda,
following discussion of the
NRC's enforcement action,
and the factors that the
agency considers in making an
enforcement decision,
we plan to discuss our
preliminary findings
from inspection activities
that were initiated
in November 2018 and
which are still ongoing.
Following the conclusion
of the special inspection,
NRC initiated additional
inspection efforts
to review Southern California
Edison's corrective
action implementation and several analyses
that were conducted by the licensee.
The inspection efforts
included over two weeks
of on-site review as
well as in-office review
of information submitted by the licensee.
Mr. Brookhart will discuss
the inspection effort
and our observations a little
later in today's meeting.
We'll also address the status

of fuel loading activities
at SONGS and the path forward.
At the conclusion of our presentation,
we'll open the meeting to accept questions
from our audience.
This is a Category 3 meeting,
so public participation is encouraged.
I'll also note that in
addition to today's webinar,
NRC management will also be speaking
at the San Onofre community
engagement panel meeting
this coming Thursday,
March 28th, at 5:30 PM.
We look forward to meeting
with some of you directly
and answering any questions
that you may have.
Before we move forward
into our presentation,
I'd like to inform
visitors present here today
where the facilities are.
If you go out the door, turn to your left,
across the foyer area,
they will be on the right.
Also, in the event of an emergency,
we will stay together
and exit the building
through the front doors.
We'll remain in the parking lot
until the situation is over
and we're allowed to reenter the building.
Let me also ask that staff
and visitors in the room,

please silence your cell
phones during the meeting
and please keep your voices down
because the meeting is being recorded.
Lastly, please be mindful
that the meeting is being broadcast,
so if individuals present
need to exit the room,
please do so via the rear of the room
so as not to cross the
field of view of the camera
that's recording the webcast.
Again, our slides are available
on the Spotlight section
of the NRC public webpage at www.nrc.gov.
From the Spotlight section,
click on SONGS Cask Loading Issue,
and from there you will
see a variety of documents
available for your review
with today's slides
being one of those options.
The presentations and other documents
will also be available
via the NRC's Agencywide
Document Access Management
System, or ADAMS.
The video and transcript
from today's meeting
will also be posted to the
Spotlight section of our webpage.
In addition, we'll post
comments and questions received
during the meeting.
Please note that the

transcript of the meeting
and the questions will take a few weeks
to be posted since the NRC must receive
the transcript from our contractor
who is providing the webinar service today,
and review both the
transcript and the questions
to ensure accuracy of the information.
We are also required by the
Americans with Disabilities Act to provide
closed-captioning for the video.
We apologize in advance for the delay
and inconvenience in making
those materials available,
but we cannot control
or expedite the process.
Those of you who have
registered for the webinar
will be able to access the video shortly
after the conclusion of today's meeting.
During the presentation,
you may submit written
comments and questions
via the webinar chatroom feature.
We'll answer questions
and respond to comments
as time allows.
Webinar is scheduled
to end at 5 PM Central
or 3 PM Pacific time.
If for some reason the NRC
loses internet connectivity,
we will dial into a telephone
bridge line and continue
the presentation.

The backup bridge line may be reached
by dialing 1-800-369-1771
and using the passcode
that appears beneath
the bridge line number.
I'll give you a minute now
to take that number down
in case you need to use it.
Next slide, please.
As I noted earlier, a predecisional
enforcement conference
was conducted at Southern
California Edison
on January 24th, 2019.
Two apparent violations and their apparent
safety significance were discussed
by the NRC.
Southern California
Edison provided its view
of the safety significance of the issues,
the root causes and contributing factors,
and discussed a number
of corrective actions
that had been taken and were planned.
The NRC reviewed all information available
through its inspection efforts,
the information provided by
Southern California Edison,
in accordance with our enforcement process
and has made a final enforcement decision.
Before I discuss that final
action I'd like to give
a very brief overview of the factors
that NRC considers when
making enforcement decisions

that the members of our
audience who may not have had
the opportunity to attend
the enforcement conference
or view the video.
First, once the NRC determines
that a violation has occurred,
we assess the safety or security
significance of the issue.
We use Severity Levels to
classify the significance
of a violation.
As you can see on the slide,
there are four Severity Levels,
with Severity Level I
being the most significant,
and Severity Level IV
being the least significant.
Violations categorized at Severity Level
III, II, or I are considered
escalated enforcement
actions and are candidates
for monetary civil penalties or fines.
Four factors are considered when assessing
the Severity Level of a violation.
Any actual consequences
that may be associated
with the violation,
any potential consequences,
the potential for
impacting the NRC's ability
to perform its regulatory function,
and finally, any willful
aspects of the violation.
That latter factor is not applicable

in this particular case.
As part of our civil
penalty assessment process,
we consider four elements.
First, the licensee's enforcement history
and the Severity Level of the violation;
identification of a violation,
or in other words, whether
the issue was identified
by the licensee or the NRC;
corrective actions from the perspective
of, were they timely and comprehensive;
and discretion.
The NRC may choose to exercise
enforcement discretion
in assessing a civil penalty
based on several factors
described in our enforcement policy.
Absent the use of discretion,
there are three possible outcomes
in most enforcement cases.
One, no civil penalty is proposed.
Two, a base civil penalty
may be proposed, as defined
in the enforcement policy,
which is based on the type of license.
Or a civil penalty may be proposed
at twice the base value.
For a spent fuel storage licensee,
the civil penalties range from $36,250
for a Severity Level III violation
to $72,500 for a Severity
Level I violation.
So let me move on to the
final enforcement action.

The first violation discussed
in our inspection report
and the final action
involves a loss of redundant
drop protection features.
10 CFR 72.212(b)(3)
requires, in part,
that each cask used by the
general licensee conforms
to the terms, conditions,
and specifications
of a Certificate of Compliance.
The spent fuel storage
system used by SONGS
has a Certificate of
Compliance which requires
that the canister be lifted and carried
with redundant drop protection features
to prevent uncontrolled
lowering of the load,
or the canister.
This violation was categorized
as a Severity Level II violation,
the second highest Severity Level.
The NRC considers that this violation
could have resulted in
significant safety consequences
because important to safety
features were disabled
during a spent fuel canister
downloading operation.
Based on the factors
considered in the NRC's
civil penalty assessment process,
primarily identification

and corrective actions
in this instance,
a civil penalty is being proposed.
Because Violation 1 was categorized
as Severity Level II,
the NRC considered whether
credit was warranted
for identification and corrective action.
We determined that
credit for identification
was not warranted because this violation
was identified through
a self-revealing event.
Based on several factors identified
during our follow-up inspection efforts,
which Mr. Brookhart will discuss shortly,
the NRC concluded that
credit for corrective action
was not warranted.
Since credit is not warranted
for either identification
or corrective action,
the NRC enforcement policy
provides for a civil penalty
that is twice the base civil penalty,
an amount of $58,000, or a total of $116,000.
The second violation identified
in the inspection report
and in our final
enforcement action involves
a failure to make a
proper NRC notification.
10 CFR 72.75(d)(1) requires
in part that each licensee
notify the NRC within 24

hours after the discovery
of events involving spent
fuel in which
important to safety equipment is
disabled or fails to function
as designed when it is
required to mitigate
the consequences of an
accident and redundant safety
equipment is not available.
This violation was
categorized as a Severity
Level III violation.
Since SONGS has not been the subject
of an escalated enforcement action
within the last two years,
in accordance with the
NRC enforcement policy,
we considered whether credit was warranted
for corrective action.
Corrective actions taken by
Southern California Edison
included making the required notification,
providing training to shift managers
on NRC reporting requirements,
revising reporting procedures,
and establishing a biennial
training on reportability.
The NRC determined that
corrective action credit
was warranted for this violation.
Therefore, no civil penalty was
proposed for this violation.
The two violations will be
issued in a single notice,

and because a civil
penalty is being proposed,
a press release will
be issued later today.
Southern California
Edison has three options.
They can accept the violations
with the assigned Severity
Levels and pay the civil penalty;
they could deny the violations,
or protest the severity levels;
and finally, they can protest
imposition of its civil penalty
in whole or in part.
A written response to the
final enforcement action
is expected from the
licensee within 30 days,
and that response will
be entered into ADAMS
and made publicly available.
That concludes our discussion
of the final enforcement action.
We'll take questions on this
portion of the presentation
following Mr. Brookhart's discussion.
With that, let me turn it
over to Mr. Brookhart.
(cough)
- Thank you, Linda.
Good afternoon.
My name is Lee Brookhart, and
I am a senior dry cask
storage inspector here
out of the Region IV

office in Arlington, Texas.
The recent follow-up
inspection at San Onofre
was conducted in accordance
with Inspection Procedure
92702, which is the
follow-up of traditional
enforcement actions.
The objective of our
inspection was to determine
if San Onofre had performed
adequate causal evaluations,
fully identified and assessed the extent of
condition or an extent of cause,
and implemented adequate
corrective actions
to prevent reoccurrence.
As part of the NRC review,
open items from the special inspection
were also evaluated and will be discussed
in this presentation.
The NRC has independently reviewed
the licensee's calculations
regarding the incidental contact
during downloading
operations, and has determined
that the canisters at San Onofre are all
in a safe condition,
and the canisters are performing
their required safety functions.
Four causal evaluations were performed
by San Onofre related to
the August 3rd incident.
Many causal factors, issues, weaknesses
were examined to formulate

the conclusions identified
in the evaluations.
The main causes included:
management failed to recognize
the complexity and risks
associated with a long duration
fuel transfer campaign using a relatively
new system design;
SC&E management failed to establish
a rigorous process to ensure adequate
procedures, training,
and oversight guidance;
procedures and corrective
action program processes
were inadequate to guide, instruct,
resolve, and trend adverse conditions
in a timely manner;
and management failed to recognize
that the required
integration and application
of 10 CFR Part 72 reporting requirements.
Each causal evaluation contained numerous
contributing causes, extent of causes,
and extent of conditions which contained
corrective actions to address
and resolve the issues.
The contributing causes included
equipment design reviews did not capture
unintended consequences,
inadequate procedures,
inadequate training,
lack of continuous learning environment,
lack of communication protocols,
project management observations were not
being routinely performed,

project management did not enforce
entries into the
corrective action program,
there is a lack of
understanding of Part 72
reporting requirements,
and management did not
encourage nor demonstrate
a conservative bias for reporting.
The NRC independently
reviewed and assessed
the four causal evaluations and concluded
the evaluations were adequately performed
to the breadth and depth as required.
However, two weaknesses were identified
within the causal evaluations.
The first weakness: the NRC determined
that changes to the Executive Oversight
Board process were superficial
and would not ensure
that significant challenges
would be properly
identified and addressed.
In response, San Onofre
bolstered the changes
to the Executive Oversight Board process.
The second weakness was San
Onofre failed to identify
radiation protection
enforcement as a contributing
cause of the incident.
Specifically, the site
enforcement for minimizing
dose directly led to critical personnel
being located away from the

area, where direct observations
of the downloading
activities was not possible.
This led to a partial
loss of command and control
of the evolution, and
was a contributing cause
of the event.
The inspectors noted that
this potential causal
factor was identified in the
cause and effect analysis
but was not identified
as a contributing factor
or tracked for a specific
corrective action.
In response, San Onofre
added an action to address
the radiation protection enforcement
into the training program
for future personnel
involved in ISFSI activities.
Beyond the causal evaluations,
the NRC team spent a considerable effort
reviewing San Onofre's
completed and planned
corrective actions, to verify the actions
were effective and would
prevent reoccurrence.
In total, San Onofre
initiated 71 individual
corrective actions, many of
which had multiple tasks,
to close all the issues,
weaknesses, and causes

identified in the four causal evaluations.
The NRC found that San
Onofre's corrective actions
to be comprehensive to address the issues
and prevent reoccurrence.
However, six corrective action weaknesses
were identified by the NRC.
These issues will be discussed
within the particular
subject area as the
presentation continues.
The remaining slides
will present San Onofre's
corrective actions performed
in each of the following areas.
Procedures, personnel,
equipment, training,
corrective action program, demonstrations,
reportability, and special
inspection follow-up items.
Corrective actions from
the causal evaluations
drove extensive reviews and changes
to all the ISFSI operating procedures.
Without getting into too much detail
of all the changes performed,
an example of changes included:
San Onofre and their
vendor conducted various
discipline reviews to
ensure critical steps
with specific criteria
was clearly specified;
all operating procedures were
changed to clearly define

the crew's roles, responsibilities,
and qualifications;
the use of new load monitoring
equipment with special limits
to ensure the loss of a load
is recognized by the crew;
and more personnel with direct observation
during the downloading operations.
There was one corrective
action weakness identified
by the NRC that related
to procedure changes.
The NRC determined that
San Onofre had made
substantial improvements to
the fuel handling procedures
to ensure safe operations.
However, the NRC identified
that notable procedural
weaknesses remained
in the downloading procedure.
Procedure weaknesses included
missing contingency steps
for potential new equipment failures.
While there were some criteria specified
for when to suspend downloading activities,
not all scenarios were addressed.
And the procedure lacked
some necessary steps
to maintain seismic qualification
during cask transport
from the fuel building
to the spent fuel storage pad.
San Onofre implemented the
changes to the procedure

to address the NRC's identified omissions.
Personnel enhancements.
Previously, you can see the
only personnel on the ISFSI pad
during the August incident
was the transporter operator
and the spotter in the lift basket.
Under the new process,
the required personnel
during the downloading operation includes
eight individuals to observe and control
the downloading operation.
In this slide, the relative positions
of the new individuals can be seen.
The additional personnel who are capable
of directly observing
the critical activities
can provide the required
direction and oversight
to perform the operation safely.
In this photo, it outlines
that two individuals
in the lift baskets will
be directly observing
the canister's movement into the vault.
The licensee made significant changes
with the load monitoring
equipment that is required
to be utilized during the
downloading operation
to ensure the canister is safely lowered
into the vault.
During the August incident,
the previous monitoring equipment included
just a screen on the transporter,

which only contained height indications
and pressure indications.
The pressure indication could be used
to detect the presence of weight
but does not provide any
kind of accurate readout.
Other visual indications
relied on the spotter
in the lift basket to visually
observe that the slings
were tight and the canister
was properly supported
by the lift equipment.
Now, the operation requires
two load sensing devices,
devices which are calibrated
instruments that can
wirelessly display the
weight of the canister
to two different tablets.
One tablet is located next to
the cask loading supervisor
and the San Onofre oversight specialist.
The other tablet is positioned
on top of the transporter's
control box such that both
the operator and the spotter
on the transporter platform
can observe the weight
of the canister as it is
downloaded into the vault.
Each tablet will alarm if
the load sensing devices
experience a loss of load.
Additionally, a camera has

been mounted on the side
of the transporter and
is positioned in a way
that it can see down
into the transfer cask
and view the canister
movement as it passes
into the vault.
The camera's video is
displayed on a monitor
where individuals directing
operation and oversight
can visually observe
the canister's movement.
The photo on the left is circled where
the new equipment is located.
The photo on the right is a picture
of the new load sensing device.
There is one device in line
with each downloading sling.
Here in this photo is one of
the tablets which displays
the weight of the canister
during the operation.
Circled in this photo is the
camera that is positioned
over the transfer cask
and can view the canister
as it is lowered into the vault.
Two weaknesses were identified
related to San Onofre's
implementation of the new equipment.
The NRC determined that San
Onofre improperly designated
the new equipment as

not important to safety.
Since the new equipment
is installed in line
with existing important to
safety downloading slings,
the new equipment should
have been designated
as important to safety as well.
This is a preliminary finding
of 10 CFR 72.146(a) requirements.
In response, San Onofre revised
the design change package
to include the appropriate
quality designation
for the new equipment.
For the second corrective action weakness,
the NRC identified that
the load sensing devices
were not procured in
accordance with the vendor's
design purchase specifications,
and has been identified
as a preliminary finding,
10 CFR 72.154(a) requirements.
The new load sensing devices
were not tested to 200%
of the rated capacity, per the vendor's
purchase specification
and American Society
of Mechanical Engineers code requirements.
Additionally, the original
load test was conducted
by an unqualified vendor.
At no time was this equipment
used to move spent fuel.

San Onofre, in response, removed
the equipment from service,
performed the required 200%
load test by an approved vendor.
These issues are examples of
inadequate corrective actions
that factored into the
NRC's decision to withhold
corrective action credit.
San Onofre's immediate actions
relating to these issues
did restore compliance.
Training.
San Onofre implemented
comprehensive actions
to review, modify, enhance,
and retrain all individuals
associated with the loading
operations at the site.
This included development
of new training programs
for the workers, a
revised training program
for oversight specialists, a
new training for all workers
in the use of San Onofre's
corrective action program,
and new event notification training
for the responsible staff.
The NRC identified no weaknesses
regarding San Onofre's
training enhancements.
San Onofre made significant changes
to their oversight program for spent fuel
storage operations.

Procedure changes were made
to ensure a rigorous review
of vendors' training material,
operating procedures, and
maintenance procedures
prior to acceptance and
use of those documents
on-site.
The licensee revised oversight procedures
to include new task guides,
which describe critical
attributes in the field
that must be observed.
The licensee developed
a qualification program
for the oversight specialists,
which included audits by
management on the specialists.
Additionally, San Onofre
increased the number
of oversight personnel
including adding an oversight
training manager.
One corrective action
weakness was identified
which related to San Onofre's
comprehensive changes
to the oversight program.
The NRC determined San
Onofre completed rigorous
reviews of the Holtec operating procedures
using the new procedural guidelines
but the same level of review
had not been completed
of Holtec's maintenance procedures.

In response, San Onofre
initiated a corrective action
to complete the review of the Holtec
maintenance procedures in accordance
with the new procedural requirements.
In the past operations,
issues were captured
under Holtec's corrective action program
and only higher significant
issues were addressed
in San Onofre's corrective action program.
One of the main program
changes is that all
identified issues will
now be dispositioned
through San Onofre's
corrective action program.
New training was developed to
ensure that all individuals
involved in the spent
fuel activities understood
the low threshold to
initiate a corrective action,
and how to use San Onofre's
corrective action program.
Additionally, San Onofre
established a full time
quality assurance manager
to oversee and ensure
proper identification
and resolution of issues
identified on-site.
No weaknesses were
identified by the NRC related
to the changes made in the

corrective action program.
Demonstrations.
During the NRC's on-site inspection weeks
in January and February of 2019,
an inspection team
observed San Onofre perform
demonstrations to the
following activities.
Movement of the transfer
cask from the fuel building
to the storage pad,
demonstrations of
downloading and retrieval
operations using a dummy canister-
and so people understand,
the dummy canister is
a fabricated canister that
has been filled with concrete
to simulate the size and
weight of an actual canister.
The demonstrations included the use of all
newly implemented corrective actions,
which included the new procedures,
equipment, oversight, and personnel.
The NRC observed this
operation at day and at night
to verify successful
completion during the most
limiting conditions.
And, the demonstrations were
performed of the revised
fuel building operations
to ensure transfer casks
will be removed from the
bottom of the spent fuel pool

to the cask wash down area.
In this slide, the transfer cask is carried
by the low profile flatbed transporter,
also called the HI-PORT.
As part of the extensive reviews connected
with the root cause and apparent
cause evaluations,
San Onofre identified that past operations
of the HI-PORT were performed
too close to interferences
such as light posts along the haul route.
The seismic analysis
required a minimum stand off
distance to be maintained during operation
of the low profile transporter.
In order to comply with the
requirements of the analysis,
San Onofre adjusted the haul
path to maintain the required
stand off distances.
The NRC observed San Onofre
perform the demonstration
moving the dummy canister
from the fuel building
to the ISFSI pad and
independently determined
that the revised haul path
meets the seismic analysis.
In this slide, the vertical
cask transporter is taking
the transfer cask loaded
with the dummy canister
to the top of the ISFSI
pad to be downloaded.
In this picture, the rigger in charge

and another qualified
spotter are monitoring
the dummy canister as it is
moving from the transfer cask
into the storage vault.
The inspection team noted
that the crew in the oversight
were very knowledgeable of
the new downloading process,
procedures, and new equipment.
The NRC team observed San
Onofre successfully demonstrate
the new downloading and retrieval process.
San Onofre has revised a
fuel building operations
procedure to address a
previous concern raised
by the NRC,
which was described as an unresolved item
in the January 2018 inspection.
In the past operations,
the licensee utilized
the intermediate shelf
in the spent fuel pool,
which is seen on the right.
Use of the shelf placed the canister
in an unrestrained condition.
The licensee changed their
procedure to no longer
utilize the shelf and now directly removes
the canister from the bottom of the pool.
The NRC observed successful
demonstrations to place the lid
and remove the transfer cask from the pool
to the cask wash down area.

One weakness was identified by the NRC during the demonstration activities. The NRC identified additional areas where San Onofre did not meet the assumptions in the seismic analysis. As the vertical cask transporter approached the mating device, the licensee prematurely removed the yellow restraint band, which braces the transfer cask to the transporter. San Onofre's seismic analysis assumed that the restraint band is on at all times during travel. The failure to correctly use the band in accordance with the seismic evaluation is a preliminary finding of 10 CFR 72.212(b)(3). This issue contributed to the NRC's decision to withhold corrective action credit. San Onofre took appropriate actions to address the NRC concern by revising the seismic analysis to restore compliance. San Onofre's corrective actions to address the failure to notify the NRC of a reportable event included: revised notification procedures to clearly direct

proper event reporting requirements
for Part 72 activities;
provided reportability
training to managers
and regulatory affairs
personnel to help identify
reportable events for spent
fuel operations, and potential
failures or deviations that
required NRC notification;
and, the program now
requires refresher training
for all responsible staff.
The NRC has reviewed
the revised procedures
and training plan and it is satisfied
with the level of improvement
that has been made
in the area of reportability.
No weaknesses were
identified in this area.
This contributed to the
NRC's decision to credit
the corrective action
performed by the licensee
for the notification violation.
One of the follow-up items
from the special inspection
included the NRC's review of
San Onofre's drop calculation,
had the canister fallen approximately
18 to 19 feet into the storage vault.
San Onofre had conservatively
calculated that for a 25 foot
drop that the calculation

was provided to the NRC
towards the end of that inspection.
The NRC has independently
reviewed San Onofre's
calculation and concluded
that if the canister
had been subject to a 25 foot drop,
the canister would have remained intact.
Since the confinement boundary
would remain intact,
there'd be no release
of radioactive materials
to the environment,
and there would be no
off site consequences.
However, the spent fuel
assemblies inside the canister
would sustain damage from
the 25-foot postulated
drop event.
Even so, the canister would
still provide its structural,
thermal, shielding, and
criticality control functions
after the drop.
Regarding the canister's
possible contact on the divider
shell during downloading operation,
prior to the August 3rd, 2018, incident
the UMAX Final Safety Analysis Report,
also referred to as the FSAR,
Section 9.5, stated there was no risk
of scratching or gouging the canister
during downloading operations.
And as such, the ASME Section III

pressure retaining
boundary would be maintained.
San Onofre performed a
72.48 evaluation to revise
the no-scratch requirement
to allow scratching
of the canister.
The San Onofre calculations
to allow the FSAR change
was identified to contain
numerous errors and inadequacies,
which concluded:
one, the canister may come
in contact with the divider
shell's seismic restraints
and not just the shield ring;
second, the restraints are
made of a harder material
and could cause more damage
than the shield ring;
third, the evaluation
did not address scratches
near canister seam welds;
fourth, San Onofre utilized
the wrong hardness values
in the calculation, and the
hardness values did not account
for temperature of the canister;
and fifth, the calculations
utilized the wrong sling lengths
for determining the
initial point of contact.
The original calculations,
which contained the errors,
provided an inadequate

basis to perform the change.
This issue contributed to the
NRC's decision to withhold
corrective action credit.
In response, San Onofre has
revised the calculations
to address the issues raised by the NRC.
Additionally, San Onofre
has conducted testing
on canister samples by applying
various amounts of force
to confirm that possible
scratches would be minimal.
Further, the licensee has,
as recently as last week,
conducted actual visual
inspections on different canisters
to verify the scratches
are minimal and acceptable.
An NRC inspector was on-site
to observe these activities.
Based on the preliminary examinations,
testing, and calculations,
the NRC has concluded
that any possible
scratch from the canister
should be small, or minimal,
and does not pose a safety concern.
The canisters at SONGS
are one eighth inch thick-
thicker than the original canister design.
And all canisters have
been mechanically peened
to relieve the weld stresses,
which provides an additional

level of protection
against corrosion and wear.
At this time the licensee's
revised design change
to allow scratches is still under NRC review.
- Thank you, Lee.
Now I'd like to move
on in the presentation
and discuss the path forward.
As Mr. Brookhart just discussed,
a number of corrective
actions have been taken
by Southern California Edison to address
the causal factors and
noncompliances identified
through extensive reviews of
the August 3rd, 2018, incident.
Substantial improvements have been made in
procedures and training;
equipment enhancements
have been implemented;
oversight processes,
including direct oversight
of canister downloading
activities, have been improved;
as well as improvements made
in the licensee's
corrective action program.
And reporting processes have been improved
through training and procedure changes.
During our follow-up inspections,
which again, began last November,
we did identify some
areas where further work
was required.

Those observations were
factored into our decision
to not grant corrective action
credit for one violation,
resulting in a proposed
$116,000 civil penalty.
I noted earlier that our
inspection efforts continue,
although we will bring the
current effort to close soon.
Through those inspection efforts,
we believe that the weaknesses
that Lee just described
in corrective actions for the areas where
further work was required
have been satisfactorily
addressed by Southern California Edison.
There's one outstanding
issue involving changes made
to the Final Safety Analysis
Report, or the FSAR,
associated with the
Certificate of Compliance
for the UMAX spent fuel
storage system used at SONGS.
We continue to review analyses
completed by the licensee,
as well as the process used to
make the change in the FSAR.
The change that I'm referring
to is the modification
to permit minor scratching
of canisters as they
are downloaded.
This type of change would

need to be consistent
with engineering codes, which
do allow for minor defects.
This is a compliance issue
that needs to be resolved
before Southern California
Edison resumes fuel loading.
This is not a safety concern.
At this time we have not
identified safety issues
associated with canisters
that have been loaded
into the dry spent fuel
storage system at SONGS.
We continue enhanced
inspection oversight at SONGS
for several reasons.
Most important, we have a
responsibility to provide
independent oversight
of licensee activities,
and we need to directly observe
that the corrective actions
that have been put in place
are, and remain, effective.
Secondly, in support of the
changes made to the FSAR,
Southern California Edison
has accelerated its plans
for physical inspection
of a representative sample
of canisters that have
already been downloaded
into the spent fuel storage system.
Initial canister

inspections began last week,
and we had an inspector
on-site, as Lee mentioned,
to observe and evaluate data
that the licensee is obtaining.
The data will also be reviewed
by other NRC team members
from our headquarters
licensing and inspection staff
to provide as comprehensive
and independent review as possible.
This effort is in the initial phases,
so I am not able to
report out results today.
In fact, the results that
I've seen are very preliminary
and have not yet undergone
full engineering review
by Southern California
Edison's engineering staff.
But we will continue our
review of the final data
and report the results of
our review in an upcoming
inspection report.
Today, Southern California
Edison continues to suspend
fuel loading operations.
Southern California
Edison has been responsive
to our request to ensure
that we have the information
needed to assess changes to the FSAR,
and has continued to suspend fuel loading
until we've completed our

review of their analyses,
and agree that fuel loading
operations can resume
safely and in compliance with applicable
licensing and regulatory requirements.
At this point in the meeting,
we would like to take a
break in this session,
15 minutes, and we will
then resume with the meeting
and take questions and
comments from the audience.
Okay.
Thank you.
I'd now like to introduce Mr.
Michael Bloodgood to my left.
Mr. Bloodgood will facilitate
the remainder of the meeting.
He has been monitoring questions submitted
during the presentations, and grouping them
so that we can maximize
our time and address
some of your questions
without duplicating responses.
Michael, I'll turn it over to you.
- Thank you, Linda.
My name is Michael
Bloodgood, and as facilitator,
I will be asking questions
that we received in the webinar
to the NRC for response.
This portion of the meeting
is to address the questions
related to the enforcement
actions, regulatory process,

and path forward, within
the content and the scope
of the meeting.
As Ms. Howell mentioned
earlier in the meeting,
a complete list of all of the questions
during the webinar will be
posted on the NRC website
at a future time.
So, for those people online there,
you all have a question
section on the online portion,
that if you'll put your
name and contact information
in the question section and
you can submit questions
through that process.
And it's online, which is
what you're seeing right now
on your webpage.
So, with questions that
we've already received
as we're going through the webinar,
we've had many that have
had multiple questions asked
about specific topics.
The first one we'll go
to is, why did the NRC
allow the SCE to not report
the August 3rd, 2018,
event for six weeks after a report was due,
and only took action after a whistleblower
disclosed the event?
- I'll take that question.
That is not the exact sequence of events.

San Onofre did make a courtesy
notification to the NRC
the following Monday
after the Friday incident.
At that time, the NRC staff
made Southern California Edison
aware that we believed that
the event was reportable,
but it took some effort to
convince them that the loss
of the redundant safety
features was actually something
that was required to mitigate an accident.
So there was some delay,
and it wasn't until
the conclusion of the on-site
week of the special inspection
that Southern California Edison arrived
at the same conclusion that
we did and made it formal
in that report.
- The next question, Ms.
Howell, has inspection been
performed on other canisters?
- As we noted during our presentation,
Southern California Edison
just recently initiated
a new program.
It was very much accelerated
beyond what they thought
they were going to be doing,
and they are now performing
physical inspections
using remote video of
representative samples

of the canisters.
As I noted, that data
is just being received;
the NRC and even Southern
California Edison
has not had a chance to put it through all
of the formal reviews,
but we will be looking
at it and reporting on it
in the future.
- Next question is, for the
canister moves in the future,
will the NRC have an inspector
on-site to observe those?
- We have enhanced our
inspection oversight
for Southern California
Edison, and when they resume
fuel loading we do
anticipate having one or more
inspectors on-site to review that.
That's to ensure that
the newly implemented
corrective actions remain effective.
We do not have a resident
inspector program in place
for spent fuel storage programs,
but we've all enhanced our oversight
and that may even include
unannounced inspections.
- There has been several
questions on the webinar
as we were going through with asking about
what were the differences
between the dummy

and the actual canisters
being used for fuel transfer?
- I'm going to let Lee take that,
as far as initial size goes.
- The dummy canister is
used for a training tool
for the individuals.
It's required by their
certificate to perform operations
utilizing the dummy canister.
The dummy canister, I
believe, could be a maximum
of three fourths of an
inch smaller in diameter,
so it would have a
clearance on either side
of about three eighths of an inch, maximum,
per the fabrication drawings.
The reason of that is, since
it's filled with concrete,
it may bulge due to the weight
of the concrete in there,
so the weight of the canister is-
it's filled with concrete
to simulate the weight
of an actual canister.
The one used at SONGS is
painted on the outside
and it's made of carbon
steel versus the stainless
steel of normal canisters.
- When- The discussion earlier
with the potential fuel
damage during the drop-
will there be any kind of analysis

that will be made public from that?
- Yes, There actually were
a couple of analyses done,
and Lee mentioned them
during his presentation.
The drop analysis is available
in a nonproprietary form
in the NRC's ADAMS system.
- Additionally with that, for analysis,
will there be any review or analysis
for the scratching and gouging that was
discussed earlier in the presentation,
and will there be any part of that public?
- Yes, we plan to complete
our review when final data
is available from the physical inspections
that are ongoing right now by
Southern California Edison,
and we will report the results of that out
in the future inspection report.
- With the violation and civil penalty,
there was several questions
online with, who pays
that actual civil penalty
for the violation itself?
- The civil penalty is proposed
to the licensed entity.
- So the licensed entity would be...
- Southern California Edison.
- Another question was,
did SCE informally
inform the NRC about
the downloading incident
prior to the official report, and did the NRC
work with SCE to cover up the incident?

- Well, first, Southern California Edison,
as I just noted, did give
us an informal notification,
the Monday following the Friday incident.
And the second part of your question?
- Was the question with,
worked with SCE to cover up
the incident?
- There is absolutely no
work on the part of the NRC
to cover this incident up.
We initiated development
of an inspection charter,
which was made public on August 17th,
to outline our intended activities
to review the August 3rd incident.
Our briefings were, well,
the inspection results
were made available in a
public webinar on November 8th,
and then a final inspection
report that was issued
in late November.
So there was absolutely no
effort to cover up the incident.
- has There been, is There
a procedure for removing
an in-place canister and
has that been practiced
with San Onofre?
- I'm going to give that
question to Mr. Brookhart.
- Say that again?
- is There a process for
removing a canister in place,

and if so, has Southern California Edison
exhibited that they could do that?
- Yes, The Certificate of
Compliance does require
that each licensee of Part 72
activities perform operations
to demonstrate that they can
successfully retrieve and remove
the fuel from a storage cask,
and Southern California Edison
did perform those activities
to the NRC during the
months of, I want to say,
June through December of 2017
and then we issued our report after that,
after they began their
first canister loading
in January.
- Most of our common
questions, that we've had
several questions on each one of those,
is what we're seeing here.
(pause)
- Well, while you're looking, Mike-
- Just give me a second and let me look at-
- I'd like to, since there
were several questions
that came up concerning
the NRC's on-site presence,
I'd like to perhaps address
that again to make sure
that everybody understands.
We have had substantial presence on-site
and we have also conducted or
performed very short notice,

or no-notice inspections at San Onofre.
It is our intent to be
there to observe some
of the physical inspection
activities we hadn't
inspected there for three days last week
and it is also our intent
to be there and observe
the resumption of fuel loading activities,
once we have all agreed
that San Onofre can resume
fuel loading operations.
From that, we will most likely conduct
enhanced oversight of
fuel loading activities
for some period of time.
Normally our inspection cycle
would be to observe activities
ongoing by the licensee biennially.
We've stepped that up quite a bit and
plan to continue it,
and Southern California
Edison has been very receptive
to that because they would
like to have the independent
regulators' eyes on-site
to observe what's going on.
And I think we're just
collecting a few more
questions here from the audience.
- I apologize.
We're just making sure we're collecting
additional questions that have
been asked while I've
been up here.

One of the questions which pertains back
to the dummy canister was,
why did the NRC allow them
to use a different size
canister for that evolution?
- Well, There is no
requirement in the regulations
or in their license that
states that the dummy canister
has to be exactly the
same size as the canister.
So there is no requirement
that it has to be exactly
the same size.
Ideally you want it to
be pretty close in weight, to
the exact weight of the
canister, in order to ensure
that the components aren't
going to fail or have issues
carrying them around,
but there is no actual
requirement to enforce it
to be, you know, a quarter of an inch
larger just to make it exact.
- In other words, there's
no regulatory requirement,
nor in the Certificate
of Compliance, that the
simulator or dummy or training canister
be the identical dimensions of a real
multipurpose storage canister.
These objects are intended
to be training tools.
They exist so that operators

can practice downloading
operations as well as
retrieval operations.
- Bear with me for a second.
I've lost my connectivity to
get some the question updates.
(inaudible)
I'm back connected now.
Pardon me.
Is there any plans for-
The next question, a couple of things,
is there any plans for, does
Southern California Edison
have any plans to offload
canisters in the event
of an incident? Or something,
and that's what it says,
in case of an incident,
so I would assume something that happens
to the canisters themselves.
- I guess I'd ask for clarification,
did the commenter or the
individual who offered
the question indicate, do they
mean extraction of canisters
or...?
- Extraction of canisters.
- At the present time,
there is no plan in place
for Southern California Edison
to extract the canisters
that have been downloaded.
That will be an activity that
occurs when they are ready
to move the spent fuel

to either an interim
consolidated storage location
or a final storage location.
- Another question on The
canisters, discussing and "missing
a big opportunity to learn
with the dummy canister
being more like the actual
size of the regular canister,"
I believe we've answered
that question a couple times.
Again, we're speaking,
we're talking more of
the regulatory aspects,
what the identified
violations are, and the plans
going forward with the
inspections on-site.
We do have some discussion
that we have for future plans,
on inspections that's
talked about in the past,
or talked about as Ms.
Howell has already spoken to.
We did speak about future
or previous inspections
that's done on other canisters.
Do we have any discussion
on how these inspections,
are they being done on that?
- no, There have not
been previous inspections
other than acceptance
inspections when the manufacturer
actually transfers the product

to Southern California Edison.
And in Southern California
Edison's case, they document
the results of those
acceptance inspections.
They actually have taken photographs
and, Lee, I don't know if you want to speak
to that in any greater detail.
- San Onofre, As part of their
receipt inspection criteria,
they do take pictures of
the canisters for evidence
to utilize eventually in
their aging management program,
so they're very thorough in
documenting the canister's
acceptance prior to use.
I'm kind of confused on the question,
was it talking about-
- I think it says it's talking about
already installed canisters themselves.
- Well this would be The first inspections
that were done last week of canisters
that are in use at San Onofre.
There have not been previous
inspections performed
on canisters in use.
- and this is a significant achievement
for Southern California Edison.
For those who participated
in the predecisional
enforcement conference,
you might recall that they
had planned to initiate
this inspection program sometime in 2020.

Well, they have brought everything to bear
and have been able to initiate
the physical inspections
just last week.
- we do have a lot of other
discussions dealing with some
items that are in future
inspections and really
not pertaining to the
discussion that we had here.
That we have.
And a lot of questions on
gouging and cracks and scratches,
which, as you had said before
that those are in process
and I believe are being inspected or
looked at in the future.
(inaudible)
I'm looking at, the questions
we're receiving now
are mostly dealing with
future corrosion inspections
and future types of
inspections that are ongoing.
It doesn't really have to
do with the discussions
for the violation and what we are trying
to get in the meeting today.
I understand there's a
lot of different comments,
and I understand there's some
future inspections ongoing,
which there'll be more answers as part of
these future inspections that will answer
some of these questions.

With that- sorry, I'm getting
50 million questions at a time-
And with that, questions
look like they're just
future questions that will be answered
at a future time, not
pertaining to what we
were talking about in this meeting.
So, with that, turn it back over to you.
- thank you, Mike.
Okay, in conclusion,
first I'd like to thank
the audience, members of
the public who took the time
aside to participate in
the webinar and to actually
listen to some of the
information that we've shared
with you.
As I noted when we began
this afternoon's meeting,
we will have some NRC managers present
at the community engagement
panel later this week,
and you will be able to
interface with us directly
during that meeting,
either before or after.
This may not be the
last time that we engage
with the public.
We do understand that there
have been some concerns
about where and how we
hold these meetings.

These meetings are
effective for us to conduct
in this format because
they allow us to share
the information that we're developing
in a very timely manner.
We've not ruled out any further formats
for public engagement,
but that will be somewhere down the line.
We will continue to share
information as the inspections
are ongoing, and should,
as I noted earlier in my presentation,
we plan to conclude the
current inspection effort
and produce an inspection report probably
in the early to mid-April timeframe.
And that inspection report
will cover the full details
of what Lee and his
team have been reviewing
since November of 2018,
but that will not conclude
our only inspection effort;
as we just noted, we do
plan to have inspectors
on-site when fuel loading operations resume
and we'll be communicating with the public
again at that time.
With that, I believe the meeting is closed.