Selection Criteria:

A/R Number: 01160372 A/R Type : A/R Status: Aff Fac :
Due Date : - Orig Date : - Reason : - Priority :
Event Date: - Event Code: Keyword: - Severity :
Dscvry Dt : - Reference : Report To :
Subj/Desc : Subj/Desc Text: Fac/Unit/System:
Orig ID : Orig Fac/Group : Orig Dept : - Orig Org :
Owed to ID: Owed to Fac/Grp: Owed to Dept: - Owed to Dspln:
Cmpl Notes: Y No Assignments : Print Code : ALL
Attribute : Attr Value :

A/R No.: 01160372 **A/R Type:** CAP Status : APPROVED 12/02/2008
Orig Date: 11/24/2008 Dscv Date: Event Date: Due Date : 11/25/2013
Report To: Aff Fac : PI

Refueling Cavity Leakage Corrective Actions and the LRA
The NRC has issued a Request for Additional Information
on the PINGP License Renewal Application concerning
the continued borated water leakage through the refueling
cavity liner into Sump B and its affect on the concrete,
rebar, and containment vessel steel.
In NRC LRA RAI AMP-B2.1.38-2 (ML082830947), the NRC
states the PINGP LRA AMP B2.1.38, "Structures
Monitoring Program", does not clearly specify how the
GALL Report program element "Operating Experience" is
met. PINGP has identified leakage of boron water from both
units' refueling cavities and through the concrete backing
the refueling cavity liners since 1998. Leakage was fairly
consistent throughout the duration of the flooding of the re
fueling cavity pool (average 1 gallon per hour). Since then,
the leakage path has not been specifically identified.
Leakage could potentially degrade the carbon steel
containment vessel, containment concrete, and containment
rebar.
The staff requests that the applicant provide the results of
any root cause analyses, as well as corrective and preven-
tive actions taken to address or correct this issue. (end of
NRC RAI)
The AES "Report on the Effect of Borated Water Leaks on
Containment Concrete, Reinforcing Steel, and Containment
Steel Plate, dated December 16, 1998, is used to justify
continued operation since the neutralizing nature of con-
crete significantly reduces the risk of corrosion due to
boric acid. However, in the report (found in NCR 19983240),
the Item 2 of Section 6.0, Recommendations and Conclusions,
states "It is prudent to investigate, determine, and fix
the area where the leaks occur so that future leaks do not
occur. There is a remote possibility that several cycles of
wetting and drying could concentrate the boric acid solution
to the extent that a strong solution could corrode the
containment steel plate and compromise its pressure

retaining capability. This has to be avoided at all costs."
End of AES excerpt
The corrective actions to eliminate refueling cavity leakage have not been effective.
Sources of leakage have been postulated and identified, but corrective actions have not always been effective.
NCR19983240 states "It is suspected that this problem has been occurring for approximately 8 years, during times when the refueling cavity is flooded".
A list of previous corrective actions for refueling cavity leakaage and the draft response to the RAI are attached in Sharepoint. The RAI is being responded to by the License Renewal Project.

A/R Notes Type: A -- IMMEDIATE ACTION TAKEN

Refueling Cavity Leakage has been recurring since 1998 with	PRSR02	11/24/2008
only limited success in reducing the leakage. Because there	PRSR02	11/24/2008
has not been a root cause developed for this issue, this	PRSR02	11/24/2008
CAP is written to request resources be allocated to	PRSR02	11/24/2008
stop the leakage permanently, which will support	PRSR02	11/24/2008
long term equipment reliability and license renewal.	PRSR02	11/24/2008

A/R Notes Type: N -- GENERAL NOTES

This is a SCAQ "significant condition adverse to quality".	ECKH02	12/04/2008
RCE due date set to 3-18-09. Due date set based upon availa	WE6358	03/18/2009
bility of required site resources, time needed to research a	WE6358	03/18/2009
nd identify engineering firms capable of providing required	WE6358	03/18/2009
technical support, and that the condition described (leakage	WE6358	03/18/2009
) only occurs during refueling outages, with the next planne	WE6358	03/18/2009
d outage in Sept. 09. Screening team concurrence was receiv	WE6358	03/18/2009
ed during CAP screening and RCE assignment.	WE6358	03/18/2009
WARNING:PRI field must be updated if A/S reopened.CAP1212567	FTLD01	02/18/2010

A/R Notes Type: O -- WHY DID THIS OCCUR?

1. It is not know why this leakage began to occur in 1998	PRSR02	11/29/2008
nor if it was occuring prior to 1998 and not documented	PRSR02	11/29/2008
2. Many corrective actions have been taken, but success	PRSR02	12/01/2008
in permanently stopping the leakage has not been attained.	PRSR02	12/01/2008
Some corrective actions and troubleshooting techniques	PRSR02	12/01/2008
have been proposed to find/stop the leaks that have not	PRSR02	12/01/2008
been supported by schedules/ authorization of expenditures.	PRSR02	12/01/2008
There have not been the necessary resources allocated to	PRSR02	12/01/2008
continue to use successful actions such as spray-on	PRSR02	12/01/2008
coatings nor to determine the root cause of the leakage.	PRSR02	12/01/2008
See the attached list in sharepoint of Reactor Cavity	PRSR02	11/29/2008
Leakage Corrective Actions.	PRSR02	12/01/2008

A/R Notes Type: R -- RECOMMENDATIONS TO PREVENT RECURRENCE

Allocate necessary resources to permanently fix the leakage	PRSR02	11/24/2008
problem.	PRSR02	12/01/2008
Use the troubleshooting process to identify success paths.	PRSR02	12/01/2008
Allocate the necessary outage time and resources	PRSR02	12/01/2008
to allow the troubleshooting plan to be carried out and the	PRSR02	11/24/2008
repairs to be completed.	PRSR02	11/24/2008
The Troubleshooting plan is needed to support the ACRS	PRSR02	12/01/2008

A/R Notes Type: A -- IMMEDIATE ACTION TAKEN

Subcommittee meeting for PI LRA planned for July 2009	PRSR02	12/01/2008
The Unit 1 outage work completion is needed to prevent	PRSR02	12/01/2008
open issues in the SER prior to the full ACRS review	PRSR02	12/01/2008
planed for December 2009.	PRSR02	12/01/2008
Specific Recommendations are:	PRSR02	12/01/2008
1. Assemble a Troubleshooting Team per FP-E-TS-01 to estab-	PRSR02	12/01/2008
lish the corrective actions needed for 1R26	PRSR02	12/01/2008
and 2R26 in order to resolve this long-standing (10 years,	PRSR02	12/01/2008
possibly for 18 years) equipment problem.	PRSR02	12/01/2008
2. Allocate the resources to successfully implement the	PRSR02	12/01/2008
trouble shooting plan in 1R26 and subsequently in 2R26.	PRSR02	12/01/2008
and subsequently in 2R26.	PRSR02	12/01/2008
3. Initiate a plan/procedure/PM for long term continuous	PRSR02	11/25/2008
monitoring of leakage effects on the containment structures	PRSR02	12/01/2008
(may become a committement in the LRA).	PRSR02	12/01/2008
4. Consider using an Equipment Root Cause Analysis	PRSR02	12/01/2008
to identify the source of the leakage and the apparent	PRSR02	12/01/2008
sudden appearance of leakage on	PRSR02	12/01/2008
each Unit about the same time (1998, 1999).	PRSR02	11/25/2008
5. Obtain a second expert opinion on long term effects of	PRSR02	11/25/2008
borated water in contact with the containment vessel,	PRSR02	12/01/2008
concrete, and reinforcing material/equipment support bolts	PRSR02	12/01/2008
In particular, revisit recommendation2 of the AES report.	PRSR02	12/01/2008

Assign No.: 01160372 01 Status : COMPLETE 03/18/2009
Aff Fac: PI Dept: 68 Due Date : 03/18/2009

Primary Resp Grp :
Secondary Resp Grp :
Assignment To : WE6358 S SKOYEN
Conduct an equipment RCE Orig Due Date: 03/18/2009
Conduct an equipment RCE "Root Cause Evaluation".
This action has a route list attached, insure the owed to is informed of completion of this assignment.

Completion Notes for A/R Assignment:01160372 01
Root Cause Evaluation Report was finalized and distributed for grading on 3-13-09 (see attached e-mail in Sharepoint). Copy of completed RCE and RCE Charter are attached in Sharepoint. Corrective actions have been entered into Passport at the INPROG status pending PARB grading and approval. See N note in parent CAP regarding due date for this RCE. This action is complete.

Assign No.: 01160372 02 Status : COMPLETE 03/30/2009
Aff Fac: PI Dept: 38 Due Date : 03/31/2009

Primary Resp Grp :
Secondary Resp Grp :
Assignment To : WDHG01 G WOODHOUSE
Complete equipment RCE grading assignment Orig Due Date: 03/31/2009
Complete equipment RCE grading assignment.

Completion Notes for A/R Assignment:01160372 02

entered scores in attributes section

Assign No.: 01160372 03 Status : ACC/ASG 05/28/2009
Aff Fac: PI Dept: 61 Due Date : 06/04/2011
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Repair Leakage on Unit 1 Refueling Pool Orig Due Date: 10/16/2009
Develop and implement repairs that permanently eliminate lea
kage of the Unit 1 refueling pool. Action to be assigned to
NSSS Engineering with a due date of 10/16/2009.
It is recommended the repair plan for the above actions incl
ude the following steps:
Unbolt and set aside all mechanically fastened fixtures (RCC
Change Fixture, internals stands, and guide tube supports).
Vacuum Box penetrations and embedment plates to locate exist
ing leaks. Weld repair and vacuum box completed welds.
Preemptively seal weld and vacuum box all penetrations.
Vacuum Box, and/or PT weld seams and repair as needed to ens
ure no leakage due to stress corrosion cracking.
Pressure test or PT transfer tube bellows attachment welds a
nd weld repair as needed.
Alternate approaches can also be considered provided the rep
air permanently and completely mitigates future leakage.
Document the bases for the repair option chosen relative to
the alternatives available.
Extension requested and sent to PARB for approval on 10/14/09
Extension needed to repair addtional leakage found after intial repairs wer
e completed on Unit 1 refueling pool.
Due date extended to 6/4/2011. See attached justification and approval by
PARB in Sharepoint. S. Skoyen 10/14/2009

Assign No.: 01160372 04 Status : ACC/ASG 05/28/2009
Aff Fac: PI Dept: 61 Due Date : 04/01/2012
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Repair Leakage on Unit 2 Refueling Pool Orig Due Date: 05/21/2010
Develop and implement repairs that permanently eliminate lea
kage of the Unit 2 refueling pool. Action to be assigned to
NSSS Engineering with a due date of 05/22/2010.
It is recommended the repair plan for the above actions incl
ude the following steps:
Unbolt and set aside all mechanically fastened fixtures (RCC
Change Fixture, internals stands, and guide tube supports).
Vacuum Box penetrations and embedment plates to locate exist
ing leaks. Weld repair and vacuum box completed welds.
Preemptively seal weld and vacuum box all penetrations.
Vacuum Box, and/or PT weld seams and repair as needed to ens
ure no leakage due to stress corrosion cracking.
Pressure test or PT transfer tube bellows attachment welds a
nd weld repair as needed.
Alternate approaches can also be considered provided the rep

air permanently and completely mitigates future leakage.
Document the bases for the repair option chosen relative to
the alternatives available.
Please extend this action with respect to the extension letter attached in
sharepoint.
Action extended to 4-1-2012 - See attached letter in Sharepoint. S. Skoyen
4-1-2012

Assign No.: 01160372 05 Status : COMPLETE 04/29/2009
Aff Fac: PI Dept: 71 Due Date : 04/30/2009

Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Evaluation of Potential Degradation of Containment Orig Due Date: 04/30/2009
Perform an evaluation to assess potential degradation of the
containment vessel, containment building concrete, and rein
forcing steel to date (in progress). Evaluation sho
uld bound potential thinning or reduction in strength of key
components. Action to be assigned to Program Engineering w
ith a due date of 04/30/2009.

Completion Notes for A/R Assignment:01160372 05
Evaluation complete. See EC14139. Evaluation also attached
to sharepoint of this assignment.

Assign No.: 01160372 06 Status : COMPLETE 07/23/2009
Aff Fac: PI Dept: 71 Due Date : 07/28/2009

Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Determine need for additional testing or NDE Orig Due Date: 07/28/2009
Review the evaluation from CA#.1 and determine if the site s
hould sponsor additional testing to more accurately determin
e degradation rates. Also determine if the site should furt
her research potential NDE techniques to examine large areas
of the containment vessel wall such as guided wave UT and/o
r concrete sounding to better confirm no significant degrada
tion of the concrete structures. Action to be assigned to P
rogram Engineering with a due of 07/28/2009.

Completion Notes for A/R Assignment:01160372 06
The evaluation from CA#.1 (the Dominion Engineering
evaluation) has been thoroughly reviewed by both the site
and regulator including a site NRC review with two
associated RAI's, and review of the conclusions of the
evaluation by the ACRS subcommittee. At the current time
there is no indication of a need for additional evaluation
or enhanced NDE methods to address the issue. Estimated
corrosion from the evaluation is 0.01" with measured
corrosion of zero. As such, there is no indication of any
significant degradation of the containment vessels to
warrant either more evaluation or NDE other than what has
already been planned and communicated to the NRC (removal of

concrete in sump C, vacuum box testing, removal and testing of concrete in an affected area). If there is new information that would warrant additional evaluation or testing a new action will be initiated.

Assign No.: 01160372 07 Status : COMPLETE 02/26/2010
Aff Fac: PI Dept: 71 Due Date : 02/26/2010
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Margin assessments of Containment vessel & Structures Orig Due Date: 02/26/2010
Perform a margin assessments of the containment vessel and c ontainment structures to determine the minimum wall requirem ents of potentially corroded areas of the vessel and allowab le concrete degradation including the area around the transf er tube. Action to be assigned to Program Engineering with a due date of 02/28/2010.

Completion Notes for A/R Assignment:01160372 07
Evaluation documented in EC 15651 and attached in sharepoint.
The assessment is complete under EC 15651 with all comments resolved and technical review complete in passport. As allowed by FP-PA-ARP-01 attachment 4 an action 1160372-25 has been initiated to track the EC through modified.
As stated in FP-PA-ARP-01 "Actions that address conditions adverse to quality SHALL be initiated from severity level "A," "B," or "C" CAPs and tracked to completion, with the following exceptions and clarifications:
Engineering Changes (ECs):
For "A" or "B" CAPs, initiate a corrective action to track the modification to MODIFIED or CANCELLED."

Assign No.: 01160372 08 Status : ACC/ASG 04/20/2009
Aff Fac: PI Dept: 71 Due Date : 06/03/2011
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Remove concrete in Unit 1 sump C Orig Due Date: 06/03/2011
After repair (CAPR#.1), remove the concrete from the low poi nt of the Unit 1 Sump C to allow visual and UT thickness exa mination of the containment vessel and facilitate the evacua tion of any remaining water from between the bottom head of the containment vessel and interior concrete. A sample of c oncrete close to the containment vessel shall be assessed fo r strength and chemically analyzed for changes caused by bor ated water. Any water seeping into the excavation shall be analyzed for pH and ionic species. Reinforcing bar exposed by the excavation shall be visually examined for indications of degradation. Action to be assigned to Program Engineeri ng with a due date of 06/04/2011.

Assign No.: 01160372 09 Status : ACC/ASG 04/15/2009

Aff Fac: PI Dept: 71 Due Date : 02/24/2012
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Remove concrete in Unit 2 sump C Orig Due Date: 02/24/2012
After repair (CAPR#.2), remove the concrete from the low poi
nt of the Unit 2 Sump C to allow visual and UT thickness exa
mination of the containment vessel and facilitate the evacua
tion of any remaining water from between the bottom head of
the containment vessel and interior concrete. A sample of c
oncrete close to the containment vessel shall be assessed fo
r strength and chemically analyzed for changes caused by bor
ated water. Any water seeping into the excavation shall be
analyzed for pH and ionic species. Reinforcing bar exposed
by the excavation shall be visually examined for indications
of degradation. Action to be assigned to Program Engineeri
ng with a due date of 02/25/2012.

Assign No.: 01160372 10 Status : COMPLETE 10/15/2009
Aff Fac: PI Dept: 68 Due Date : 10/16/2009
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : WE6358 S SKOYEN
Monitor and document Unit 1 leakage Orig Due Date: 10/16/2009
Monitor and document the absence of Unit 1 leakage in typica
l areas including the Sump B and Regen Hx room for the first
pool flood after repair in 1R26. Continued leakage would i
ndicate either the wrong root cause of ineffective repairs.
Action to be assigned to NSSS Engineering with a due date o
f 10/16/2009.

Completion Notes for A/R Assignment:01160372 10
Effectiveness review completed and attached in Sharepoint.
Sent to PARB coordinator for review/approval. Determined to
be not effective as documented in the EFR. Xref CAP
documented basis for ineffectiveness.

Assign No.: 01160372 11 Status : ACC/ASG 04/15/2009
Aff Fac: PI Dept: 61 Due Date : 06/03/2011
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Monitor and document Unit 1 leakage first outage Orig Due Date: 06/03/2011
Monitor and document the absence of Unit 1 leakage in typica
l areas including the Sump B and Regen Hx room for the first
outage after repair in 1R27. Continued leakage would indic
ate either the wrong root cause of ineffective repairs. Act
ion to be assigned to NSSS Engineering with a due date of 06
/04/2011.

Assign No.: 01160372 12 Status : ACC/ASG 04/15/2009

Aff Fac: PI Dept: 61 Due Date : 11/16/2012
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Monitor and Document leakage 2nd outage after repair Orig Due Date: 11/16/2012
Monitor and document the absence of Unit 1 leakage in typica
l areas including the Sump B and Regen Hx room for the secon
d outage after repair in 1R28. Continued leakage would indi
cate either the wrong root cause of ineffective repairs. Ac
tion to be assigned to NSSS Engineering with a due date of 1
1/17/2012.

Assign No.: 01160372 13 Status : COMPLETE 05/21/2010
Aff Fac: PI Dept: 68 Due Date : 05/21/2010
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : WE6358 S SKOYEN
Monitor and document Unit 2 leakage after repair Orig Due Date: 05/21/2010
Monitor and document the absence of Unit 2 leakage in typica
l areas including the Sump B and Regen Hx room for the first
pool flood after repair in 2R26. Continued leakage would i
ndicate either the wrong root cause of ineffective repairs.
Action to be assigned to NSSS Engineering with a due date o
f 05/22/2010.

Completion Notes for A/R Assignment:01160372 13
Corrective action not effective - See EFR in Sharepoint.
CAP 1233806 initiated to document ineffective action.

Assign No.: 01160372 14 Status : ACC/ASG 04/15/2009
Aff Fac: PI Dept: 61 Due Date : 02/24/2012
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Monitor and document leakage 1st Unit 2 outage after repair Orig Due Date: 02/24/2012
Monitor and document the absence of Unit 2 leakage in typica
l areas including the Sump B and Regen Hx room for the first
outage after repair in 2R27. Continued leakage would indic
ate either the wrong root cause of ineffective repairs. Act
ion to be assigned to NSSS Engineering with a due date of 02
/25/2012.

Assign No.: 01160372 15 Status : ACC/ASG 04/15/2009
Aff Fac: PI Dept: 61 Due Date : 11/25/2013
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Monitor and document leakage 2nd Unit 2 outage after repair Orig Due Date: 11/25/2013
Monitor and document the absence of Unit 2 leakage in typica
l areas including the Sump B and Regen Hx room for the secon
d outage after repair in 2R28. Continued leakage would indi
cate either the wrong root cause of ineffective repairs. Ac
tion to be assigned to NSSS Engineering with a due date of 1
1/25/2013.

Assign No.: 01160372 16 Status : ACC/ASG 04/15/2009
Aff Fac: PI Dept: 61 Due Date : 11/16/2012
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Assess results of Unit 1 leakage monitoring Orig Due Date: 11/16/2012
Access results of Unit 1 leakage monitoring and any addition
al actions initiated as a result of monitoring. Close actio
n or initiate new actions as appropriate. Action to be assi
gned to NSSS Engineering with a due date of 11/17/2012.

Assign No.: 01160372 17 Status : ACC/ASG 04/15/2009
Aff Fac: PI Dept: 61 Due Date : 11/25/2013
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Assess results of Unit 2 leakage monitoring Orig Due Date: 11/25/2013
Access results of Unit 2 leakage monitoring and any addition
al actions initiated as a result of monitoring. Close actio
n or initiate new actions as appropriate. Action to be assi
gned to NSSS Engineering with a due date of 11/25/2013.

Assign No.: 01160372 18 Status : COMPLETE 06/08/2010
Aff Fac: PI Dept: 71 Due Date : 06/10/2010
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Collect and chemically analyze deposits from leakage Orig Due Date: 05/21/2010
Collect and chemically analyze deposits in areas showing sig
ns of leakage in each Unit's regenerative heat exchanger roo
m and sump C, as applicable. The conditions observed for ea
ch deposit shall be documented in this action including phot
ographs of typical leakage areas and an estimated volume of
the deposit in order to qualitatively assess the extent of t
he affected areas. A qualitative assessment of the extent o
f concrete degradation with consideration to the chemistry a
nd volume of deposits shall be included in this action.
Action should be assigned to program engineering with a due
date of 05/22/2010

Completion Notes for A/R Assignment:01160372 18
Unit 2 samples were collected under WO 390456-11, 12.
Results and photos attached to sharepoint of this action
and to the work orders. Leakage into sump B and mezzanine
adjacent to the regen room became minimal after and initial
leak rate of approximately 0.8 gph. Reference AR 1230016.
Sump C showed evidence of significant sandplug cover
leakage. Reference AR 1232430. Chemistry of samples from
both areas would indicate minimal degradation as pH was
generally neutral to base with low iron, calcium and
suspended solids.
The Unit 1 Sump C sample was collected in 1R26 under work
order 390645-02 with the following results: Sample obtained

was 0.5 grams white powder. Analysis results Boron = 481.4 ppm, pH = 8.09, Iron/Nickel = less than LLD, Silica = 1.6 ppm, Suspended Solids = 1742 ppm, white material present, Sodium = greater than 350 ppm, CO-60 = 1.01E-3 1/2 LIFE = 5.3 YEARS, CS-137 = 3.46E-4 1/2LIFE = 30 YEARS, SB-125 = 2.50E-4 1/2 LIFE = 2.8 YEARS, Based on the absence of short lived isotopes such as CO-58 or AG-110m, (isotopes in the RCS, SFP and RWST) it would tend to suggest that this deposit is not from the last 1 -3 fuel cycles. The Unit 1 regen room sample was collected in 1R26 under work order 390645-03 with the following results: Sample obtained from near the bio-shield wall was 0.5 grams was dissolved in DI water Boron = 180.5 ppm, pH = 9.27, Suspended Solids = 893.4 ppm visible solids (sand?), Iron less than LLD = 100 ppb. Sample #2 "from under transfer canal Boron = 273.5 ppm, pH = 9.20, Suspended Solids = 36.4 ppm, Iron less than LLD = 100 ppb. Pictures of typical unit 1 boric acid stains are attached in sharepoint.
Similar to unit 2, the unit 1 samples had neutral to base pH and minimal iron content. The solids of the unit 1 sump C sample were higher at approximately 1.7% of the sample.

Assign No.: 01160372 19 Status : COMPLETE 09/25/2009
Aff Fac: PI Dept: 71 Due Date : 10/16/2009
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Vacuum Box or PT Cavity Weld Seams Orig Due Date: 10/16/2009
Vacuum box or dye penetran test a sample of accessible refueling cavity weld seams to ensure no cracking has occured since the last inspection in 1998-1999.

Completion Notes for A/R Assignment:01160372 19
Vacuum box testing was completed under WO 378798 task 4. Testing included essentially all accessible flat seams of the floor of the lower cavity and approximately 6 feet up the walls. No indicaitons were noted.

Assign No.: 01160372 20 Status : COMPLETE 04/21/2010
Aff Fac: PI Dept: 71 Due Date : 05/21/2010
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Vacuum Box or PT Refuel Cavity Weld Seams Orig Due Date: 05/21/2010
Vacuum box or dye penetrant test a sample of accessible weld seams to ensure no cracking has occured since the last examintion in 1998-1999.

Completion Notes for A/R Assignment:01160372 20
This action was completed under WO390456-09. Three indications were identified. Reference AR 1228230 and WO

390456-20.

Assign No.: 01160372 21 Status : COMPLETE 10/26/2009
Aff Fac: PI Dept: 71 Due Date : 11/12/2009
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
PT Transfer Tube to Liner Welds Orig Due Date: 10/16/2009
Perform dye penetrant testing of accessible portions of tran
sfer tube to liner welds and those welds which could result
in a leak of the cavity past the cavity liner in the transfe
r tube area.
Scope of this action (pressure test of bellows) was originally incorrect -
Pressure testing of the bellows was not necessary as it is performed each o
utage. Scope was changed to PT of the welds in the transfer tube area and
due date set accordingly. S. Skoyen 10-11-09

Completion Notes for A/R Assignment:01160372 21
PT inspection of transfer tube to liner welds completed to
the extent practical and supplemented by VT-1 visual
examination, with VT-1 of other cavity welds, under Work
Order 391275-01. No indication on transfer tube welds to
liner. One 1/8" porosity on Upper internal embedment plate
to liner. Detailed NDE reports BOP-PT-09-053, BOP-VT-09
-042, 043 attached to hard copy of WO 391275-01. Draft NDE
reports attached to sharepoint of this action.

Assign No.: 01160372 22 Status : COMPLETE 04/21/2010
Aff Fac: PI Dept: 71 Due Date : 05/21/2010
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Pressure Test or PT Transfer Tube Bellows Welds Orig Due Date: 05/21/2010
Pressure test or dye penetrant test accessible portions of
transfer tube bellows welds to preclude the possibility of
water leaking along the transfer tube to the inside surface
of the containment vessel.

Completion Notes for A/R Assignment:01160372 22
This task was completed under work order 390456-10 with no
indications. Reference NDE reports BOP-VT-10-006 and BOP
-PT-10-020.

Assign No.: 01160372 23 Status : ACC/ASG 10/15/2009
Aff Fac: PI Dept: 61 Due Date : 06/22/2011
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Monitor and document Unit 1 leakage Orig Due Date: 06/22/2011
Monitor and document the absence of Unit 1 leakage in typica
l areas including the Sump B and Regen Hx room for the first
pool flood after repair in 1R27. Continued leakage would i
ndicate either the wrong root cause of ineffective repairs.
Refer to CAP 01201071 for leakage identified during 1R26 fol

lowing repairs and EFR action -10 under this CAP.

Assign No.: 01160372 24 Status : ACC/ASG 10/28/2009
Aff Fac: PI Dept: 71 Due Date : 06/04/2011
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Grind out and PT Porosity on Upper Internals Stand Weld Orig Due Date: 06/04/2011
Grind out and PT the 1/8" indication of porosity identified
on the upper internals stand liner to embedment plate weld d
uring the refueling cavity inspection performed under WO 391
275. The indication is recorded on data sheet BOP-VT-09-043
attached in sharepoint of AR01160372-21.

Assign No.: 01160372 25 Status : COMPLETE 04/13/2010
Aff Fac: PI Dept: 71 Due Date : 04/30/2010
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : DWNT01 T DOWNING
Track EC 15651 for Containment Assessment to Modified Orig Due Date: 04/30/2010
Track EC 15651 for Containment Assessment to Completion.
As stated in FP-PA-ARP-01 "Actions that address conditions a
dverse to quality SHALL be initiated from severity level "A,
" "B," or "C" CAPs and tracked to completion, with the follo
wing exceptions and clarifications:
Engineering Changes (ECs):
For "A" or "B" CAPs, initiate a corrective action to track t
he modification to MODIFIED or CANCELLED.

Completion Notes for A/R Assignment:01160372 25
EC closed. See email attached in sharepoint.

Assign No.: 01160372 26 Status : ACC/ASG 05/27/2010
Aff Fac: PI Dept: 61 Due Date : 05/03/2012
Primary Resp Grp :
Secondary Resp Grp :
Assignment To : N104489 C WEBBER
Monitor and document Unit 1 leakage Orig Due Date: 05/03/2012
Monitor and document the absence of Unit 2 leakage in typica
l areas including the Sump B and Regen Hx room for the first
pool flood after repair in 2R27. Continued leakage would i
ndicate either the wrong root cause of ineffective repairs.
Refer to CAP 1232430 for leakage identified during 2R26 fol
lowing repairs and EFR action -13 under this CAP.

TOTAL Number of Action Requests : 1