DiabloCanyonNPEm Resource

From: Ferrer, Nathaniel
Sent: Thursday, July 22, 2010 9:10 AM
To: Grebel, Terence; Soenen, Philippe R
Cc: DiabloHearingFile Resource
Subject: Additional RAI letter dated July 20, 2010
Attachments: RAI Related to the Review of the DCPP LRA - (Set 13) Scoping and Screening.pdf

Terry and Philippe,

Attached is an electronic copy of an additional RAI letter dated, July 20, 2010. A formal copy is being sent via mail.

Nathaniel Ferrer
Project Manager
Division of License Renewal
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
(301)415-1045

Hearing Identifier: DiabloCanyon_LicenseRenewal_NonPublic
Email Number: 1941

Mail Envelope Properties (26E42474DB238C408C94990815A02F090A76E5B182)

Subject: Additional RAI letter dated July 20, 2010
Sent Date: 7/22/2010 9:09:36 AM
Received Date: 7/22/2010 9:09:38 AM
From: Ferrer, Nathaniel

Created By: Nathaniel.Ferrer@nrc.gov

Recipients:
"DiabloHearingFile Resource" <DiabloHearingFile.Resource@nrc.gov>
Tracking Status: None
"Grebel, Terence" <TLG1@PGE.COM>
Tracking Status: None
"Soenen, Philippe R" <PNS3@PGE.COM>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	329	7/22/2010 9:09:38 AM
RAI Related to the Review of the DCPP LRA - (Set 13) Scoping and Screening.pdf	670172	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 20, 2010

John Conway
Senior Vice President
Generation and Chief Nuclear Officer
Pacific Gas and Electric Company
77 Beale Street, MC B32
San Francisco, CA 94105

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO THE REVIEW OF THE DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (TAC NOS. ME2896 AND ME2897) – SCOPING AND SCREENING

Dear Mr. Conway:

By letter dated November 23, 2009, Pacific Gas & Electric Company submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, to renew the operating licenses for Diablo Canyon Nuclear Power Plant, Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

The request for additional information was discussed with Mr. Terry Grebel, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1045 or e-mail nathaniel.ferrer@nrc.gov.

Sincerely,

Nathaniel Ferrer, Safety Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosure:
As stated

cc w/encl: Distribution via Listserv

Diablo Canyon Nuclear Power Plant, Units 1 and 2
License Renewal Application
Request for Additional Information Set 13
Scoping and Screening

RAI 2.3-07

10 CFR 54.4(a) provides criteria for determining whether systems or components are in scope for license renewal. The staff confirms inclusion of all components subject to an aging management review (AMR) by reviewing the components within the license renewal boundary. In Section 2.1.2.2 of the Diablo Canyon Power Plant (DCPP) license renewal application (LRA), the applicant indicates that nonsafety-related systems and components that contain fluid or steam and are located inside structures that contain safety-related systems, structures and components (SSCs) are included in scope for potential spatial interaction under criterion 10 CFR 54.4(a)(2).

During the scoping and screening review process, several nonsafety-related piping components were found on the DCPP license renewal boundary drawings in areas containing safety-related components but were not included within the scope of license renewal. Excluding these components contradicts the applicant's approach stated in LRA Section 2.1.2.2. In addition, based on the guidance in NEI 95-10, these components should be within the scope of license renewal because of spatial interaction of the fluid that could prevent the performance of a safety function by a safety-related SSC.

The applicant stated during the scoping audit presentations that for (a)(2) spatial interaction, they used a building approach except as identified in procedure TR-6DC; hence, all fluid filled components in the auxiliary building should be in scope under 10 CFR 54.4(a)(2). However, the applicant has additional areas in the auxiliary building where they did not include fluid-filled components. Specific examples are identified in the table below:

License Renewal Application (LRA) Section / Drawing Number	Piping Component / Issue
2.3.3.3 – Saltwater and Chlorination System	
LR-DCPP-17-106717-07 LR-DCPP-17-106717-7A	The applicant shows strainers and piping components in piping (at locations 77-A and -C and 77a-C and ~~D~~), which denotes that the components are not in scope of license renewal, connected to the auxiliary saltwater (ASW) pump vaults. These fluid-filled lines are located inside the intake structure and may have the potential for spatial interaction with the nearby safety-related ASW piping.

LR-DCPP-17-106717-07 LR-DCPP-17-106717-7A	At locations 79-B and 79a-D, there are portions of the ASW system piping highlighted in scope for license renewal under 10 CFR 54.4(a)(1) at the intake structure when the ASW piping transits outside of the ASW pump vault rooms prior to entering the "yard." However, there are surrounding fluid-filled piping at the intake structure not highlighted in scope for license renewal that could interact with the safety-related ASW piping.
\LR-DCPP-17-106717-08 LR-DCPP-17-106717-09	On the ASW piping in the yard at locations 81-B and 92-E, there is (a)(1) piping and components on the vacuum relief portion. The LRA drawings show fluid-filled piping, in the vicinity of the (a)(1) piping, not within scope of license renewal.
2.3.3.6 - Nuclear Steam Supply Sampling System	
LR-DCPP-11-106711-05	The applicant depicts a makeup water system line tied into the high radiation sample panel at location 50-D and is in scope for license renewal under 10 CFR 54.4(a)(2) for spatial interaction. There is a branch line off this makeup water system line that is not in scope for license renewal with no spatial interaction termination identified.
LR-DCPP-11-106711-02	At locations 25-C and 27-C, there are sections of piping highlighted in scope of license renewal under 10 CFR 54.4(a)(1) inside the sampling room. However, there are multiple fluid-filled piping and components in the surrounding area that are not highlighted for possible spatial interaction with these safety-related portions of the system.

The staff requests the applicant to address the following:

1. Identify exclusion areas and justify the methodology for excluding piping and components with the potential to adversely impact the required functions of safety-related SSCs due to spatial interaction.

2. Justify the exclusion of the components identified above from the scope of license renewal per 10 CFR 54.4.

RAI 2.3-08

10 CFR 54.4(a) provides criteria for determining whether systems or components are in scope for license renewal. The staff confirms inclusion of all components subject to AMR by reviewing the components within the license renewal boundary.

During the scoping and screening review process, the continuation from one drawing to another could not be established. Drawing numbers and/or locations could not be located where identified, the continuation drawing was not provided, or piping expected to be in scope based on one drawing led to a different conclusion on a connecting drawing. Consequently, the staff is unable to complete its scoping and screening review for the particular systems. Specific examples are identified in the table below:

License Renewal Application (LRA) Section / Drawing Number	Continuation Location / Issue
2.3.3.5 - Makeup Water System	
LR-DCPP-16-106716-16 LR-DCPP-16-106718-06	The applicant indicates the line going into the firewater tank at location 166-D is in scope of license renewal under 10 CFR 54.4(a)(2) for attached piping. However, on the continuation drawing (location 68-E), the line going into the firewater tank is not highlighted.
LR-DCPP-16-106716-18	The applicant depicts nonsafety-related piping components to the auto resin sample system (at location 189-D) as in scope for license renewal under 10 CFR 54.4(a)(2) for spatial interaction. No spatial interaction termination was identified prior to the continuation flag and the continuation drawing was not provided.
LR-DCPP-16-106716-19	At location 198-A on the interface to the charging pump 2-3 seal cooling tank, the continuation drawing identified (LR-DCPP-08-107708-05) did not show the continuation.
LR-DCPP-16-106716-21	At location 219-D, there are several continuations shown as arrows to/from other areas, e.g., control room, main domestic/drinking water, hot recirculation and hot water. There are no spatial interaction terminations identified prior to the continuation arrows, and the continuation drawing was not identified.
LR-DCPP-16-106716-21	At location 217-C, a continuation of domestic water into "battery rooms" is shown that was terminated with a spatial interaction flag. There was no continuation drawing identified. The staff is concerned with

	possible interaction resulting from a failure of this water piping in the "battery rooms."
2.3.3.14 - Diesel Generator System	
LR-DCPP-21-106721-06	The applicant depicts the diesel engine lube oil reservoir 1-1 as not being in scope for license renewal. However, the diesel engine lube oil reservoir for the subsequent LRA drawings for the diesel generator system is shown highlighted in scope for license renewal under 10 CFR 54.4(a)(1).
2.3.3.16 - Gaseous Radwaste System	
LR-DCPP-24-106724-02 LR-DCPP-24-106724-03	The applicant depicts piping in scope for license renewal under 10 CFR 54.4(a)(2) going to the nitrogen system (at location 29-A). However, the continuation drawing was not provided.
2.3.3.17 - Liquid Radwaste System	
LR-DCPP-19-106719-12	The drawing depicts several lines in scope of license renewal running from Laundry Distillate Tanks 0-1 and 0-2 to the auxiliary building sump. However, on the continuation drawing (LR-DCPP-19-106719-06), the color of these lines changes from red [(a)(2)] to green [(a)(1) or (a)(3)]. The basis for this transition is not clear.
2.3.4.1 - Turbine Steam Supply System	
LR-DCPP-04-106704-16 LR-DCPP-04-107704-16	At locations 161-A, 161-B, 162-A, 162-B, 163-A, and 163-B), connections are shown to the service air system with only component identification numbers and no connecting lines.

The staff requests that the applicant provide sufficient information for the continuation issues identified above to permit the staff to review all portions of the systems within the license renewal boundary.

RAI 2.3-09

10 CFR 54.4(a) provides criteria for determining whether systems or components are in scope for license renewal.

During the scoping and screening review process, several components were found highlighted on DCPP license renewal boundary drawings as being in scope for license renewal, but were not found on the associated tables for mechanical systems in the "Scoping and Screening Results-Mechanical Systems" section of the DCPP LRA. Specific examples are identified in the table below:

License Renewal Application (LRA) Section / Drawing Number	Table Location / Issue
2.3.3.5 - Makeup Water System	
LR-DCPP-16-106716-16	The makeup water transfer pump expansion joints were found highlighted (at location 165-B) as being in scope for license renewal, but the component type "expansion joint" was not found on the associated table for the makeup water system. Similar pump and heat exchanger expansion joints are specifically identified on the associated table for the ASW system in the DCPP LRA.
2.3.3.14 - Diesel Generator System	
LR-DCPP-21-106721-07 LR-DCPP-21-106721-06 LR-DCPP-21-106721-11 LR-DCPP-21-106721-16 LR-DCPP-21-107721-06 LR-DCPP-21-107721-11 LR-DCPP-21-107721-16	The applicant depicts the after cooler and turbocharger as within scope of license renewal under 10 CFR 54.4(a)(1) for purposes of maintaining the system pressure boundary intended function on license renewal boundary drawing LR-DCPP-21-106721-07 for emergency diesel generator (EDG) 1-1 (and identical drawings for the remaining 5 EDGs). The turbochargers and after coolers are not listed on the associated AMR table for the diesel generator system.

2.3.3.15 - Lube Oil System	
LR-DCPP-20-106720-12 LR-DCPP-20-107720-12	The lube oil system CCW pump motor lubricators (oilers) were found highlighted as being in scope for license renewal under 10 CFR 54.4(a)(1) for purposes of maintaining the system pressure boundary intended function. However, the lubricators were not found on the associated table for the lube oil. Similar lubricators are specifically identified on the associated table for the diesel generator system in the DCPP LRA.

The staff requests that the applicant explain its methodology for establishing what components are specifically identified on the system specific AMR Table. The staff also requests for the applicant to justify the exclusion of the listed components with a specific intended function from AMR.

RAI 2.3.3.3-01

The applicant shows piping components, which are not highlighted as in scope for license renewal, connected directly to safety-related piping where the ASW system discharges into the ocean (at location 89-B on LR-DCPP-17-106717-08 and location 99-E on LR-DCPP-17-106717-09). The staff is concerned that degraded piping along the discharge path could impact the discharge function of the ASW. The staff requests that the applicant justify why the portion of the discharge path between the safety-related portions of the ASW at the above drawing locations is excluded from scope of license renewal.

RAI 2.3.3.5-01

The applicant depicts the firewater tank inside the safety-related primary water transfer storage tank, on license renewal boundary drawing LR-DCPP-16-106716-16. On license renewal boundary drawing LR-DCPP-18-106718-06 for the fire protection system, the applicant indicates in the LR note that the firewater tank is used for fire protection and included in scope for license renewal under 10 CFR 54.4(a)(3). In DCPP Final Safety Analysis Report (FSAR) Chapter 3, Section 3.8, "Design of Design Class I Structures," the applicant indicates that the firewater tank is a Class I structure. DCPP LRA Section 2.1.2.1, "Title 10 CFR 54.4(a)(1)–Safety Related," states that components that are classified as Design Class I are considered safety-related and treated as (a)(1) for the purpose of license renewal. The staff finds that the firewater tank should be included in scope as an (a)(1) component, and the attached piping, which is not highlighted, should be included in scope for license renewal under 10 CFR 54.4 (a)(2).

The staff requests the following from the applicant:

- Justify the exclusion of the firewater tank under 10 CFR 54.4(a)(1) and its attached piping under 10 CFR 54.4(a)(2).

- Review other Design Class I components to ensure they were properly included in scope of license renewal under 10 CFR 54.4(a)(1) and their associated piping under 10 CFR 54.4(a)(2).

RAI 2.3.3.5-02

On license renewal boundary drawings LR-DCPP-16-106716-16 and LR-DCPP-16-106716-17, the applicant shows the condensate storage tanks (CST), depicted as 1-1 and 2-1, having attached lines highlighted in scope for 10 CFR 54.4(a)(2). These lines are connected to the safety-related tank without a closed isolation valve. The staff is concerned that the following failures involving these lines have the potential to result in an inadvertent drain-down of the CST if the lines connect to the CST below the reserved safety-related capacity level:

- A failure of surrounding nonsafety-related components could cause a failure of 10 CFR 54.4 (a)(2) lines, leading to a drain down of CST.
- A failure of the downstream connections that are not in scope could cause a drain down of the CST.

The staff requests that the applicant provides the following details:

- Verify that the connected lines are above the reserve capacity level so that a failure involving these lines will not affect the safety-related inventory.
- Verify that a satisfactory scoping evaluation of the attached piping and any surrounding components up to a closed isolation valve was performed around the CST.
- Clarify that an approved station emergency procedure exists to isolate these lines to prevent loss of the safety-related inventory.

The staff also requests that the applicant justify the exclusion of the downstream piping not in scope of license renewal (e.g., components at location 168-C downstream on line to the demineralizers, connection to main condenser at LR-DCPP-02-106702-02 location 21-E, and connection to package boiler at LR-DCPP-06-106706-03 location 30-C).

Similarly, since the applicant scoped the safety-related primary storage transfer tank under 10 CFR 54.4(a)(1), the staff requests that the applicant perform a similar evaluation of 10 CFR 54.4 (a)(2) lines directly attached to the tank.

RAI 2.3.3.5-03

License renewal boundary drawing LR-DCPP-16-106716-11 shows two pipe sections exiting the east and west reservoirs (0-1B and 0-1A) at location 112-C. During the DCPP scoping and screening methodology audit, the applicant clarified that the reservoirs were in scope of license renewal under 10 CFR 54.4(a)(3) for fire protection. However, the applicant also stated that piping from 10 CFR 54.4 (a)(3) components was conservatively scoped to the nearest isolation valve. The piping in question was not highlighted as in scope for license renewal. The staff requests that the applicant justify the exclusion of these piping from being in scope of license renewal under 10 CFR 54.4(a)(3).

RAI 2.3.3.5-04

The applicant states in the DCPP LRA that the NEI 95-10 guidance was used to perform the scoping boundaries for the systems in scope for license renewal according to 10 CFR 54. NEI 95-10 states that for nonsafety-related SSCs directly connected to safety-related SSCs, the non-safety piping and supports up to and including the first appropriate anchor beyond the safety and non-safety interfaces are within the scope of license renewal. However, the staff identified the following instances in the makeup water system boundary drawings in which the appropriate anchors were not identified:

- On LRA drawing LR-DCPP-16-106716-03, the applicant depicts (at location 30-B) piping not highlighted in scope for license renewal directly attached to nonsafety-related piping that leads into the CST, transfer tank, and raw water open reservoir. No seismic anchor is identified along the piping in scope for license renewal to the piping not highlighted in scope.
- On LRA drawing LR-DCPP-16-106716-16, the applicant shows attached nonsafety-related piping components from the demineralizer outlet (at location 168-B) to the CST and the transfer tank in scope of license renewal under 10 CFR 54.4(a)(2). No seismic anchor is identified at the interface with the demineralizer outlet or on the continuation drawing.
- On LRA drawing LR-DCPP-16-106716-16, the applicant shows attached nonsafety-related piping components from the firewater tank exiting the auxiliary building (at location 184-A). The piping located outside the building is not highlighted in scope for license renewal, nor does it have a seismic anchor identified along the piping.
- On LRA drawing LR-DCPP-16-106716-17, the applicant shows attached nonsafety-related piping components from the unit 2 evaporator distiller (at location 178-C) to the safety-related unit 2 condensate storage tank 2-1 in scope of license renewal under 10 CFR 54.4(a)(2). No seismic support is identified at the interface with the unit 2 evaporator distiller or on the continuation drawing. Similar omissions exist at the interface to the main condenser and the package boiler feed pump suction from the safety-related unit 2 condensate storage tank 2-1.

The staff requests that the applicant justify its methodology for establishing seismic boundaries on directly attached nonsafety-related piping to safety-related piping for the makeup water system, and justify the exclusion of the abovementioned piping up to an appropriate anchor. The staff also requests that the applicant review the makeup water system piping to ensure all 10 CFR 54.4 (a)(2) piping was scoped properly to an appropriate anchor.

RAI 2.3.3.5-05

On license renewal boundary drawing LR-DCPP-16-106716-18, the applicant depicts piping for the makeup water system to the spent fuel pool and CCW surge tank as within scope of license renewal under 10 CFR 54.4(a)(1) for purposes of maintaining the system pressure boundary intended function. The piping transition to nonsafety-related piping, at drawing locations 187-E and 184-A, is depicted as within scope of license renewal under 10 CFR 54.4(a)(2). The piping, shown at location 184-A on the LRA drawing, leads to the condenser polish demineralizers and flush water, and this piping is not highlighted as in scope for license renewal. Since this flow

path is indicated as normally open, the staff is concerned that failure of this piping could impact the pressure boundary of the makeup water system.

The staff requests that the applicant justify its exclusion of this piping to the condenser polish demineralizers from scope of license renewal, including any procedural mitigation methods.

RAI 2.3.3.6-01

On license renewal boundary drawings LR-DCPP-11-106711-04 and LR-DCPP-11-107711-03, the applicant includes the sample cooler rack heat exchangers supplied by the CCW system as within scope of license renewal under 10 CFR 54.4(a)(1) for purposes of maintaining the system pressure boundary intended function. However, there are piping components directly attached to the heat exchangers that are not highlighted, indicating that they are not included in the scope for license renewal. In accordance with guidelines specified in NEI 95-10, the applicant should include attached piping to 10 CFR 54.4 (a)(1) components up to the appropriate endpoint after the safety and nonsafety-related interface.

The staff requests that the applicant justify its exclusion of the non-highlighted piping components that are directly attached to the heat exchangers from license renewal and verify no spatial interaction exist from the lines to the abandoned equipment.

RAI 2.3.3.7-01

On license renewal boundary drawing LR-DCPP-25-106725-26 (at locations 260-A and 261-D), two solenoid valves (SVs) (SV-526A and SV-526B; SV-516A and SV-516B) and their associated tubing are not highlighted, indicating that the valves and tubing are not included in the scope for the license renewal. Backup air supply tanks are attached to those portions of the system to provide pressurized air in the event normal air is lost. The staff is concerned that if the pressure boundary of these components fail, then the pressure boundary intended function of the safety-related piping could be compromised. Therefore, the pressure boundary of these SVs and associated tubing should have been properly considered in the scoping process.

The staff requests that the applicant justify its exclusion of the solenoid valves and the tubing between both sets of solenoid valves from scope of license renewal. The staff requests that the applicant review the compressed air system to assure a proper endpoint was established to protect the safety-related pressure boundary.

RAI 2.3.3.18-02

On license renewal boundary drawings LR-DCPP-23A-106723-03 and LR-DCPP-23A-107723-03, the applicant depicts piping in scope for license renewal under 10 CFR 54.4(a)(2) going to and from the containment air sample supply and return, respectively at locations 37-D and 37-C. Continuing onto license renewal boundary drawings LR-11-106711-06 (at locations 60-B and 66-B) and LR-11-107711-05 (at locations 50-B and 56-B), the piping directly attached to the

10 CFR 54.4(a)(2) piping is not highlighted as in scope for license renewal beyond the spatial interaction flags. Additionally, the applicant did not identify an appropriate anchor on the attached nonsafety-related piping.

The staff requests that the applicant justify its exclusion of the above mentioned piping to an appropriate anchor. The staff requests the applicant review the attached piping to containment isolation valves to assure a proper endpoint was established, to include seismic concerns in accordance with guidelines provided in NEI 95-10.

July 20, 2010

John Conway
Senior Vice President
Generation and Chief Nuclear Officer
Pacific Gas and Electric Company
77 Beale Street, MC B32
San Francisco, CA 94105

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO THE REVIEW OF THE DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (TAC NOS. ME2896 AND ME2897)–SCOPING AND SCREENING

Dear Mr. Conway:

By letter dated November 23, 2009, Pacific Gas & Electric Company submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, to renew the operating licenses for Diablo Canyon Nuclear Power Plant, Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

The request for additional information was discussed with Mr. Terry Grebel, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-1045 or e-mail nathaniel.ferrer@nrc.gov.

Sincerely,
/RA/
Nathaniel Ferrer, Safety Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosure:
As stated

cc w/encl: Distribution via Listserv

DISTRIBUTION:
ADAMS Accession No.: ML101900470

OFFICE	PM:RPB2:DLR	LA:DLR	BC:RPB2:DLR	PM:RPB2:DLR
NAME	NFerrer w/edits	SFigueroa	DWrona	NFerrer
DATE	7/15/10	7/12/10	7/20/10	7/20/10

OFFICIAL RECORD COPY

Letter to J. Conway from N. Ferrer dated July 20, 2010

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO THE REVIEW OF THE DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (TAC Nos. ME2896 AND ME2897)–SCOPING AND SCREENING

DISTRIBUTION:

HARD COPY:
DLR RF

E-MAIL:
PUBLIC [or NON-PUBLIC, if appropriate]
RidsNrrDlr Resource
RidsNrrDlrRpb1 Resource
RidsNrrDlrRpb2 Resource
RidsNrrDlrRarb Resource
RidsNrrDlrRapb Resource
RidsNrrDlrRasb Resource
RidsNrrDlrRerb Resource
RidsNrrDlrRpob Resource
RidsOgcMailRoom Resource

N. Ferrer
K. Green
A. Stuyvenberg
D. Wrona
A. Wang
M. Peck, RIV
T. Brown, RI
G. Miller, RIV
N. O'Keefe, RIV
I. Couret, OPA
V. Dricks, OPA
W. Maier, RIV
J. Weil, OCA
E. Williamson, OGC
S. Uttal, GOC
R. Rihm, EDO