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

January 28, 2016

Mr. Bryan C. Hanson
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: SECONDARY CONTAINMENT ACCESS OPENINGS (CAC NOS. MF5687 AND MF5688)

Dear Mr. Hanson:

The Commission has issued the enclosed Amendment Nos. 220 and 182 to Renewed Facility Operating License Nos. NPF-39 and NPF-85 for the Limerick Generating Station, Units 1 and 2, respectively. These amendments consist of changes to the technical specifications (TSs) in response to your application dated February 2, 2015, as supplemented by letters dated August 11, 2015, and October 20, 2015.

The amendments modify the TSs to allow for brief, inadvertent, simultaneous opening of redundant secondary containment personnel access doors during normal entry and exit conditions.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures:
1. Amendment No. 220 to NPF-39
2. Amendment No. 182 to NPF-85
3. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 220
Renewed License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (the licensee), dated February 2, 2015, as supplemented by letters dated August 11, 2015, and October 20, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-39 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 220, are hereby incorporated into this renewed license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/Douglas A. Broaddus/

Douglas A. Broaddus, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications
and Renewed Facility Operating License

Date of Issuance: January 28, 2016

ATTACHMENT TO LICENSE AMENDMENT NO. 220

RENEWED FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following page of the Renewed Facility Operating License with the revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove	Insert
Page 3	Page 3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
1-6	1-6
1-7	1-7
3/4 6-46	3/4 6-46
3/4 6-47	3/4 6-47

(2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

(3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility, and to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below) and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the facility at reactor core power levels not in excess of 3515 megawatts thermal (100% rated power) in accordance with the conditions specified herein and in Attachment 1 to this license. The items identified in Attachment 1 to this renewed license shall be completed as specified. Attachment 1 is hereby incorporated into this renewed license.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 220, are hereby incorporated into this renewed license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

PURGE - PURGING

1.31 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

RATED THERMAL POWER

1.32 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3515 MWt.

REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY

1.33 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall exist when:

a. All reactor enclosure secondary containment penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or

2. Closed by at least one manual valve, blind flange, slide gate damper, or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.1.

b. All reactor enclosure secondary containment hatches and blowout panels are closed and sealed.

c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.5.3.

d. The reactor enclosure recirculation system is in compliance with the requirements of Specification 3.6.5.4.

e. At least one door in each access to the reactor enclosure secondary containment is closed, except when the access opening is being used for entry and exit.

f. The sealing mechanism associated with each reactor enclosure secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.

g. The pressure within the reactor enclosure secondary containment is less than or equal to the value required by Specification 4.6.5.1.1a.

REACTOR PROTECTION SYSTEM RESPONSE TIME

1.34 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

RECENTLY IRRADIATED FUEL

1.35 RECENTLY IRRADIATED FUEL is fuel that has occupied part of a critical reactor core within the previous 24 hours.

REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY

1.36 REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY shall exist when:

a. All refueling floor secondary containment penetrations required to be closed during accident conditions are either:

REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY (Continued)

1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or

2. Closed by at least one manual valve, blind flange, slide gate damper, or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.2.

b. All refueling floor secondary containment hatches and blowout panels are closed and sealed.

c. The standby gas treatment system is in compliance with the requirements of specification 3.6.5.3.

d. At least one door in each access to the refueling floor secondary containment is closed, except when the access opening is being used for entry and exit.

e. The sealing mechanism associated with each refueling floor secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.

f. The pressure within the refueling floor secondary containment is less than or equal to the value required by Specification 4.6.5.1.2a.

REPORTABLE EVENT

1.37 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

RESTRICTED AREA

1.37a RESTRICTED AREA means an area, access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. RESTRICTED AREA does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a RESTRICTED AREA.

1.38 (Deleted)

SHUTDOWN MARGIN (SDM)

1.39 SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical throughout the operating cycle assuming that:

a. The reactor is xenon free;

b. The moderator temperature is $\geq$ 68°F, corresponding to the most reactive state; and

c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.

SITE BOUNDARY

1.40 The SITE BOUNDARY shall be that line as defined in Figure 5.1.3-1a.

SOURCE CHECK

1.41 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

3/4.6.5 SECONDARY CONTAINMENT

REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

Without REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY, restore REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying in accordance with the Surveillance Frequency Control Program that the pressure within the reactor enclosure secondary containment is greater than or equal to 0.25 inch of vacuum water gauge.

b. Verifying in accordance with the Surveillance Frequency Control Program that:

   1. All reactor enclosure secondary containment equipment hatches and blowout panels are closed and sealed.

   2. At least one door in each access to the reactor enclosure secondary containment is closed, except when the access opening is being used for entry and exit.

   3. All reactor enclosure secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers/valves and required to be closed during accident conditions are closed by valves, blind flanges, slide gate dampers or deactivated automatic dampers/valves secured in position.

c. In accordance with the Surveillance Frequency Control Program:

   1. Verifying that one standby gas treatment subsystem will draw down the reactor enclosure secondary containment to greater than or equal to 0.25 inch of vacuum water gauge in less than or equal to 916 seconds with the reactor enclosure recirc system in operation and

   2. Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inch of vacuum water gauge in the reactor enclosure secondary containment at a flow rate not exceeding 2500 cfm with wind speeds of ≤ 7.0 mph as measured on the wind instrument on Tower 1, elevation 30' or, if that instrument is unavailable, Tower 2, elevation 159'.

CONTAINMENT SYSTEMS

3/4.6.5 SECONDARY CONTAINMENT

REFUELING AREA SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: When RECENTLY IRRADIATED FUEL is being handled in the secondary containment, or during operations with a potential for draining the reactor vessel, with the vessel head removed and fuel in the vessel.

ACTION:

Without REFUELING AREA SECONDARY CONTAINMENT INTEGRITY, suspend handling of RECENTLY IRRADIATED FUEL in the secondary containment and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying in accordance with the Surveillance Frequency Control Program that the pressure within the refueling area secondary containment is greater than or equal to 0.25 inch of vacuum water gauge.

b. Verifying in accordance with the Surveillance Frequency Control Program that:

1. All refueling area secondary containment equipment hatches and blowout panels are closed and sealed.

2. At least one door in each access to the refueling area secondary containment is closed, except when the access opening is being used for entry and exit.

3. All refueling area secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers/valves and required to be closed during accident conditions are closed by valves, blind flanges, slide gate dampers or deactivated automatic dampers/valves secured in position.

c. In accordance with the Surveillance Frequency Control Program:

Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inch of vacuum water gauge in the refueling area secondary containment at a flow rate not exceeding 764 cfm.

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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 182
Renewed License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (the licensee), dated February 2, 2015, as supplemented by letters dated August 11, 2015 and October 20, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-85 is hereby amended to read as follows:

   2) Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 182, are hereby incorporated into this renewed license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Douglas A. Broaddus, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications
and Renewed Facility Operating License

Date of Issuance: January 28, 2016

ATTACHMENT TO LICENSE AMENDMENT NO. 182

RENEWED FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

Replace the following page of the Renewed Facility Operating License with the revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove	Insert
Page 3	Page 3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
1-6	1-6
1-7	1-7
3/4 6-46	3/4 6-46
3/4 6-47	3/4 6-47

(2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

(3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility, and to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below) and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the facility at reactor core power levels of 3515 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 182, are hereby incorporated into this renewed license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

PURGE - PURGING

1.31 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

RATED THERMAL POWER

1.32 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3515 MWt.

REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY

1.33 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall exist when:

a. All reactor enclosure secondary containment penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or

2. Closed by at least one manual valve, blind flange, slide gate damper or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.1.

b. All reactor enclosure secondary containment hatches and blowout panels are closed and sealed.

c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.5.3.

d. The reactor enclosure recirculation system is in compliance with the requirements of Specification 3.6.5.4.

e. At least one door in each access to the reactor enclosure secondary containment is closed, except when the access opening is being used for entry and exit.

f. The sealing mechanism associated with each reactor enclosure secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.

g. The pressure within the reactor enclosure secondary containment is less than or equal to the value required by Specification 4.6.5.1.1a.

REACTOR PROTECTION SYSTEM RESPONSE TIME

1.34 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

RECENTLY IRRADIATED FUEL

1.35 RECENTLY IRRADIATED FUEL is fuel that has occupied part of a critical reactor core within the previous 24 hours.

REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY

1.36 REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY shall exist when:

a. All refueling floor secondary containment penetrations required to be closed during accident conditions are either:

REFUELING FLOOR SECONDARY CONTAINMENT INTEGRITY (Continued)

1. Capable of being closed by an OPERABLE secondary containment automatic isolation system, or

2. Closed by at least one manual valve, blind flange, slide gate damper or deactivated automatic valve secured in its closed position, except as provided by Specification 3.6.5.2.2.

b. All refueling floor secondary containment hatches and blowout panels are closed and sealed.

c. The standby gas treatment system is in compliance with the requirements of Specification 3.6.5.3.

d. At least one door in each access to the refueling floor secondary containment is closed, except when the access opening is being used for entry and exit.

e. The sealing mechanism associated with each refueling floor secondary containment penetration, e.g., welds, bellows, or O-rings, is OPERABLE.

f. The pressure within the refueling floor secondary containment is less than or equal to the value required by Specification 4.6.5.1.2a.

REPORTABLE EVENT

1.37 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

RESTRICTED AREA

1.37a RESTRICTED AREA means an area, access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. RESTRICTED AREA does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a RESTRICTED AREA.

1.38 (Deleted)

SHUTDOWN MARGIN (SDM)

1.39 SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical throughout the operating cycle assuming that:

a. The reactor is xenon free;

b. The moderator temperature is $\geq$ 68°F, corresponding to the most reactive state; and

c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.

SITE BOUNDARY

1.40 The SITE BOUNDARY shall be that line as defined in Figure 5.1.3-1a.

SOURCE CHECK

1.41 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

3/4.6.5 SECONDARY CONTAINMENT

REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

Without REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY, restore REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1.1 REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying in accordance with the Surveillance Frequency Control Program that the pressure within the reactor enclosure secondary containment is greater than or equal to 0.25 inch of vacuum water gauge.

b. Verifying in accordance with the Surveillance Frequency Control Program that:

   1. All reactor enclosure secondary containment equipment hatches and blowout panels are closed and sealed.

   2. At least one door in each access to the reactor enclosure secondary containment is closed, except when the access opening is being used for entry and exit.

   3. All reactor enclosure secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers/valves and required to be closed during accident conditions are closed by valves, blind flanges, slide gate dampers or deactivated automatic dampers/valves secured in position.

c. In accordance with the Surveillance Frequency Control Program:

   1. Verifying that one standby gas treatment subsystem will draw down the reactor enclosure secondary containment to greater than or equal to 0.25 inch of vacuum water gauge in less than or equal to 916 seconds with the reactor enclosure recirc system in operation, and

   2. Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inch of vacuum water gauge in the reactor enclosure secondary containment at a flow rate not exceeding 2500 cfm with wind speeds of $\leq$ 7.0 mph as measured on the wind instrument on Tower 1, elevation 30' or, if that instrument is unavailable, Tower 2, elevation 159'.

3/4.6.5 SECONDARY CONTAINMENT

REFUELING AREA SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: When RECENTLY IRRADIATED FUEL is being handled in the secondary containment, or during operations with a potential for draining the reactor vessel, with the vessel head removed and fuel in the vessel.

ACTION:

Without REFUELING AREA SECONDARY CONTAINMENT INTEGRITY, suspend handling of RECENTLY IRRADIATED FUEL in the secondary containment, and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.1.2 REFUELING AREA SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying in accordance with the Surveillance Frequency Control Program that the pressure within the refueling area secondary containment is greater than or equal to 0.25 inch of vacuum water gauge.

b. Verifying in accordance with the Surveillance Frequency Control Program that:

   1. All refueling area secondary containment equipment hatches and blowout panels are closed and sealed.

   2. At least one door in each access to the refueling area secondary containment is closed, except when the access opening is being used for entry and exit.

   3. All refueling area secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers/valves and required to be closed during accident conditions are closed by valves, blind flanges, slide gate dampers or deactivated automatic dampers/valves secured in position.

c. In accordance with the Surveillance Frequency Control Program:

   Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inch of vacuum water gauge in the refueling area secondary containment at a flow rate not exceeding 764 cfm.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 220 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-39 AND

AMENDMENT NO. 182 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-85

EXELON GENERATION COMPANY, LLC

LIMERICK GENERATING STATION, UNITS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

1.0 INTRODUCTION

By application dated February 2, 2015, as supplemented by letters dated August 11, 2015, and October 20, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML15036A486, ML15223B323, and ML15293A440, respectively), Exelon Generation Company, LLC (Exelon, the licensee), submitted a license amendment request (LAR) for Limerick Generating Station (LGS), Units 1 and 2. The proposed amendments would revise the technical specifications (TSs) to allow for brief, inadvertent, simultaneous opening of redundant secondary containment personnel access doors during normal entry and exit conditions.

The supplements dated August 11, 2015, and October 20, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC or the Commission) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 14, 2015 (80 FR 20022).

2.0 REGULATORY EVALUATION

The regulatory requirements and guidance that the NRC staff considered in its review of this LAR are described below.

General Design Criteria

Section 3.1 of the LGS Updated Final Safety Analysis Report (UFSAR) discusses the extent to which the design of LGS conforms to the General Design Criteria (GDC) specified in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR), "General Design Criteria for Nuclear Power Plants." The NRC staff identified that the following GDCs are applicable to this LAR:

- GDC 16, "Containment design," which requires, in part, that the containment establish an essentially leaktight barrier against the uncontrolled release of radioactivity to the environment and that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require.

- GDC 19, "Control room," which requires, in part, that adequate radiation protection be provided to permit access and occupancy of the control room under accident conditions, without personnel receiving radiation exposures in excess of 5 roentgen equivalent man (rem) whole body, or its equivalent to any part of the body, for the duration of the accident.

Technical Specification Requirements

In 10 CFR 50.36, "Technical specifications," the NRC established its regulatory requirements related to the content of TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The regulation does not specify the particular requirements to be included in a plant's TSs.

As discussed in 10 CFR 50.36(c)(2), LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When LCOs are not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the LCO can be met.

As discussed in 10 CFR 50.36(c)(3), SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

Other Regulatory Requirements

The NRC staff identified the following regulatory requirement as being applicable to the LAR:

- 10 CFR 50.67, "Accident source term," which, in part, sets limits for the radiological consequences of a postulated design-basis accident (DBA) using an alternative source term (AST). The NRC approved implementation of an AST methodology for LGS, Units 1 and 2, by License Amendment Nos. 185 and 146 on August 23, 2006 (ADAMS Accession No. ML062210214).

Guidance Documents

The guidance that the NRC staff considered in its review of this LAR included the following:

- Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," dated July 2000 (ADAMS Accession No. ML003716792). This RG provides guidance for analyzing the radiological consequences of several DBAs to show compliance with 10 CFR 50.67.

- NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition" (hereinafter referred to as "SRP"). Relevant sections of the SRP used in review of this LAR include the following:

  - SRP Section 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms," Revision 0, dated July 2000 (ADAMS Accession No. ML003734190). This SRP section states that the reviewer should evaluate the proposed change against the guidance in RG 1.183.

  - SRP Section 16.0, "Technical Specifications," Revision 3, dated March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared Standard Technical Specifications (STS) for each of the light-water reactor nuclear designs. The STS contain guidance for the format and content of TSs that meet the requirements of 10 CFR 50.36. For this review, the NRC staff used NUREG-1433, Revision 4, "Standard Technical Specifications - General Electric BWR/4 Plants" (ADAMS Accession Nos. ML12104A192 and ML12104A193), and NUREG-1434, Revision 4, "Standard Technical Specifications - General Electric BWR/6 Plants" (ADAMS Accession Nos. ML12104A195 and ML12104A196), for guidance on the TS format.

- NUREG-1022, Revision 3, "Event Report Guidelines 10 CFR 50.72 and 50.73," dated January 2013 (ADAMS Accession No. ML13032A220), discusses the reporting criteria contained in the 10 CFR 50.72 and 10 CFR 50.73. Section 3.2.7 of NUREG-1022 discusses the reporting criteria in 10 CFR 50.72(b)(3)(v) and 10 CFR 50.73(a)(2)(v), which relate to events or conditions that could have prevented fulfillment of a safety function. This section states, in part, that there are a limited number of single-train systems that perform safety functions. For such systems, inoperability of the single train is reportable, even though the plant TSs may allow such a condition to exist for a limited time. This issue, as it relates to reportability for momentary inoperability of secondary containment, is discussed in an NRC letter to Exelon dated January 8, 2015 (ADAMS Accession No. ML14323A682).

3.0 TECHNICAL EVALUATION

3.1 Description of TS Changes

As shown in the licensee's letter dated August 11, 2015, the LAR would revise the TSs for LGS, Units 1 and 2, as described below.

TS Definition 1.33

TS Definition 1.33, "Reactor Enclosure Secondary Containment Integrity," states that reactor enclosure secondary containment integrity shall exist when certain conditions are met. Item e in the definition currently states:

> At least one door in each access to the reactor enclosure secondary containment is closed.

Item e would be revised to read as follows:

> At least one door in each access to the reactor enclosure secondary containment is closed, except when the access opening is being used for entry and exit.

TS Definition 1.36

TS Definition 1.36, "Refueling Floor Secondary Containment Integrity," states that refueling floor secondary containment integrity shall exist when certain conditions are met. Item d in the definition currently states:

> At least one door in each access to the refueling floor secondary containment is closed.

Item d would be revised to read as follows:

> At least one door in each access to the refueling floor secondary containment is closed, except when the access opening is being used for entry and exit.

SR 4.6.5.1.1.b.2

LCO 3.6.5.1.1 requires that reactor enclosure secondary containment integrity be maintained in Operational Conditions 1, 2, and 3. SR 4.6.5.1.1 provides the requirements to demonstrate that the reactor enclosure secondary containment is operable on a frequency in accordance with the Surveillance Frequency Control Program. SR 4.6.5.1.1.b.2 currently requires that the reactor enclosure secondary containment integrity be demonstrated by verifying that:

> At least one door in each access to the reactor enclosure secondary containment is closed.

SR 4.6.5.1.1.b.2 would be revised to read as follows:

> At least one door in each access to the reactor enclosure secondary containment is closed, except when the access opening is being used for entry and exit.

SR 4.6.5.1.2.b.2

LCO 3.6.5.1.2 requires that refueling area secondary containment integrity be maintained when recently irradiated fuel is being handled in the secondary containment, or during operations with a potential for draining the reactor vessel, with the vessel head removed and fuel in the vessel. SR 4.6.5.1.2 provides the requirements to demonstrate that the refueling area secondary containment is operable on a frequency in accordance with the Surveillance Frequency Control Program. SR 4.6.5.1.2.b.2 currently requires that the refueling area secondary containment integrity be demonstrated by verifying that:

> At least one door in each access to the refueling area secondary containment is closed.

SR 4.6.5.1.2.b.2 would be revised to read as follows:

> At least one door in each access to the refueling area secondary containment is closed, except when the access opening is being used for entry and exit.

3.2 Secondary Containment Safety Function

The LGS secondary containment consists of three distinct isolable zones. Zones I and II are the Unit 1 and Unit 2 reactor enclosures, respectively, and Zone III is the common refueling area. Each zone has an independent normal ventilation system that is capable of providing secondary containment isolation as required.

Each reactor enclosure zone completely encloses and provides secondary containment for its corresponding primary containment and supporting equipment. The common refueling area zone completely encloses and provides secondary containment for the refueling floor and spent fuel storage facilities for Unit 1 and Unit 2.

The standby gas treatment system (SGTS) is an engineered safety feature system that is designed to: (1) isolate and draw down the reactor enclosure and/or the refueling area secondary containment zone(s); (2) reduce the halogen and particulate concentrations in gases potentially present prior to release to the environment; and (3) maintain a vacuum in the affected secondary containment zone(s) following a DBA. The SGTS operates in conjunction with the reactor enclosure recirculation system that is provided to filter the halogens and particulate concentrations in gases potentially present in the reactor enclosure secondary containments.

The safety function of the secondary containment is to contain, dilute, and hold-up fission products that may leak from primary containment following a DBA to ensure the control room operator and offsite doses are within the regulatory and NRC-approved limits. There is no redundant train or system that can perform the secondary containment function should the secondary containment be inoperable.

To prevent ground level exfiltration of radioactive material while allowing the secondary containment to be designed as a conventional structure, the secondary containment requires support systems to maintain the control volume pressure at less than atmospheric pressure. SRs 4.6.5.1.1.a (reactor enclosure secondary containment) and 4.6.5.1.2.a (refueling area secondary containment) require the secondary containment to be ≥ 0.25 inch of vacuum water gauge when the secondary containment is required to be operable. During normal operation, non-accident systems are used to maintain the secondary containment at a negative pressure. Following an accident, the SGTS ensures that the secondary containment pressure is less than the external atmospheric pressure.

The secondary containment boundary includes personnel access openings. A secondary containment personnel access opening contains at least one inner and one outer door that is normally kept closed. The currently licensed LGS design does not prevent simultaneous inner and outer door opening through mechanical or electrical interlocks; therefore, occasional brief, simultaneous door openings are possible. Based on the current wording in the TS Definitions 1.33 and 1.36, and SRs 4.6.5.1.1.b.2 and 4.6.5.1.2.b.2, a simultaneous opening of

both an inner and outer door in an access opening would require declaring secondary containment inoperable. Furthermore, since the secondary containment is a single-train system, 10 CFR 50.72 and 50.73 require prompt notification and submittal of a Licensee Event Report whenever the secondary containment is inoperable, regardless of the length of time of the inoperability.

The licensee stated that it is possible for an unintentional, simultaneous opening of both an inner and outer secondary containment access door. The licensee considers that declaring secondary containment inoperable for these brief occurrences is not warranted. The proposed TS changes discussed in Section 3.1 of this safety evaluation are intended to address the brief, simultaneous opening of the inner and outer doors such that the licensee would not need to declare secondary containment inoperable.

The NRC staff requested information from the licensee to reasonably assure the secondary containment will maintain its safety function with the proposed change. In response to the staff's request for additional information, the licensee, in its letter dated October 20, 2015, stated that the intent of the proposed change is to allow for brief, inadvertent, simultaneous opening of redundant secondary containment personnel access doors during normal entry and exit. Under these circumstances, the doors would be promptly closed following entry and exit, thus restoring the secondary containment boundary. The licensee indicated that the time that both doors would be open would typically be less than 10 seconds. The licensee stated that for situations involving planned simultaneous opening of the doors, secondary containment will be declared inoperable, and the appropriate TS action will be followed. The NRC staff finds that the intent of the proposed change is reasonable, since the secondary containment boundary will be restored promptly, and the change only applies to inadvertent opening of both doors, not planned opening of the doors.

The licensee's letter dated October 20, 2015, further stated that at each secondary containment personnel access door, the door is equipped with a position switch to support a monitoring system that consists of local indicating lights, a local audible alarm, and main control room (MCR) annunciator lights and alarms. The monitoring system operates as follows:

- When all doors are closed, the indicating light located above each door is not lit.

- When one inner door or one outer door is opened, the indicating lights above the opposing doors that are still closed are lit to warn against opening. The indicating light above the opened door is not lit.

- When both an inner and an outer door are opened, the indicating lights above each door are lit, an instantaneous audible alarm is annunciated, and after a preset time delay, an MCR alarm is annunciated to identify that secondary containment has been breached, and personnel are dispatched to investigate. For LGS, this preset time delay has been established at 10 seconds.

The licensee stated that the frequency of inadvertent, simultaneous opening events shall be minimized through communication (e.g., Supervisory Briefs) to station personnel to not open a secondary containment personnel access door if the indicating light is illuminated.

The preset time delay of 10 seconds for an MCR alarm due to an inadvertent, simultaneous opening on secondary containment personnel access doors is established by the licensee with the following considerations:

- It should be limited to the time it takes to traverse through a door, typically less than 10 seconds.

- In the safety analysis for a loss-of-coolant accident coincident with a loss of offsite power, the SGTS would not start until 18 seconds after the event.

- The simultaneous opening time should not have impact on the SGTS draw down time. In fact, the draw down time analysis takes no credit for differential pressure (i.e., conservatively assuming 0.0 inch of vacuum water gauge) for the secondary containment initial condition.

- The dose analysis assumes that secondary containment will not be drawn to a vacuum condition for 930 seconds after an accident. Surveillance testing has shown that the SGTS can draw down secondary containment well within 60 seconds.

The NRC staff finds that the 10-second preset time delay has a reasonable technical basis since the applicable safety analyses remain valid.

The NRC staff reviewed the control of a brief, inadvertent secondary containment breach as described above, including the monitoring system and the licensee's evaluation of any impact on the existing safety analyses. The staff finds the licensee's approach acceptable since it assists station personnel in complying with the related TS requirements in that the safety function of secondary containment will be maintained.

3.3 Radiological Consequences

As discussed in Section 2.0 above, the NRC approved implementation of an AST methodology for LGS, Units 1 and 2, by License Amendment Nos. 185 and 146 on August 23, 2006. The NRC staff reviewed the impact of modifying the LGS TSs to allow the reactor enclosure and refueling area secondary containment access openings to be open for entry and exit on all DBAs currently analyzed in the LGS UFSAR that could have the potential for significant dose consequences. Chapter 15 of the LGS UFSAR describes the DBAs and their radiological consequence analysis results.

The NRC staff evaluated the impact of modifying the LGS TSs to allow secondary containment access openings to be open for entry and exit on the licensee's design-basis radiological consequence dose analyses to ensure that the modification will not result in an increase in the dose consequences and that the resulting calculated doses will remain within the design criteria specified in 10 CFR 50.67 and the accident specific design criteria outlined in RG 1.183. The NRC staff review of these DBAs determined that based on the current LGS design bases, the brief, inadvertent, simultaneous opening of both an inner and outer personnel access door during normal entry and exit conditions, and their prompt closure by normal means, is bounded by the radiological dose consequence analysis. Because the typical draw down time using one SGT subsystem is under 60 seconds, margin exists to ensure that the secondary containment can be reestablished during brief, simultaneous opening of inner and outer secondary

containment personnel access doors, and there is reasonable assurance that a failure of a safety system needed to control the release of radioactive material to the environment will not result. The brief, inadvertent, simultaneous opening of both secondary containment personnel access opening doors does not impact the design bases and will not result in an increase in any on-site or off-site dose.

Based on the above discussion, the NRC staff finds that the proposed changes do not affect the current radiological consequence analyses for LGS, Units 1 and 2. Therefore, the NRC staff concludes that this change is acceptable with respect to the radiological consequences of DBAs.

3.4 Evaluation of TS Changes

The NRC staff reviewed the proposed changes to the TSs by considering whether the revised Definitions and SRs continue to meet the requirements of 10 CFR 50.36. The regulations do not specify the format or content of individual specifications. SRs 4.6.5.1.1.b.2 and 4.6.5.1.2.b.2 are being revised to state that the SR is not required to be met when the access openings are being used for entry and exit. This change clarifies the applicability of the requirement but does not change the method of verifying the reactor enclosure or refueling area secondary containment integrity. The NRC staff determined that the proposed SRs would continue to meet the requirements in 10 CFR 50.36(c)(3), which specifies that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, facility operation will be within safety limits, and the LCOs will be met.

Conforming changes were proposed to the TS Definition section. As discussed in Sections 3.2 and 3.3 above, the proposed change to permit brief openings of secondary containment personnel access doors is consistent with the LGS accident analysis. The definition changes reflect the fact that brief openings of secondary containment access doors do not cause secondary containment inoperability. The definition changes do not otherwise revise requirements in LCOs or make changes to the required remedial actions if the LCO is not met.

The TSs for LGS are based on the previous version of Standardized TSs. The NRC staff reviewed the format and the content of the corresponding TSs in NUREG-1433, Revision 4, and NUREG-1434, Revision 4, to determine if the proposed changes were consistent with the format and content of the NUREGs. The NRC staff found that the proposed changes were consistent with NUREG-1434. The corresponding TS in NUREG-1434 has a similar SR to the proposed revised SRs for LGS.

The licensee's letter dated August 11, 2015, provided revised TS Bases pages to be implemented with the associated TS changes. These pages were provided for information only and will be revised by the licensee in accordance with the TS Bases Control Program.

3.5 Technical Evaluation Conclusion

Based on the discussion in Sections 3.1 through 3.4 above, the NRC staff concludes that the proposed changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change SRs. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration (80 FR 20022). The Commission received one public comment generally asserting that the biweekly notice containing the proposed finding for LGS fails to meet the clear writing rule and violates safety codes (ADAMS Accession No. ML15139A024). The commenter did not specify which facility the comment pertains to or provide any further explanation. The NRC staff has reviewed its proposed finding for LGS for clarity and has determined that no modification to the proposed finding is necessary. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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R. Ennis

Date: January 28, 2016

January 28, 2016

Mr. Bryan C. Hanson
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: SECONDARY CONTAINMENT ACCESS OPENINGS (CAC NOS. MF5687 AND MF5688)

Dear Mr. Hanson:

The Commission has issued the enclosed Amendment Nos. 220 and 182 to Renewed Facility Operating License Nos. NPF-39 and NPF-85 for the Limerick Generating Station, Units 1 and 2, respectively. These amendments consist of changes to the technical specifications (TSs) in response to your application dated February 2, 2015, as supplemented by letters dated August 11, 2015, and October 20, 2015.

The amendments modify the TSs to allow for brief, inadvertent, simultaneous opening of redundant secondary containment personnel access doors during normal entry and exit conditions.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures:
1. Amendment No. 220 to NPF-39
2. Amendment No. 182 to NPF-85
3. Safety Evaluation

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OFFICE	DORL/LPL1-2/PM	DORL/LPL1-2/LA	DSS/STSB/BC	DRA/ARCB/BC	DSS/SCVB/BC
NAME	REnnis	LRonewicz	RElliott	UShoop (JDozier for)	RDennig (JBettle for)
DATE	1/12/16	12/23/15	12/25/15	1/4/16	1/7/16
OFFICE	OGC	DORL/LPL1-2/BC	DORL/LPL1-2/PM		
NAME	CKanatas	DBroaddus	REnnis		
DATE	1/11/16	1/28/16	1/28/16		

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