STATUS REPORT ON THE LICENSING ACTIVITIES AND REGULATORY DUTIES OF THE U.S. NUCLEAR REGULATORY COMMISSION

MARCH 2017

Enclosure

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GRAPHICAL METRICS[1]

1. Staffing

a. NRC Yearly Staffing (Full-Time Equivalent [FTE]) budget and actual, since Fiscal Year 2000.

NRC Budget and Actual FTE
(including the Office of the Inspector General and Reimbursable FTE)

Fiscal Year	FTE Actuals	FTE Budgeted
2000	2,777	2,814
2001	2,784	2,774
2002	2,812	2,865
2003	2,936	2,919
2004	3,034	3,058
2005	3,142	3,129
2006	3,198	3,288
2007	3,486	3,454
2008	3,715	3,729
2009	3,988	3,868
2010	4,032	3,943
2011	4,013	4,011
2012	3,846	3,977
2013	3,730	3,944
2014	3,735	3,831
2015	3,717	3,809
2016	3,549	3,628
2017 Re-Baseline*	3,282**	3,412

* Based on the NRC's Fiscal Year 2017 Congressional Budget Justification (CBJ) as adjusted to reflect re-baselining reductions approved by the Commission per the staff requirements memorandum (SRM) for SECY-16-0009, "Recommendations Resulting from the Integrated Prioritization and Re-baselining of Agency Activities," dated April 13, 2016.
** The FY 2017 Actuals are end-of-fiscal-year projections based upon known personnel actions as of pay period ending 2/4/2017.

[1] The responses that provide data over 10-year periods may reflect changes in definitions, standards, size of the fleet, or similar changes that have occurred over the years.

b. Monthly staffing (FTE) for preceding twelve months and projections for twelve months going forward for the offices of Nuclear Reactor Regulation, New Reactors, Uranium Recovery, Decommissioning, and for corporate support functions.

Actual/projected FTE for the period reflects utilization (or projected utilization), i.e., approximately 1/12 of total year expenditure.

U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation FTE Actuals and Projections 12 Months Prior and Future to End of Fiscal Year Data as of 01/21/2017		
Period	Actual/ Projected FTE for the Period	Cumulative FTE
01/10/2016 - 02/06/2016	43.6	43.6
02/07/2016 - 03/05/2016	43.0	86.6
03/06/2016 - 04/02/2016	42.6	129.2
04/03/2016 - 04/30/2016	42.5	171.7
05/01/2016 - 05/28/2016	41.8	213.5
05/29/2016 - 06/25/2016	41.1	254.6
06/26/2016 - 07/23/2016	40.5	295.1
07/24/2016 - 08/20/2016	40.0	335.1
08/21/2016 - 09/17/2016	39.3	374.4
10/02/2016 - 10/29/2016	38.5	412.9
10/30/2016 - 11/26/2016	38.3	451.2
11/27/2016 - 12/24/2016	38.2	489.4
12/25/2016 - 01/21/2017	38.2	527.6
01/22/2017 - 02/18/2017	38.1	38.1
02/19/2017 - 03/18/2017	38.2	76.3
03/19/2017 - 04/15/2017	38.2	114.5
04/16/2017 - 05/13/2017	38.2	152.7
05/14/2017 - 06/10/2017	38.2	190.9
06/11/2017 - 07/08/2017	38.2	229.1
07/09/2017 - 08/05/2017	38.2	267.3
08/06/2017 - 09/02/2017	38.2	305.5
09/03/2017 - 09/30/2017	38.2	343.7

Notes:
1 Data are reported in two-pay-period groups because of the biweekly payroll cycle.
2 Actual/projected FTE for the period reflects FTE utilization (or projected utilization), i.e., approximately 1/12 of total year FTE expenditure.
3 Projection is based on known future gains and losses through the end of the fiscal year.
4 Includes all staff in the Office of Nuclear Reactor Regulation.

U.S. Nuclear Regulatory Commission Office of New Reactors FTE Actuals and Projections 12 Months Prior and Future to End of Fiscal Year Data as of 01/21/2017		
Period	Actual/ Projected FTE for the Period	Cumulative FTE
01/10/2016 - 02/06/2016	25.5	25.5
02/07/2016 - 03/05/2016	25.4	50.9
03/06/2016 - 04/02/2016	25.4	76.3
04/03/2016 - 04/30/2016	25.3	101.6
05/01/2016 - 05/28/2016	25.4	127.0
05/29/2016 - 06/25/2016	25.4	152.4
06/26/2016 - 07/23/2016	25.3	177.7
07/24/2016 - 08/20/2016	24.9	202.6
08/21/2016 - 09/17/2016	24.7	227.3
10/02/2016 - 10/29/2016	23.9	251.2
10/30/2016 - 11/26/2016	23.8	275.0
11/27/2016 - 12/24/2016	23.5	298.5
12/25/2016 - 01/21/2017	23.0	321.5
01/22/2017 - 02/18/2017	22.8	22.8
02/19/2017 - 03/18/2017	22.8	45.6
03/19/2017 - 04/15/2017	22.8	68.4
04/16/2017 - 05/13/2017	22.8	91.2
05/14/2017 - 06/10/2017	22.8	114.0
06/11/2017 - 07/08/2017	22.8	136.8
07/09/2017 - 08/05/2017	22.8	159.6
08/06/2017 - 09/02/2017	22.8	182.4
09/03/2017 - 09/30/2017	22.8	205.2

Notes:
1 Data are reported in two-pay-period groups because of the biweekly payroll cycle.
2 Actual/projected FTE for the period reflects FTE utilization (or projected utilization), i.e., approximately 1/12 of total year FTE expenditure.
3 Projection is based on known future gains and losses through the end of the fiscal year.
4 Includes all staff in the Office of New Reactors.

U.S. Nuclear Regulatory Commission Uranium Recovery FTE Actuals and Projections 12 Months Prior and Future to End of Fiscal Year Data as of 01/21/2017		
Period	Actual/ Projected FTE for the Period	Cumulative FTE
01/10/2016 - 02/06/2016	1.7	1.7
02/07/2016 - 03/05/2016	1.7	3.4
03/06/2016 - 04/02/2016	1.6	5.0
04/03/2016 - 04/30/2016	1.8	6.8
05/01/2016 - 05/28/2016	1.8	8.6
05/29/2016 - 06/25/2016	1.8	10.4
06/26/2016 - 07/23/2016	1.8	12.2
07/24/2016 - 08/20/2016	1.8	14.0
08/21/2016 - 09/17/2016	1.8	15.8
10/02/2016 - 10/29/2016	1.9	17.7
10/30/2016 - 11/26/2016	1.9	19.6
11/27/2016 - 12/24/2016	1.8	21.4
12/25/2016 - 01/21/2017	1.8	23.2
01/22/2017 - 02/18/2017	1.8	1.8
02/19/2017 - 03/18/2017	1.8	3.6
03/19/2017 - 04/15/2017	1.8	5.4
04/16/2017 - 05/13/2017	1.8	7.2
05/14/2017 - 06/10/2017	1.8	9.0
06/11/2017 - 07/08/2017	1.8	10.8
07/09/2017 - 08/05/2017	1.8	12.6
08/06/2017 - 09/02/2017	1.8	14.4
09/03/2017 - 09/30/2017	1.8	16.2

Notes:

1 Data are reported in two-pay-period groups because of the biweekly payroll cycle.

2 Actual/projected FTE for the period reflects FTE utilization (or projected utilization), i.e., approximately 1/12 of total year FTE expenditure.

3 Projection is based on known future gains and losses through the end of the fiscal year.

4 Includes all staff in the Uranium Recovery Branch of NMSS, and relevant staff in the following:

Environmental Review Branch, NMSS
Division of Materials Safety, State, Tribal, and Rulemaking Programs, NMSS
Fuel Cycle and Decommissioning Branch, Region IV
Office of General Counsel
Atomic Safety Licensing Board Panel

Does not include up to 0.67 FTE contributed each month on an irregular or occasional basis by other staff (approx. 8 FTE per year)

U.S. Nuclear Regulatory Commission Decommissioning FTE Actuals and Projections 12 Months Prior and Future to End of Fiscal Year Data as of 01/21/2017		
Period	Actual/ Projected FTE for the Period	Cumulative FTE
01/10/2016 - 02/06/2016	1.8	1.8
02/07/2016 - 03/05/2016	1.8	3.6
03/06/2016 - 04/02/2016	1.8	5.4
04/03/2016 - 04/30/2016	1.8	7.2
05/01/2016 - 05/28/2016	1.8	9.0
05/29/2016 - 06/25/2016	1.8	10.8
06/26/2016 - 07/23/2016	1.9	12.7
07/24/2016 - 08/20/2016	2.0	14.7
08/21/2016 - 09/17/2016	2.0	16.7
10/02/2016 - 10/29/2016	2.0	18.7
10/30/2016 - 11/26/2016	2.0	20.7
11/27/2016 - 12/24/2016	2.1	22.8
12/25/2016 - 01/21/2017	2.0	24.8
01/22/2017 - 02/18/2017	2.0	2.0
02/19/2017 - 03/18/2017	2.0	4.0
03/19/2017 - 04/15/2017	2.0	6.0
04/16/2017 - 05/13/2017	2.0	8.0
05/14/2017 - 06/10/2017	2.0	10.0
06/11/2017 - 07/08/2017	2.0	12.0
07/09/2017 - 08/05/2017	2.0	14.0
08/06/2017 - 09/02/2017	2.0	16.0
09/03/2017 - 09/30/2017	2.0	18.0

Notes:

1 Data are reported in two-pay-period groups because of the biweekly payroll cycle.
2 Actual/projected FTE for the period reflects FTE utilization (or projected utilization), i.e., approximately 1/12 of total year FTE expenditure.
3 Projection is based on known future gains and losses through the end of the fiscal year.
4 Includes all staff in the Reactor and Materials Decommissioning Branches of NMSS only. No mission support staff, second level and above supervisory staff, or staff support from other offices is included.

U.S. Nuclear Regulatory Commission Corporate Support Functions FTE Actuals and Projections 12 Months Prior and Future to End of Fiscal Year Data as of 01/21/2017		
Period	Actual/ Projected FTE for the Period	Cumulative FTE
01/10/2016 - 02/06/2016	45.4	45.4
02/07/2016 - 03/05/2016	45.5	90.9
03/06/2016 - 04/02/2016	45.6	136.5
04/03/2016 - 04/30/2016	45.3	181.8
05/01/2016 - 05/28/2016	44.9	226.7
05/29/2016 - 06/25/2016	45.1	271.8
06/26/2016 - 07/23/2016	44.8	316.6
07/24/2016 - 08/20/2016	44.1	360.7
08/21/2016 - 09/17/2016	43.2	403.9
10/02/2016 - 10/29/2016	41.6	445.5
10/30/2016 - 11/26/2016	41.0	486.5
11/27/2016 - 12/24/2016	40.9	527.4
12/25/2016 - 01/21/2017	40.8	568.2
01/22/2017 - 02/18/2017	40.6	40.6
02/19/2017 - 03/18/2017	40.6	81.2
03/19/2017 - 04/15/2017	40.6	121.8
04/16/2017 - 05/13/2017	40.6	162.4
05/14/2017 - 06/10/2017	40.6	203.0
06/11/2017 - 07/08/2017	40.6	243.6
07/09/2017 - 08/05/2017	40.6	284.2
08/06/2017 - 09/02/2017	40.6	324.8
09/03/2017 - 09/30/2017	40.6	365.4

Notes:

1 Data are reported in two-pay-period groups because of the biweekly payroll cycle.

2 Actual/projected FTE for the period reflects FTE utilization (or projected utilization), (i.e., approximately 1/12 of total year FTE expenditure).

3 Projection is based on known future gains and losses through the end of the fiscal year.

4 Includes all staff in the following corporate support offices:

Office of the Chief Financial Officer
Office of the Chief Information Officer
Office of Administration
Office of Small Business and Civil Rights
Office of the Chief Human Capital Officer

2. Licensing

a. Size and median age of Licensing Action Inventory, monthly for one-year rolling metrics and annually for the past 10 years.

FY 2016 – Size and Median Age of Licensing Action Inventory		
Month	**Inventory Total (Note 1)**	**Median Age (in months)**
February 2016	506	6
March 2016	511	5
April 2016	490	4
May 2016	486	4
June 2016	455	4
July 2016	505	4
August 2016	538	4
September 2016	546	3
October 2016	548	3
November 2016	586	4
December 2016	635	4
January 2017	637	5

Annual Size and Median Age of Inventory – Last 10 Years		
Fiscal Year	**End of FY Inventory Total**	**End of FY Median Age (in months)**
		4
FY 2007	720	4
FY 2008	669	5
FY 2009	600	5
FY 2010	721	5
FY 2011	489	5
FY 2012	491	5
FY 2013	486	5
FY 2014	606	5
FY 2015	559	4
FY 2016	546	3

Note 1: Similar to the licensing actions reported in the yearly Congressional Budget Justification (CBJ), the inventory does not include unusually complex or Fukushima related licensing actions.

Comments:

The above charts show information on the size and median age of the licensing action inventory. The size of the inventory is defined as the number of licensing actions undergoing NRC staff review at the end of each month or fiscal year. The median age corresponds to the open inventory for the respective month or fiscal year.

b. Licensing Actions Performance, Planned vs Actual, monthly for one-year rolling metrics and annually for the past 10 years.

One-Year Rolling Metric for Licensing Actions Completions				
Month	**CBJ Metric Target (Fiscal Year Total)**	**Licensing Actions Submitted in Previous Year (Note 1)**	**Planned (Cumulative Monthly Target)**	**Actual (Cumulative Monthly Total)**
February 2016	900	736	304	340
March 2016	900	736	365	411
April 2016	900	736	426	489
May 2016	900	736	487	564
June 2016	900	736	548	634
July 2016	900	736	608	709
August 2016	900	736	669	759
September 2016	900	736	730	837
October 2016	900	754	63	71
November 2016	900	754	126	118
December 2016	900	754	189	178
January 2017	900	754	251	250

10-Year Annual Completions for Licensing Actions			
Year	**CBJ Metric Target**	**Licensing Actions Submitted in Previous Year (Note 1)**	**Actual**
FY 2007	1500	1565	1542
FY 2008 (Note 2)	1465	1263	1054
FY 2009	1150	993	1002
FY 2010	950	928	988
FY 2011	950	1182	849
FY 2012	950	660	770
FY 2013 (Note 3)	950	802	668
FY 2014 (Note 3)	900	936	607
FY 2015	900	737	792
FY 2016	900	730	837

Note 1: As discussed below, the number of licensing actions submitted in the previous year establishes the target for the number of licensing actions to be completed in the current year.

Note 2: The incoming licensing actions declined and the submitted licensing actions were more complex and required longer to review.

Note 3: Issuance of licensing actions was less than planned due to redirection of resources to higher priority Fukushima related work.

Comments:
Each year, the NRC staff establishes metrics for licensing actions and reports them in the CBJ. Over the years, the CBJ metric target for licensing actions completions changed to reflect the decline in the number of licensing actions submitted and to reflect new categorization of regulatory actions (e.g. excluding improved standard technical specification conversions).

c. Other Licensing Task Performance, Planned vs Actual, monthly for one-year rolling metrics and annually for the past 10 years.

One-Year Rolling Metric for Other Licensing Task Completions				
Month	**CBJ Metric Target (Fiscal Year Total)**	**Other Licensing Tasks Submitted in Previous Year (Note 1)**	**Planned (Cumulative Monthly Target)**	**Actual (Cumulative Monthly Total)**
February 2016	500	599	208	457
March 2016	500	599	250	466
April 2016	500	599	292	497
May 2016	500	599	333	547
June 2016	500	599	375	569
July 2016	500	599	417	588
August 2016	500	599	458	600
September 2016	500	599	500	647
October 2016 (Note 2)	500	597	25	42
November 2016	500	597	50	61
December 2016	500	597	75	69
January 2017	500	597	100	116

10-year Annual Completions for Other Licensing Tasks			
Year	**CBJ Metric Target**	**Other Licensing Tasks Submitted in Previous Year (Note 1)**	**Actual**
FY 2007 (Note 3)	500	477	1045
FY 2008	600	679	678
FY 2009	600	541	541
FY 2010	600	433	625
FY 2011	600	329	465
FY 2012	600	591	674
FY 2013 (Note 4)	600	577	529
FY 2014 (Note 5)	500	1002	765
FY 2015 (Note 4)	500	577	461
FY 2016	500	602	641

Note 1: As discussed below, the number of Other Licensing Tasks (OLTs) submitted in the previous year establishes the target for the number of licensing actions to be completed in the current year.
Note 2: The FY 2017 CBJ states that target for OLTs is 500 actions. However, this target was since redefined to exclude such items as Task Interface Agreements and 2.206 Petitions. While this work remains, they are not counted under this metric as they are not licensing activities. Therefore, the NRC is striving to complete 300 OLTs and this will be reflected in future revisions of the CBJ.
Note 3: The significant increase in OLT completions was the result of closing generic communications initiated post 9-11.
Note 4: Fewer OLTs were issued than planned due to redirection of resources to higher priority Fukushima related work.
Note 5: The significant increase in OLTs submitted in FY 2013 is attributed to Fukushima-related actions.

Comments:
Each year, the NRC staff sets metrics for OLT completions and reports them in the CBJ. Currently, the CBJ targets are based on the number of actions initiated the previous year or 300, whichever is lower (See Note 2 above).

d. Size and median age of topical report reviews, monthly for one-year rolling metrics and annually for the past 10 years.

	Topical Report Inventory*	Topical Report Median Age (months)
Dec 2016	48	29
Jan 2017	50	29

*Topical report inventory includes topical reports currently under review requiring a Safety Evaluation Report (SER).

Comments:
The topical report inventory and topical report median age information for each month and annually for the past 10 years is not readily retrievable in the NRC's Replacement Reactor Program System (RRPS) database.

3. License renewal inventory and age, planned vs actual, based on 22 months for uncontested applications and 30 months for contested applications.

License Renewal Applications Currently Under Review

Plant Name and Unit(s)	Application Receipt Date	Application Review Time (Months)	Proceedings for Contentions?
Indian Point 2 & 3	04/30/2007	117	yes
Diablo Canyon 1 & 2	11/24/2009	86	yes
Seabrook 1	06/01/2010	80	yes
South Texas Project 1 & 2	10/28/2010	75	no
Waterford 3	03/23/2016	10	no

Comments:

1. Indian Point delays were associated with adjudicatory issues. The Diablo Canyon application was suspended at licensee's request. Seabrook is addressing a significant technical issue. South Texas is addressing open items in the SER.

2. See narrative item #1 for additional details on the status of each of these applications.

4. Power Uprates, Planned vs Actual, based on the revised metrics in SECY-13-0070*.

Plant Name	**Issue Date**	**Uprate Type** (Note 1)	**Planned Review Duration (Months)**	**Actual Review Duration (Months)**	**Notes**
Fermi 2	02/10/14	MUR	9	10	
Peach Bottom 2	08/25/14	EPU	18	17	
Peach Bottom 3	08/25/14	EPU	18	17	
Catawba 1	04/29/16	MUR	9	21	Note 2

* Completed power uprate reviews for applications dated July 1, 2012, or later

Note 1: MUR = measurement uncertainty recapture power uprate, EPU = extended power uprate.

Note 2: The Catawba MUR power uprate review was delayed due to unanticipated significant technical issues identified by the NRC staff during the review. Specifically, the staff identified that the methodology the licensee used to calculate neutron fluence values at MUR conditions was based on a computer code that was not approved for use in this scenario. Upon identification of the issue, the licensee requested the NRC to include usage of the new neutron fluence methodology in the MUR review.

5. Decommissioning Plant Licensing Action Inventory and Age, monthly for one-year rolling metrics and annually for the past 10 years.

Size and Median Age of Decommissioning Transition Inventory		
Month	**Inventory Total (Note 1) (Note 2)**	**Median Age (in months)**
February 2016	4	14
March 2016	3	12.5
April 2016	1	2
May 2016	1	2.5
June 2016	6	0
July 2016	10	1
August 2016	18	1
September 2016	20	1
October 2016	18	2
November 2016	19	2.5
December 2016	15	4
January 2017	17	5

Annual Size and Median Age of Decommissioning Transition Inventory (Note 3)		
Fiscal Year	**End of FY Inventory Total**	**End of FY Median Age (in months)**
FY 2013	32	2
FY 2014	65	6
FY 2015	14	9
FY 2016	20	1

Note 1: The inventory includes licensing actions and other licensing tasks (e.g. decommissioning funding status reviews) specifically related to an operating reactor plant transitioning into a decommissioning plant.

Note 2: Similar to the licensing actions and other licensing tasks reported in the yearly Congressional Budget Justification, the inventory does not include unusually complex licensing actions.

Note 3: There were no operating reactor decommissioning transition licensing actions in FY 2006 through FY 2012.

Comments:

The above charts provide information on decommissioning transition licensing actions. This includes a series of licensing actions needed to support operating reactor plants transition into decommissioning status. The inventory totals reflect the number of decommissioning transition licensing actions undergoing NRC staff review at the end of each month or fiscal year. The median age corresponds to the open inventory for the respective month or fiscal year.

Size and Median Age of Decommissioning Licensing Inventory*		
Month	**Open Licensing Actions (Note 4)**	**Median Age (Months) (Note 5)**
February 2016	23	7
March 2016	21	8
April 2016	21	9
May 2016	19	9
June 2016	23	9
July 2016	23	7
August 2016	24	8
September 2016	24	6
October 2016	22	6
November 2016	23	7
December 2016	26	7
January 2017	25	8
10-year Inventory of Open Licensing Actions (Decommissioning)*		
Fiscal Year	**Open Licensing Actions (Note 4)**	**Median Age (Months) (Note 5)**
FY 2007	4	11.5
FY 2008	3	4
FY 2009	4	4.5
FY 2010	6	9.5
FY 2011	11	10
FY 2012	14	4.5
FY 2013	15	6
FY 2014	22	7
FY 2015	25	6
FY 2016	24	6

*The number of open licensing actions was corrected in some cases to account for items inadvertently omitted from the previous report.

Note 4: The table above reflects data for all licensing actions related to shutdown power reactor plants that have generally completed transitioning from operating to decommissioning status. Minor licensing tasks, such as reviews of reports not requiring NRC approval, were not included.

Note 5: The program goal is to complete major licensing actions in 1 year.

Comments:

The two charts directly above provide information on decommissioning licensing actions for sites that have generally completed the transition from operating to decommissioning status. The totals reflect the number of decommissioning licensing actions undergoing NRC staff review at the end of each month or fiscal year. The median age corresponds to the open actions for the respective month or fiscal year.

6. Uranium Recovery license and licensing action review inventory and average age, monthly for one-year rolling metrics and annually for the past 10 years.

Major Uranium Recovery Licensing Action Inventory and Average Age Monthly for One Year Rolling (Note 1)*		
Month	**Number of Actions (Note 2)**	**Average Age in Months (Notes 3, 4, and 5)**
February 2016	9	22.5
March 2016	9	23.5
April 2016	9	24.5
May 2016	7	30
June 2016	7	31
July 2016	7	32
August 2016	7	33
September 2016	7	34
October 2016	7	35
November 2016	7	36
December 2016 (Note 6)	6	41
January 2017	6	42

Major Uranium Recovery Licensing Action Inventory and Average Age for Ten Years Rolling*		
Fiscal Year (FY)	**Number of Actions**	**Average Age in Months**
FY 2007	3	5
FY 2008	6	9
FY 2009	7	16.5
FY 2010	8	24
FY 2011	5	30.5
FY 2012	8	28.5
FY 2013	8	30
FY 2014	6	32
FY 2015	7	23.5
FY 2016	7	34

*Some numbers included in the previous report have been revised to be consistent with the methodology used to report the operating reactor and new reactor licensing action inventories (i.e., to include only the number of actions open at the end of the month/fiscal year).

Minor Uranium Recovery Licensing Action Inventory and Average Age Monthly for One Year Rolling (Note 7)		
Month	**Number of Actions**	**Average Age in Months (Note 8)**
February 2016	25	11.5
March 2016	22	11.5
April 2016	23	11.5
May 2016	24	12
June 2016	23	13.5
July 2016	25	13.5
August 2016	29	12.5
September 2016	27	13.5
October 2016	29	13.5
November 2016	28	13
December 2016	30	11.5
January 2017	29	13

Minor Uranium Recovery Licensing Action Inventory and Average Age for Ten Years Rolling		
Fiscal Year (FY)	**Number of Actions**	**Average Age in Months**
FY 2007	7	3
FY 2008	6	5
FY 2009	8	6
FY 2010	4	8.5
FY 2011	10	8
FY 2012	8	10
FY 2013	9	8
FY 2014	14	8
FY 2015	20	10.5
FY 2016	27	13.5

Note 1: Major licensing actions include new facility applications, license renewals, facility expansions, and restarts.

Note 2: The size of the inventory is defined as the number of licensing actions undergoing NRC staff review at the end of each month or fiscal year.

Note 3: The average age corresponds to the age of the inventory open at the end of the respective month or fiscal year, using the date the request was accepted for review as the start date. The average age is rounded to the nearest half of a month.

Note 4: For major licensing actions, the NRC staff's goal is to complete the reviews in 3 years, or 36 months. This goal assumes that there are no licensee delays in responding to NRC staff requests for additional information.

Note 5: The average age is not strictly limited to the NRC staff's time spent in reviewing the actions; it also includes licensee response times to NRC staff requests for additional information, which have been up to 24 months for major licensing actions and 11 months for minor licensing actions. Furthermore, the average age does not reflect shifts in allocation of staff resources based on the NRC's priority system for

reviews. At times, the NRC staff has had to re-allocate resources from new licensing reviews to support follow-up on emergent issues at operating facilities.

Note 6: The NRC staff removed the Kendrick expansion application from the inventory in December 2016 following a request from the licensee that the NRC cease all activities related to review. As of December 2016, the NRC staff had performed 10 months of review. Therefore, this review was not counted in the December 2016 or January 2017 inventory. The increased average age in December 2016 and January 2017, as well as FY 2016, is influenced by significant applicant delays in responding to requests for additional information (RAIs), technical complexities in the more recent reviews, and additional efforts necessary to respond to an increasing number of tribal interest during cultural resources reviews. Additional information on these reviews is provided in the NRC staff's response to narrative question 6.

Note 7: Minor licensing actions include routine amendments, financial surety reviews, transfers of control, and exemption requests.

Note 8: For minor licensing actions, depending on the type and complexity of the action, the NRC staff's goal is to complete the reviews in 6-18 months. This goal assumes there are no licensee delays in responding to NRC staff requests for additional information.

7. Design certification, COL, and ESP application review inventory including age and projected completion dates.

Project Name	Project Type	Application Review Start Date	Project Age/Duration as of January 2017 (in months)	Projected Completion Date
US-APWR (3)	Design Certification	02/2008	107	TBD
APR1400	Design Certification	03/2015	22	09/2018
ABWR Renewal (3)	Design Certification	02/2011	71	03/2018
Turkey Point (3)	Combined License	09/2009	88	10/2017
North Anna (3)	Combined License	01/2008	108	06/2017
Clinch River	Early Site Permit	01/2017	1	**(1)**
NuScale	SMR Design Certification	**(2)**	N/A	N/A

Comments:

1. On May 12, 2016, Tennessee Valley Authority (TVA) submitted an early site permit (ESP) application for the Clinch River Nuclear Site located in Oak Ridge, Tennessee. By letter dated August 11, 2016, TVA proposed to provide supplemental information to NRC in support of its application. The NRC responded to TVA in a letter dated August 19, 2016, and informed TVA that its application would remain in tendered but not docketed status until all of the supplemental information identified was provided to NRC, and no later than December 15, 2016. By December 15, 2016, TVA had provided the supplemental information in support of its application, and by letter dated January 5, 2017, the NRC staff informed TVA that its application, as supplemented, was acceptable for docketing and detailed technical review. NRC staff began its detailed technical review of the ESP application the first week of January 2017, and the staff is also developing a full review schedule with public milestones that will be transmitted to TVA in the form of a schedule letter by April 5, 2017.

2. On January 6, 2017, NuScale Power, LLC submitted a design certification application for a small modular reactor (SMR). The transmittal letter, dated December 31, 2016, indicated the application would be supplemented with the submittal of one topical report and four technical

reports by January 10, 2017. By January 10th, NuScale submitted all five remaining reports and by January 12, 2017, NuScale provided updated files that allowed successful completion of NRC's electronic processing of the application package. The NRC staff acknowledged receipt of the application package on January 13, 2017. The staff began the acceptance review on January 17, 2017, and plans to make its determination on acceptability for docketing by March 17, 2017.

3. The NRC staff has been performing a limited-scope review of the US-APWR design certification application under a Mitsubishi Heavy Industries, Ltd. (MHI)-initiated coordinated slowdown of NRC licensing activities for US-APWR. The staff's review of the ABWR design certification renewal application has been impacted by the applicant's 2 year delay in submitting Revision 6 of its application. The staff's review of the Turkey Point Combined License (COL) application has been affected by its dependence on the pace of related reviews and significant issues requiring modification of the COL application. The staff's review of the North Anna's COL application has been affected by the applicant's decision to change reactor designs, which necessitated changes to its application, and an earthquake that required seismic reevaluation.

See narrative item #4 for additional details on the status of applications under review as of December 2016.

8. Requests for Additional Information issued by each office including the offices of Nuclear Reactor Regulation, New Reactors, Uranium Recovery, Decommissioning:

- Number of RAI's issued during each month for each office;
- Number of RAI's completed during each month for each office;
- Number of RAI's open at the end of each month for each office;
- 12-month rolling average number and 3-year rolling average number for each office:
- Amount of contractor hours charged as Part 170 fees preparing and/or reviewing RAI responses; and
- NRC staff hours charged as Part 170 fees preparing and/or reviewing RAI responses.

Office of Nuclear Reactor Regulation (NRR)

	No. of RAIs issued (Note 1)	**No. of RAIs completed** (Note 2)	**No. of RAIs open** (Note 3)	**Rolling average**
December 2016	16	23	34	Note 4
January 2017	17	13	38	

Note 1: The number of RAIs issued for NRR reflects the number of RAI transmittals to licensees each month. Each transmittal (e.g., letter, e-mail) may contain multiple RAI questions for the same licensee application.

Note 2: The number of RAIs completed for NRR reflects the number of RAI responses from licensees each month. Each response (e.g., letter) may contain responses to multiple RAI questions.

Note 3: The number of RAIs open for NRR reflects the number of RAI transmittals that licensees have not provided a response to as of the end of each month.

Note 4: NRR does not have a data system capable of providing a historical 12-month rolling average number and 3-year rolling average number of RAIs. Compiling this information would have to be done via manual document searches and analysis, which would have a significant impact on staff resources. We can calculate the rolling average going forward.

Office of New Reactors

Project Name	Project Type	No. of RAIs Issued in January 2017	No. of RAIs Completed in January 2017	No. of RAIs Open at the end of January 2017
US-APWR	Design Certification	0	0	115
APR1400	Design Certification	3	3	450
ABWR Renewal	Design Certification	1	0	5
Turkey Point	Combined License	0	0	0
North Anna	Combined License	0	0	0
Vogtle	License Amendment	1	0	4
V.C. Summer	License Amendment	2	1	10
Clinch River	Early Site Permit	0	0	0
NuScale	SMR Design Certification	0	0	0
NuScale	Topical Reports	0	0	7
Westinghouse	Topical Reports	0	0	2

Comments:
NRC's Office of New Reactors (NRO) does not have readily available a historical 12-month rolling average number and 3-year rolling average number of RAIs. Accurately compiling 12-month rolling averages and 3-year rolling averages would require manual document searches and analysis for several applications, including many that are no longer under review.

Office of Nuclear Material Safety and Safeguards

Number of Uranium Recovery Licensing Action RAIs Issued, Closed, and Open				
	No. of RAIs Issued (Note 1)	No. of RAIs Completed (Note 2)	No. of RAIs Open (Note 3)	Rolling Average (Note 4)
December 2016	0	1	8	
January 2017	0	0	8	

Number of Decommissioning Power Reactor Licensing Action RAIs Issued, Closed, and Open				
	No. of RAIs Issued (Note 1)	**No. of RAIs Completed (Note 2)**	**No. of RAIs Open (Note 3)**	**Rolling Average (Note 4)**
December 2016	0	0	1	
January 2017	0	0	1	

Note 1: In the above table, the number of RAIs issued reflects the number of RAI transmittals to licensees or applicants each month. Each transmittal (e.g., letter, e-mail) may contain multiple RAI questions for the same licensing action.

Note 2: The number of RAIs closed reflects the number of RAI responses received from licensees or applicants each month. Each response (e.g., letter) may contain responses to multiple RAI questions.

Note 3: The number of RAIs open reflects the number of RAI transmittals to which licensees or applicants have not provided a response.

Note 4: The Office of Nuclear Material Safety and Safeguards does not have a data system capable of providing a historical 12-month rolling average number, or a 3-year rolling average number of RAIs. Compiling this information would have to be done via manual document searches and analysis, which would have a significant impact on staff resources. We can calculate the rolling average going forward once sufficient data have been collected.

Part 170 Fees

For all offices, staff and contractor review of licensee applications is charged to specific cost activity codes (CACs). However, the same CAC is used for all aspects of the review and the NRC is not able to differentiate between time spent preparing and/or reviewing RAI responses from time spent performing other aspects of the review (e.g., time spent preparing the safety evaluation).

9. Reactor Oversight Process Findings year-to-date and 3-year rolling metrics, total and by region for green, white, yellow, and red findings.

Location	# of Findings	2014	2015	2016	2017 YTD
Nationally	Total	806	795	704	4
	NSIR* (all regions)	18	26	19	0
R1	Green	167	169	155	0
	White	3	4	2	1
	Yellow	0	1	0	0
	Red	0	0	0	0
	GTG Security	1	1	0	0
	Total	171	175	157	1
	#OP Units	26	25	25	25
R2	Green	148	159	151	0
	White	4	1	0	0
	Yellow	0	0	0	0
	Red	0	0	0	0
	GTG Security	0	0	1	0
	Total	152	160	152	0
	#OP Units	32	32	33	33
R3	Green	221	202	177	0
	White	4	5	1	1
	Yellow	0	0	0	0
	Red	0	0	0	0
	GTG Security	1	1	1	0
	Total	226	208	179	1
	#OP Units	23	23	23	23
R4	Green	249	248	196	0
	White	5	2	1	2
	Yellow	2	1	0	0
	Red	0	0	0	0
	GTG Security	1	1	0	0
	Total	257	252	197	2
	#OP Units	19	19	19	18

** GTG Security: Greater-than-green security; #OP Units: Number of operating units;
NSIR: Office of Nuclear Security and Incident Response

10. Percentage of Final Significance Determinations Made within 90 Days for All Potentially Greater-Than-Green-Findings, monthly for one-year rolling metrics and annually for the past 10 years.

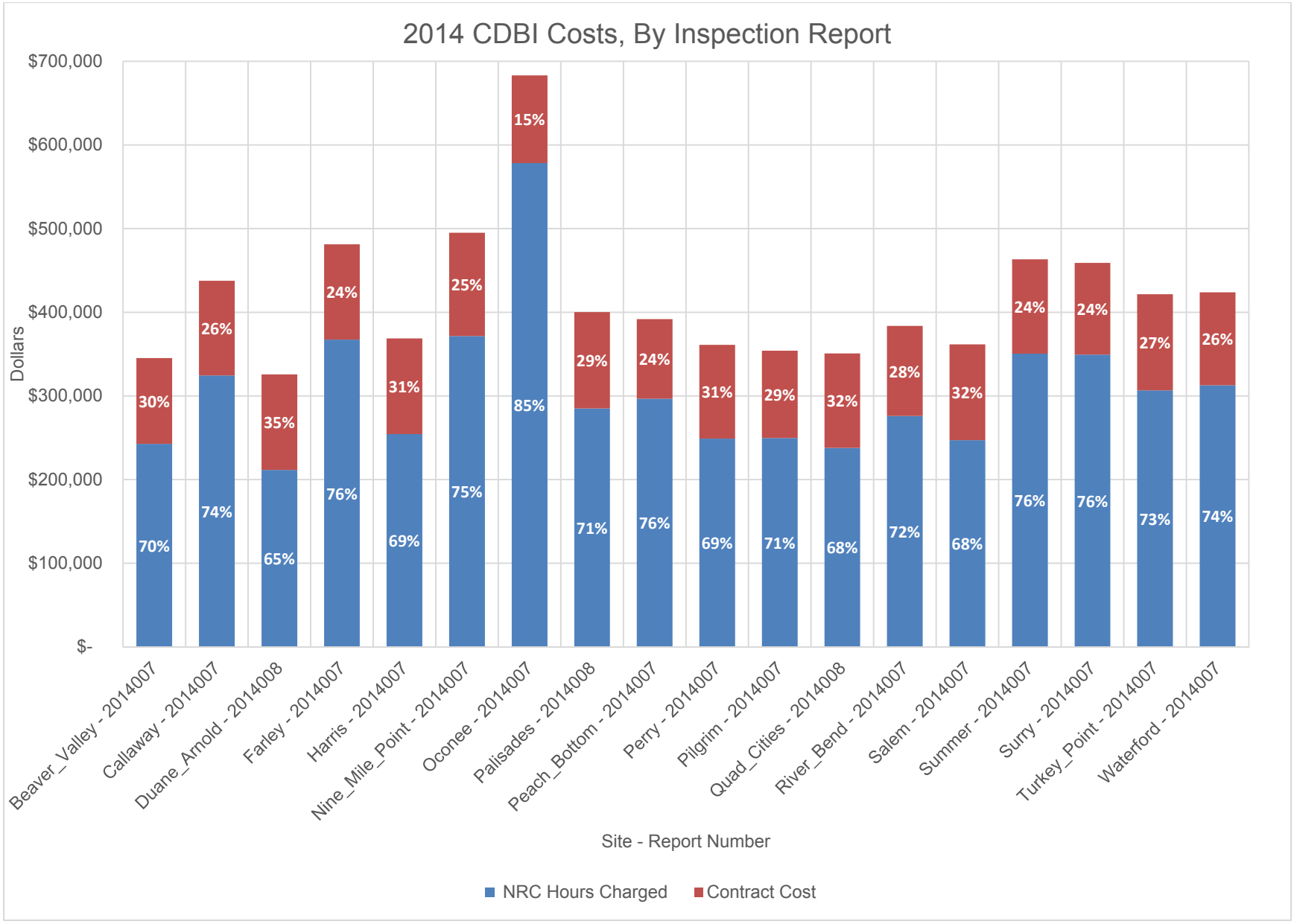
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
%Met	100	100	100	93	100	100	100	86	88	100

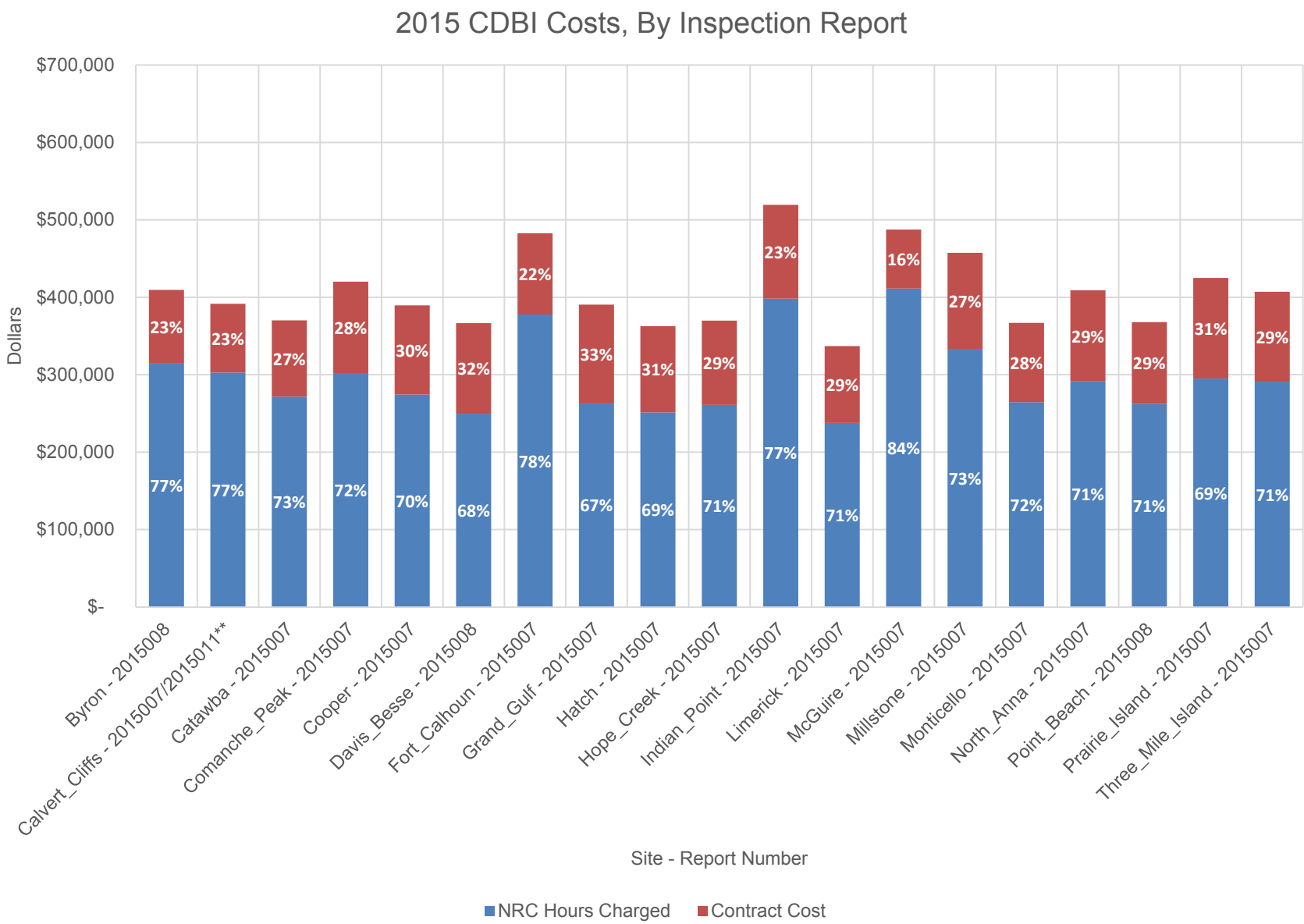
2016											2017
Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan
N/A	100%	N/A	100%	N/A	100%	N/A	100%	N/A	N/A	100%	N/A

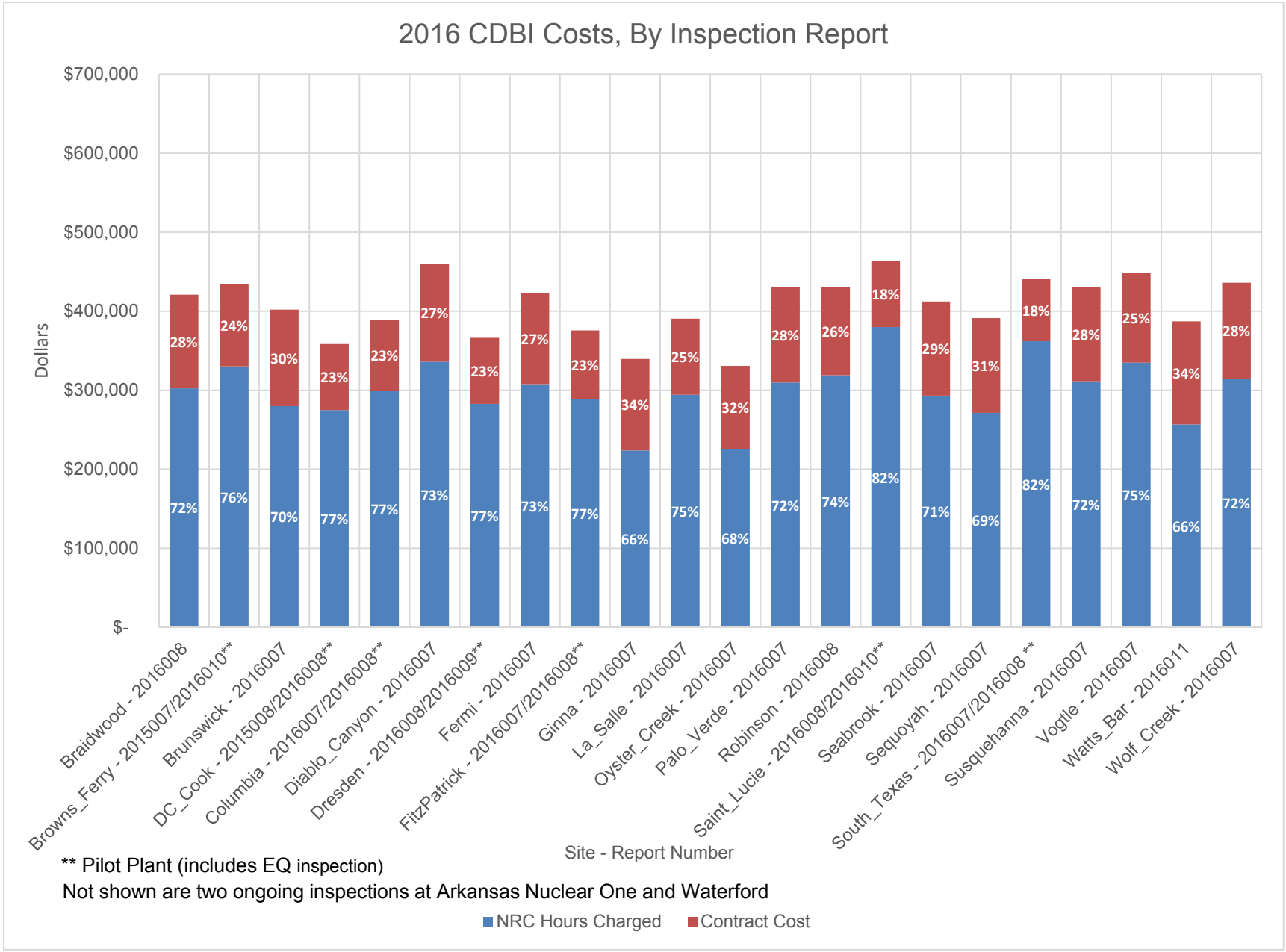
Comments:
This metric is reported in the NRC's Congressional Budget Justification and measures the time from the issue date of the first official correspondence that describes the inspection finding, until the final significance determination letter is sent to the licensee, which is expected to be 90 days or less.

11. Component Design Basis Inspection (CDBI) duration, fees, and percentage of fees used to reimburse contractors - monthly averages for three-year rolling metrics.

The fees associated with CDBIs are grouped per CDBI inspection in order to allow easier review by the reader and facilitate comparison between the costs of CDBIs performed at each site. Monthly comparison of CDBI fees will not provide an accurate representation of the CDBI charges for each licensee due to the inspection period of the CDBIs spanning 2 months and because many of the CDBIs are performed during the non-outage summer months.


2014 CDBI Costs, By Inspection Report
$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$-
Dollars
30%
70%
26%
74%
35%
65%
24%
76%
31%
69%
25%
75%
15%
85%
29%
71%
24%
76%
31%
69%
29%
71%
32%
68%
28%
72%
32%
68%
24%
76%
24%
76%
27%
73%
26%
74%
Beaver_Valley - 2014007
Callaway - 2014007
Duane_Arnold - 2014008
Farley - 2014007
Harris - 2014007
Nine_Mile_Point - 2014007
Oconee - 2014007
Palisades - 2014008
Peach_Bottom - 2014007
Perry - 2014007
Pilgrim - 2014007
Quad_Cities - 2014008
River_Bend - 2014007
Salem - 2014007
Summer - 2014007
Surry - 2014007
Turkey_Point - 2014007
Waterford - 2014007
Site - Report Number
NRC Hours Charged
Contract Cost


2015 CDBI Costs, By Inspection Report
$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$-
Dollars
23%
77%
23%
77%
27%
73%
28%
72%
30%
70%
32%
68%
22%
78%
33%
67%
31%
69%
29%
71%
23%
77%
29%
71%
16%
84%
27%
73%
28%
72%
29%
71%
29%
71%
31%
69%
29%
71%
Byron - 2015008
Calvert_Cliffs - 2015007/2015011**
Catawba - 2015007
Comanche_Peak - 2015007
Cooper - 2015007
Davis_Besse - 2015008
Fort_Calhoun - 2015007
Grand_Gulf - 2015007
Hatch - 2015007
Hope_Creek - 2015007
Indian_Point - 2015007
Limerick - 2015007
McGuire - 2015007
Millstone - 2015007
Monticello - 2015007
North_Anna - 2015007
Point_Beach - 2015008
Prairie_Island - 2015007
Three_Mile_Island - 2015007
Site - Report Number
NRC Hours Charged
Contract Cost



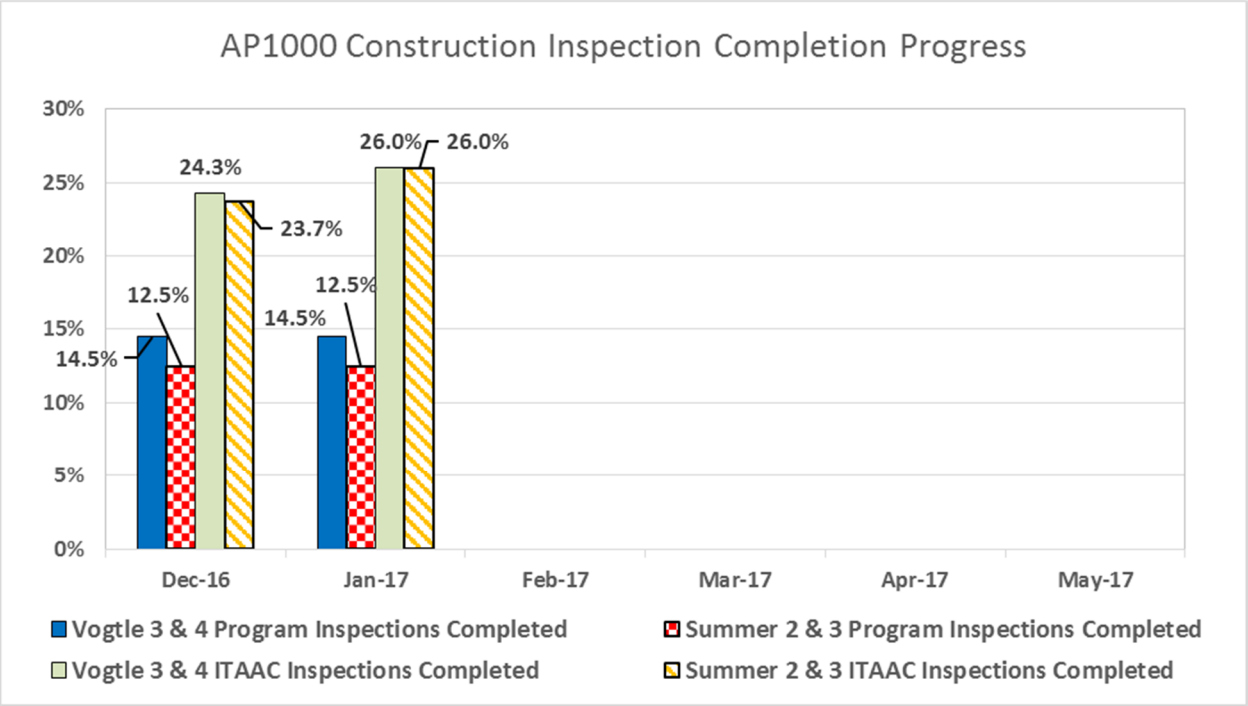
** Pilot Plant (includes EQ inspection)

Not shown are two ongoing inspections at Arkansas Nuclear One and Waterford

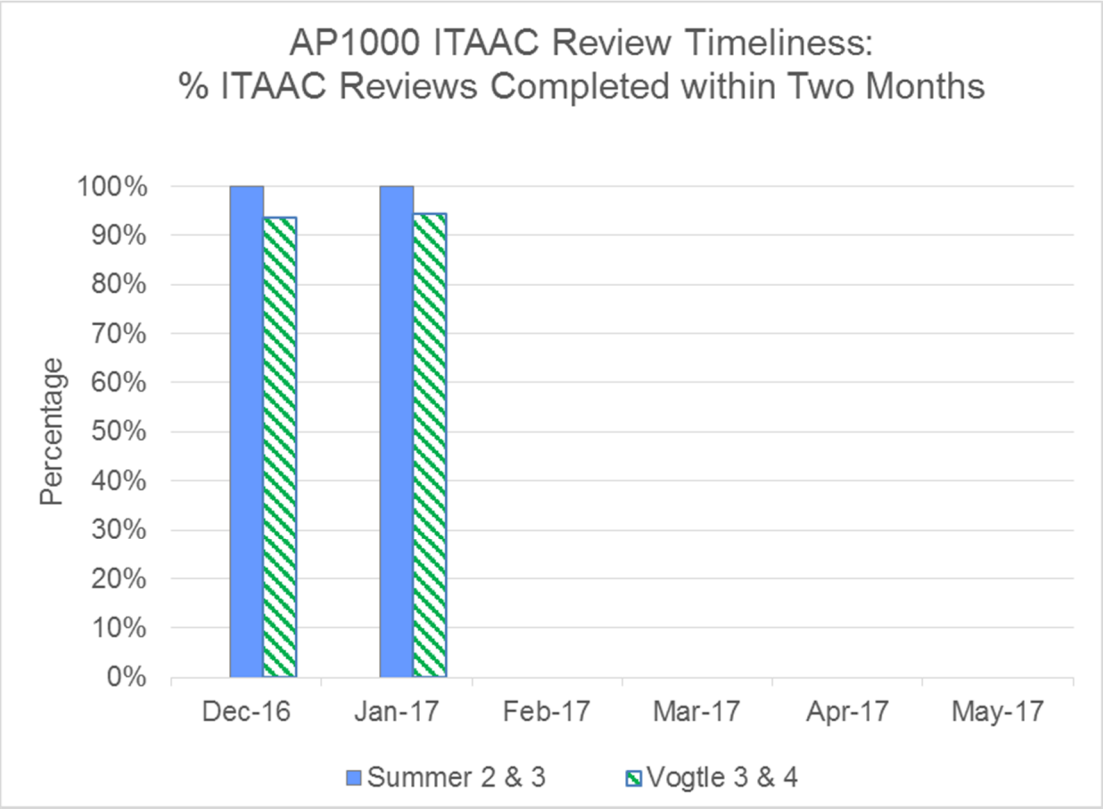
12. <u>New reactor licensing and inspection status for Vogtle 3 & 4 and Summer 2 & 3 including the percentage of NRC inspections completed and the percentage of ITAAC reviews completed within 30 days</u>.

Project Name	Project Type	Licensing Status
Vogtle Unit 3	Combined License Holder	COL issued on 02/10/2012
Vogtle Unit 4	Combined License Holder	COL issued on 02/10/2012
V.C. Summer Unit 2	Combined License Holder	COL issued on 03/30/2012
V.C. Summer Unit 3	Combined License Holder	COL issued on 03/30/2012

New Reactor Inspection Status:



Comments:
The graph above represents the percentage of NRC inspections associated with safety-related Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) that have been completed since the start of construction with respect to the total number of inspections required for the Vogtle and Summer facilities. The completed inspection status closely mirrors the completion status of the licensees' work activities associated with safety-related systems, structures, and components that have ITAAC. This graph also reports the percentage of completed program inspections since the start of construction for these facilities, which include both programs required for construction and programs required for operation of the facilities. There are a total of five construction programs, which include Quality Assurance, Fitness for Duty, and ITAAC Management. In addition, there are a total of 20 operational programs, which include Fire Protection, Emergency Preparedness, Reactor Operator Training, and Security.



Comments:

The graph above plots the percentage of ITAAC closure notifications (ICNs) that have been completed within two months of submittal for Summer 2 & 3 and Vogtle 3 & 4. A two month time period was used instead of the requested 30 days to be consistent with an existing agency performance indicator described in the September 19, 2016, letter from NRC Chairman Stephen Burns to Senators James M. Inhofe and Shelley M. Capito. The current ICN review process provides up to two months to allow time for staff to perform an adequate review and to engage with the licensee in public forums as necessary. These interactions have proven to be very productive as the agency and industry gain experience with the ICN process. The agency will continue to evaluate the ICN review process and we anticipate that the review time will be reduced as the licensees approach fuel load.

13. Committee for the Review of Generic Requirements (CRGR) – please provide lists of the issues formally and informally reviewed including the CRGR recommendations on each. Please provide 12-month and 3-year rolling averages for the following metrics:

    a. For the number of issues reviewed formally: the percentage accepted for imposition on industry and the percentage rejected based on cost-benefit or backfit concerns; and
    b. For the number of issues reviewed informally: the percentage accepted for imposition on industry and the percentage rejected based on cost-benefit or backfit concerns.

Summary of CRGR Reviews Performed over the 3-Year Period					
#	**TOPIC**	**TYPE OF REVIEW**	**DATE**	**ENDORSING DOCUMENT**	**RESULT**
1	RIS 2016-11 Requests to Dispose of Very LLRW Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 20 2002	Informal Review	09/08/16	Internal Summary Email	Endorsed
2	Regulatory Issue Summary: 2016-xx - Clarifications on Security Compensatory Measures Requirements	Informal Review	08/11/16	Internal Summary Email	Withdrawn by requesting Office
3	Regulatory Issue Summary: 2016-10, "License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation"	Informal Review	06/30/16	Internal Summary Email	Endorsed
4	Backfit Evaluation Document, "Evaluation for Compliance Backfit Exception: Open Phase Condition Design Vulnerability in Electric Power System" (Agencywide Documents Access and Management System [ADAMS] Accession No. ML15254A208).	Formal Review	05/17/16	CRGR #441 ML16145A431	Endorsed
5	RIS 2016-07, "Containment Shell or Liner Moisture Barrier Inspection" (ADAMS Accession No. ML16068A436)	Informal Review	04/19/16	Internal Summary Email	Endorsed
6	RIS 2016-04, "Clarification of 10 CFR 50.46 Reporting Requirements and Recent Issues with Related Guidance not Approved for Use by the NRC" (ADAMS Accession No. ML15324A296)	Informal Review	03/30/16	Internal Summary Email	Endorsed
7	RIS 2016-01, "NEI Guidance for the Use of Accreditation in Lieu of Commercial Grade Surveys for Procurement of Laboratory Calibration and Test Services"	Informal Review	02/08/16	Internal Summary Email	Endorsed

Summary of CRGR Reviews Performed over the 3-Year Period					
#	TOPIC	TYPE OF REVIEW	DATE	ENDORSING DOCUMENT	RESULT
	(ADAMS Accession No. ML15323A346)				
8	Interim Staff Guidance, "Guidance for the Evaluation of Acute Chemical Exposures and Quantitative Standards"	Formal review	01/28/16	CRGR #440 ML16032A047	Endorsed
9	RIS 2015-15, "Information Regarding a Specific Exemption in the Requirements for the Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material" (ADAMS Accession No. ML15092A432)	Informal Review	11/20/15	Internal Summary Email	Endorsed
10	Informal Review of Proposed RIS 2015-15, "Information Regarding a Specific Exemption in the Requirements for the Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material"	Informal Review	11/20/15	Internal Summary Email	Endorsed
11	RIS 2015-11, "Protective Action Recommendations for Members of the Public on Bodies of Water" (ADAMS Accession No. ML15216A300)	Informal Review	09/18/15	Internal Summary Email	Endorsed
12	RIS 2016-05, "Embedded Digital Devices in Safety-Related Systems" (ADAMS Accession No. ML15118A015)	Informal Review	04/25/15	Internal Summary Email	Endorsed
13	Informal Review of Proposed (RIS) 2015-11, "Protective Action Recommendations for Members of the Public on Bodies of Water"	Informal Review	09/18/15	Internal Summary Email	Endorsed
14	Informal Review of Proposed RIS 2016-05, "Embedded Digital Devices in Safety-Related Systems"	Informal Review	09/18/15	Internal Summary Email	Predecisional at the time Issued following Commission Decision on April 29, 2016. See Items #12 and #28.

Summary of CRGR Reviews Performed over the 3-Year Period					
#	TOPIC	TYPE OF REVIEW	DATE	ENDORSING DOCUMENT	RESULT
15	RIS 2015-10: "Applicability of ASME Code Case N-770-1 as Conditioned in 10 CFR 50.55a, 'Codes and Standards,' to Branch Connection Butt Welds" (ADAMS Accession No. ML15068A131)	Formal review	07/07/15	CRGR #439 ML15189A085	Endorsed
16	Regulatory Issue Summary (RIS) 2015-10, "Applicability of ASME Code Case N-770-1 as Conditioned in 10 CFR 50.55a, 'Codes and Standards,' to Branch Connection Welds"	Informal Review	05/11/15	Internal Summary Email	Informal Review - Elevated to Formal Review in Item #15 (CRGR Meeting #439)
17	Regulatory Issue Summary (RIS) 2015-11, "Protective Action Recommendations for Members of the Public on Bodies of Water"	Informal Review	05/07/15	Internal Summary Email	Endorsed - Separate Informal Review Completed Following Review of Public Comment in Item #13
18	Generic Letter (GL) 2016-01, "Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools"	Formal Review	04/01/15	CRGR #438 ML15092A656	Endorsed
19	Regulatory Issue Summary (RIS) 2015-06, "Tornado Missile Protection"	Formal Review	03/25/15	CRGR #437 ML15090A373	Endorsed
20	Generic Letter (GL) 2015-01, "Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities"	Formal Review	02/26/15	CRGR #436 ML14092A344	Endorsed
21	Regulatory Issue Summary (RIS) 2015-10, "Applicability of ASME Code Case N-770-1 as Conditioned in 10 CFR 50.55a, 'Codes and Standards,' to Branch Connection Butt Welds"	Informal Review	02/03/15	Internal Summary Email	Deferred - Following Public Comments, Formal and Informal CRGR reviews were performed on 7/7/15 (Item # 15) and 5/11/15 (Item #

Summary of CRGR Reviews Performed over the 3-Year Period					
#	TOPIC	TYPE OF REVIEW	DATE	ENDORSING DOCUMENT	RESULT
					16), Respectively.
22	Regulatory Issue Summary 2014-01, “Qualification Requirements for Bolt and Stud Non-Destructive Examinations”	Informal Review	01/14/15	Internal Summary Email	Endorsed
23	Regulatory Issue Summary (RIS) 2015-10, “Applicability of ASME Code Case N-770-1 as Conditioned in 10 CFR 50.55a, ‘Codes and Standards,’ to Branch Connection Butt Welds”	Informal Review	10/06/14	Internal Summary Email	Endorsed
24	Regulatory Issue Summary (RIS) 2014-11, “Information on Licensing Applications For Fracture Toughness Requirements for Ferritic Reactor Coolant Pressure Boundary Components”	Informal Review	09/24/14	Internal Summary Email	Endorsed
25	Regulatory Issue Summary (RIS) 2015-08, “Oversight of Counterfeit, Fraudulent, and Suspect Items (CFSI) in the Nuclear Industry”	Informal Review	09/23/14	Internal Summary Email	Endorsed
26	Regulatory Issue Summary (RIS) 2014-09, “Maintaining the Effectiveness of License Renewal Aging Management Programs.”	Informal Review	07/10/14	Internal Summary Email	Endorsed
27	Information Summary (RIS) 2014-09, “Maintaining the Effectiveness of License Renewal Aging Management Programs”	Informal Review	04/10/14	Internal Summary Email	Endorsed
28	Regulatory Issue Summary (RIS) 2016-05, “Embedded Digital Devices in Safety-Related Systems”	Informal Review	04/10/14	Internal Summary Email	Deferred - Until Public Comments Were Incorporated. See Informal Reviews in Items #12 and #14.
29	Regulatory Issue Summary (RIS) 2014-11, “Information on Licensing Applications For Fracture Toughness Requirements for	Informal Review	04/09/14	Internal Summary Email	Endorsed

Summary of CRGR Reviews Performed over the 3-Year Period					
#	TOPIC	TYPE OF REVIEW	DATE	ENDORSING DOCUMENT	RESULT
	Ferritic Reactor Coolant Pressure Boundary Components"				
30	Regulatory Issue Summary (RIS) 2014-06, "Consideration of Current Operating Issues and Licensing Actions in License Renewal"	Informal Review	04/09/14	Internal Summary Email	Endorsed
31	Regulatory Issue Summary (RIS) 2015-06, "Conformance With Tornado Missile Protection Licensing Basis"	Informal Review	03/28/14	Internal Summary Email	Deferred - Until Public Comments Were Incorporated. Formal Review on 2/26/15 (Item #19).
32	Draft Regulatory Guide (DG) 3044, "Corrective Action Programs for Fuel Cycle Facilities"	Formal Review	03/26/14	CRGR #435 ML14092A344	Endorsed
33	Proposed Draft Generic Letter (GL) 2016-01, "Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools"	Informal Review	02/18/14	Internal Summary Email	Deferred - Until Public Comments Were Incorporated. Formal Review on 04/01/2015 (Item #18).

12-Month Summary of CRGR Reviews of Potential Backfit Issues			
Review Type & Outcome	Percentage Accepted with Potential Agency Backfits	Percentage Rejected Based on Backfit Concerns	Percentage Endorsed without Backfit Implications
Informal Reviews	0.0%	0.0%	100.0%
Formal Reviews	50.0%	0.0%	50.0%

3-Year Summary of CRGR Reviews of Potential Backfit Issues			
Review Type & Outcome	Percentage Accepted with Potential Agency Backfits	Percentage Rejected Based on Backfit Concerns	Percentage Endorsed without Backfit Implications
Informal Reviews	0.0%	0.0%	100.0%
Formal Reviews	14.3%	0.0%	85.7%

Comments:
1. As of February 2017, for the rolling 3-year period, the CRGR has conducted 33 reviews for potential backfits. This includes conducting 26 informal reviews and 7 formal reviews. During this period, one topic reviewed by CRGR supported potential imposition of an agency backfit. The CRGR endorsed the generic backfit evaluation document related to the Open Phase Condition Design Vulnerability in Electric Power Systems (Open Phase). The Open Phase backfit evaluation documented the compliance exception that was prepared to support possible future plant-specific backfits requiring licensee actions to effectively address the Open Phase Condition. The remaining topics reviewed by CRGR were endorsed to contain no backfit implications for licensee facilities.

2. The above tables provide a summary of CRGR reviews results for the rolling 3-year and 12-month periods. The percentage accepted includes CRGR endorsements of generic documents that may lead to licensee backfits, the percentage rejected are reviews in which the CRGR disapproved documents due to backfit concerns, and the percentage endorsed were reviews in which the CRGR found no backfit implications.

NARRATIVE INFORMATION

1. Status of License Renewal Reviews.

Applicant	Application Accepted for Review	Review status for long-term application reviews
Indian Point 2&3*	08/01/2007	The U.S. Nuclear Regulatory Commission (NRC) staff is working to address public comments received on its draft second supplement to the final supplemental environmental impact statement, which was issued for comment in December 2015. In addition, an SER supplement will be issued to address new information received by the staff concerning safety issues. The schedule for a final decision on license renewal is to be determined pending completion of adjudicatory matters and staff review. On February 8, 2017, New York State and Riverkeeper filed an unopposed motion to withdraw their contentions and terminate the adjudicatory proceeding. That motion is pending before the licensing board.
Diablo Canyon 1&2	01/21/2010	In May 2011 and July 2016, the NRC suspended the license renewal review at the applicant's request. Pacific Gas and Electric requested the suspension to allow it to seek approval from the California Public Utilities Commission of an agreement in principle not to pursue license renewal.

Applicant	Application Accepted for Review	Review status for long-term application reviews
Seabrook 1	07/21/2010	The NRC staff continues to work with the applicant to ensure technical issues for closure of the alkali silica reaction (ASR) open item in the SER are properly addressed. All other open items have been resolved. On August 2016, the licensee submitted a license amendment request (LAR) to adopt a methodology for the analysis of seismic Category I structures with concrete affected by ASR. The staff cannot complete the review of the license renewal application until the review of the LAR is finalized. The current schedule is under review.
South Texas Project 1&2	01/13/2011	The SER with open items was issued in October 2016. The one remaining open item involves the selective leaching of aluminum bronze. The NRC staff continues to work with the applicant to resolve this item. The current schedule for issuing the final SER is under review.
Waterford	05/31/2016	The review is expected to take approximately 25 months. A final decision is expected in April 2018. The deadline for filing hearing requests and petitions for intervention ended August 1, 2016. No contentions or request for hearing were submitted and no comments were received during the scoping period.

*A mutual agreement between Entergy and various parties to shutdown IP2&3 was reached on January 9, 2017. Entergy has since notified the NRC that it intends to close IP 2&3. The staff anticipates completing the IP 2&3 license renewal reviews prior to FY 2019, but issuance of the license will depend on Entergy's implementation of the mutual agreement and the resolution of the contentions associated with the license renewal application.

2. Status of Subsequent License Renewal Readiness.

The Commission has affirmed that no revisions to either the safety or environmental regulations are needed to support the assessment of a subsequent license renewal (SLR) application. However, the Commission directed the staff to continue to update license renewal guidance, as needed, to provide additional clarity on the implementation of the license renewal regulatory framework. The main guidance documents for license renewal are:

- Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants (SRP-LR), Revision 2;
- Generic Aging Lessons Learned Report (GALL Report), Revision 2; and
- Standard Review Plan for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal (Revision 1).

The guidance in these documents is based on plant operation from 40 to 60 years. The staff evaluated this guidance to determine what, if any, revisions were necessary to address issues for 60 to 80 years of plant operation for SLR. The staff determined that no revisions were needed to the NRC guidance document entitled, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants," to support environmental reviews to 60 to 80 years. However, the staff determined that the GALL Report and the SRP-LR should be updated to allow more effective and efficient review of SLR applications.

In mid-December of 2015, the NRC staff issued the following draft SLR guidance documents for public comment:

- NUREG-2191, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," Volumes 1 and 2, and
- NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" (SRP-SLR).

These documents provide the generic evaluation of acceptable methods to manage aging effects for plant operation from 60 to 80 years, and contain the staff's evaluation of domestic and international operating experience of nuclear plants, lessons learned from the staff review of previous license renewal applications, and assessment of recent research findings.

The staff held public meetings on January 21, February 19, April 26, June 1, June 2, June 16, June 23, July 28 and September 15, 2016. The purpose of the public meetings was to discuss the NRC staff's disposition of public comments received on the SLR guidance documents, the NRC staff's plans for updating the SLR guidance documents to reflect the public comments, and the bases for the revisions. The plan and timetable for the remaining activities are as follows:

Activity	Timeframe
Advisory Committee on Reactor Safeguards (ACRS) meeting to discuss the technical bases for changes to the final SLR guidance documents	March 9, 2017
Issue final GALL-SLR Report (Volumes 1 and 2) and final SRP-SLR	Middle of calendar year 2017
Anticipated first subsequent license renewal application	Middle of calendar year 2018

3. Status of power uprate application reviews.

The NRC staff currently has the following power uprate applications under review:

- The Browns Ferry, Units 1, 2 and 3, extended power uprate application was accepted for review on January 11, 2016. The current review schedule forecasts completion of the review in July 2017 (i.e., approximately 18 months after acceptance).

- The Columbia measurement uncertainty recapture uprate application was accepted for review on September 1, 2016. The current review schedule forecasts completion of the review in May 2017 (i.e., approximately 8 months after acceptance).

In addition to the above, the NRC expects several measurement uncertainty recapture uprate applications to be submitted in 2017.

4. Status of Design Certification, COL, and ESP applications.

The NRC provides the status of applications for design certification (DC), COL, and ESP applications to Congress in the "Semiannual Status Report on the Licensing Activities and Regulatory Duties of the United States Nuclear Regulatory Commission," which was most recently issued to the Subcommittee on Clean Air and Nuclear Safety via letter dated November 15, 2016 (ML16294A076). Below is information extracted from the latest report issued for the period of April-September 2016

(ML16294A125) which has been updated to provide the status of applications currently under review as of December 2016.

Design Certification Applications

US-APWR
Mitsubishi Heavy Industries, Ltd. submitted its US-APWR DC application on December 31, 2007. By letter dated November 5, 2013, MHI initiated a coordinated slowdown of NRC licensing activities in order to focus its resources towards supporting the restart of Mitsubishi designed reactors in Japan following the Fukushima event. The NRC staff has been performing a limited-scope review of the US-APWR DC application and will continue with this limited review until further notice from the applicant. A completion date is not known at this time.

Advanced Power Reactor 1400 (APR1400)
On December 23, 2014, Korea Electric Power Corp. and Korea Hydro & Nuclear Power Co., Ltd., (KHNP) submitted to the NRC its application for the certification of the APR1400 standard plant design for use in the U.S. domestic energy market. The Phase 2 review (issuing an SER with open items) has been completed for Chapters 2, 5, 11, and 10 of the application. On September 27, 2016, the NRC issued a letter to KHNP revising only the milestone date for Phase 2 of the technical review to March 2017 due to several unresolved technical issues that challenged the ability of KHNP to submit the information needed. No other milestones were affected. The final SER is projected to be issued in September 2018.

Design Certification Renewal Applications

ABWR Renewal (General Electric-Hitachi)
On December 7, 2010, General Electric-Hitachi (GEH) submitted an application for renewal of the Advanced Boiling Water Reactor (ABWR) DC. The NRC staff issued a letter to GEH on July 20, 2012, describing certain design changes (28 items) that GEH should have included in the application. By letter dated September 17, 2012, GEH stated it planned to address the 28 items and submit Revision 6 of the ABWR Design Control Document (DCD) no later than the second quarter of 2014. On March 17, 2014, GEH submitted a subsequent letter to the NRC stating that it would not be providing Revision 6 of the DCD earlier than May 2015. By letter dated February 19, 2016, GEH submitted its revised application (Revision 6) incorporating changes to the ABWR DCD. On August 30, 2016, the staff issued a schedule letter to GEH with a projected final SER completion date of March 2018.

COL Applications

Turkey Point Units 6 and 7
On June 30, 2009, Florida Power & Light Company (FPL) submitted a COL application for two AP1000 units at the existing Turkey Point Nuclear Generating Station site in Miami-Dade County, FL. On September 4, 2009, the NRC staff issued a letter to FPL indicating the Turkey Point COL application was acceptable for docketing and indicated that as a subsequent COL (S-COL) applicant referencing the AP1000 design, the Turkey Point COL review schedule would also be dependent on the review schedules for the AP1000 DC application as well as the Vogtle reference COL (R-COL) application. In addition, the staff indicated that additional information was needed in the areas of geology, hydrology, and structural engineering in order to develop a complete and integrated review schedule and that review of Section 2.5 of the application would not begin until the information requested had been provided. On May 28, 2010, the staff issued a schedule letter to FPL projecting a final SER completion date of December 2012 and a final environmental impact statement (EIS) completion date of October 2012. In this letter, the staff reiterated its concern that it still had not received the additional information

from FPL related to Section 2.5 of its application and that the review of Section 2.5 would not begin until this information was received by the staff. By letter dated October 27, 2011, the NRC issued a revised schedule to FPL due to the dependence of the Turkey Point COL review on the reviews of the AP1000 DC Amendment and Vogtle R-COL applications' reviews. The revised schedule projected final SER and final EIS completion dates of November 2013 and February 2014, respectively.

On May 4, 2012, the NRC issued a letter to FPL identifying two significant issues that were affecting the staff's ability to complete its safety and environmental reviews of the Turkey Point COL application: (1) geology, seismology, and geotechnical engineering and (2) the alternative sites analyses. Based on the significant issues identified above, the NRC indicated to FPL that the staff's safety and environmental reviews in these areas of the Turkey Point COL application would be suspended until FPL made substantial modifications to its COL application.

In a letter dated April 17, 2014, the staff informed FPL that publication of the final EIS would be re-evaluated based on the number and complexity of comments received (approximately 11,000 comment letters) on the draft EIS from Federal, State, and local agencies, members of the public, and interested stakeholders. The revised schedule projected final EIS completion in October 2016.

By letter dated August 26, 2014, the staff issued a letter to FPL indicating sufficient quality information had been submitted such that the NRC staff could schedule the review of Sections 2.5.1 through 2.5.5. The new schedule projected issuance of the final SER in October 2016.

Also in an October 27, 2015, letter the staff informed FPL that the staff continued to actively engage with the AP1000 licensees as well as Westinghouse Electric Company to resolve several generic design issues. Since then the NRC staff has reviewed the additional information provided by Duke Energy Florida under the Levy Nuclear Plant docket and the information was subsequently reviewed by the ACRS in April 2016.

In a letter dated April 14, 2016, FPL endorsed departures related to changes in the AP1000 design certification that had also been submitted by Duke Energy Florida for the Levy COL application. On May 13, 2016, the NRC issued a revised schedule letter to FPL for the Turkey Point COL application contingent upon FPL providing the required information related to the departures by May 16, 2016, and all such proposed departures being equally and fully applicable to Turkey Point Units 6 and 7 and not requiring any additional staff review. The new schedule projected issuance of the final SER in November 2016. The NRC staff completed its safety review and presented the advanced final SER to ACRS on August 19, 2016. The final SER for Turkey Point was issued on November 10, 2016. The NRC issued the final EIS on October 28, 2016.

Per a Commission Order, the mandatory hearing was delayed to allow environmental consultations with other government agencies to proceed. Activities related to the Atomic Safety Licensing Board (contested) hearing process continue.

North Anna Unit 3

On November 26, 2007, Dominion Virginia Power (Dominion) submitted a COL application for an Economic Simplified Boiling-Water Reactor (ESBWR) at its North Anna Power Station site near Richmond in Louisa County, VA (Note: The NRC issued an ESP to Dominion for the North Anna Site on November 27, 2007). By letter dated January 28, 2008, the NRC informed Dominion that the North Anna COL application was acceptable for docketing and on February 27, 2008, the staff issued a schedule letter to Dominion for the detailed technical review. The environmental review incorporates, as applicable, consideration of the North Anna ESP and supported issuance of a final EIS in December 2009. The safety review supported issuance of a final SER in August 2010.

By letter dated February 25, 2009, the NRC issued a revised schedule to Dominion, which reflected updates due to delays with completing the staff's review of the ESBWR DC application. The staff also noted that a significant portion of the North Anna COL application safety review schedule was dependent upon the ESBWR DC review schedule. Therefore, any subsequent delays in the ESBWR DC review schedule would likely impact the schedule for the North Anna COL application review. The revised schedule supported issuance of the final SER in February 2011.

The NRC issued the final supplemental EIS for the North Anna COL application that referenced the ESBWR design in March 2010. On June 28, 2010, Dominion submitted a revised COL application changing its reactor design technology to the US-APWR. Three years later, on April 25, 2013, Dominion notified the NRC via letter of its intent to revert back to the ESBWR reactor design technology. Dominion submitted its partially revised COL application in July 2013 to reflect the changed reactor design technology decision and submitted all remaining application sections to the NRC in December 2013. On April 7, 2014, the NRC issued a revised safety review schedule letter to Dominion reflecting the change in reactor technology back to the ESBWR design. The revised safety review schedule projected a final SER completion date of March 2016.

During the staff review of Dominion's revised application, a magnitude 5.1 earthquake occurred at Mineral, VA. This event required a major reevaluation of the ground motion and seismic design requirements for the North Anna site. Dominion provided a seismic closure plan in October 2014 which outlined a revised approach to performing certain aspects of the seismic analysis for North Anna COL application as well as use of the most current NRC approved ground motion model. The plan identified RAI response information, seismic technical reports, geologic information and field reconnaissance activities related to the Mineral, VA earthquake. In response, the staff issued a revised schedule that projected a final SER completion date of April 2017.

In a letter dated August 31, 2016, the NRC issued a new schedule reflective of the successful completion of all aspects of the Dominion's seismic closure plan, including three on-site audits with no new significant issues as well as the completion of all the advanced final safety evaluations for the North Anna COL application. The revised review schedule represented an improvement of three months in the completion of the staff's review, with a new final SER completion date of January 2017. On January 12, 2017, the NRC staff completed the safety review for the North Anna Unit 3 COL application three months ahead of the public milestone.

The mandatory hearing process has been initiated and the mandatory hearing is scheduled to occur in March 2017.

5. Status of licensing and inspection status for Vogtle 3 & 4 and Summer 2 & 3.

The NRC periodically provides the status of licensing and inspections for Vogtle 3 & 4 and Summer 2 & 3 to Congress in the "Semiannual Status Report on the Licensing Activities and Regulatory Duties of the United States Nuclear Regulatory Commission," which was most recently issued to the Subcommittee on Clean Air and Nuclear Safety via letter dated November 15, 2016 (ML16294A076). The information below is extracted from the latest report issued for the period of April-September 2016 (ML16294A125), which provides the latest licensing and inspection status for Vogtle and Summer.

The NRC issued COLs to Southern Nuclear Operating Co. and several co-owners on February 10, 2012, for two AP1000 units at the Vogtle site near Augusta, GA; and to South Carolina Electric & Gas Co. on March 30, 2012, for two AP1000 units at the V.C. Summer site near Columbia, SC. As construction progresses, the NRC has increased the pace of construction inspections to verify

compliance with the agency's regulations and to ensure that the new plants are constructed in accordance with their COLs.

The graphs provided in Item 12 of the Graphical Metrics section of this report represents completed inspections of safety-related components and construction activities. The completion of these ITAAC-related inspections closely mirrors the completion status of the licensees' work activities associated with the ITAAC. The graphs also report the percentage of completed program inspections, which are separate from the ITAAC-related inspections, and include both construction and operational programs. Program inspection status also closely mirrors the licensees' completion status of program development and implementation. For both ITAAC and program inspections, the NRC staff continues to meet the planned inspections and to adjust to the licensee's changing construction environment.

6. Status of uranium recovery licensing including projected budget and timeline for both the environmental impact statement and safety evaluation report for each application review.

The table below provides the status of major uranium recovery licensing actions currently under review, the timeline for completing the associated EISs and SERs, and the total projected budget per project. This information is based on the NRC's November 15, 2016, report on licensing activities to the House and Senate Appropriations Committees, updated to account for recent changes in status.

The NRC does not formulate its budget at the project level. The budget for the Uranium Recovery Program is formulated at a higher level using budget models for the number, type, and complexity of reviews anticipated. The projected budget information reported below includes the program staff and contract support resource estimates to perform the safety and environmental reviews from submittal to approval, excluding resources for the Office of the General Counsel's reviews, hearings, mission support, supervisory support, travel, and allocated agency corporate support resources. The estimates are based on budget models for different types (such as expansions, renewals, and new licenses) and complexities of major licensing action reviews. The NRC staff's goal is to complete the review of major licensing actions within 3 years; however, the staff estimates that smaller, less complex, applications may be reviewed in 2 years, while larger, more complex applications may require up to 4 years to review.

Uranium Recovery Applicant	Application Accepted for Review	Review Status and Projected Budget
Cameco North Trend Expansion	08/28/07	The applicant requested the NRC staff to stop its review of the North Trend application and to focus its efforts on the review of the Marsland expansion. The SER for the North Trend expansion was completed in July 2013. The NRC staff has suspended its work related to the development of the draft Environmental Assessment (EA) and conduct of Section 106 consultations pursuant to the National Historic Preservation Act. In addition, the hearing to address contentions related to groundwater is on hold pending completion of the NRC staff's environmental review. The current schedule for remaining milestones will be determined after the NRC staff has completed its review for the Marsland expansion.

Uranium Recovery Applicant	Application Accepted for Review	Review Status and Projected Budget
		The projected total budget to conduct the review is 3.0 FTE and $600K over three years.
Uranium One Ludeman Expansion	05/16/12	Environmental and safety reviews are in progress. The staff continues to work to resolve open issues documented in RAIs in 2013 and 2014. An RAI/Open issues meeting was held on February 2016. On July 27, 2016, the NRC staff issued an RAI on the overarching health physics program for the Willow Creek license. The NRC staff is waiting on the licensee's response to this RAI to enable the staff to continue its review of the Ludeman health physics program, which is dependent on acceptable responses to the RAI because Ludeman is an expansion to the Willow Creek facility. The staff is continuing work on all other non-health physics work on the SER and EA, and is addressing open issues. The EA is expected to be completed by June 2017, assuming the applicant provides satisfactory responses to the RAI. A final decision is expected in December 2017. The projected total budget to conduct the review is 3.0 FTE and $600K.
Cameco Smith Ranch License Renewal	07/05/12	Environmental and safety reviews are in progress. Open issues are currently being addressed. On May 2, 2013, the NRC staff issued an RAI on safety and environmental aspects of the renewal request. On April 21, 2015, the licensee submitted its responses to the RAI. The NRC staff is working with the licensee to close remaining open issues. On May 2, 2016, the staff communicated to the licensee that its response to the RAI was incomplete. In December 2016, the staff requested the licensee to provide a schedule for completing its response to the remaining aspects of the RAI. On January 10, 2017, the licensee provided a subsequent update on when it expects to respond to the NRC staff's RAI. This new information may affect the currently anticipated completion date of October 2017. The projected total budget to conduct the review is 3.5 FTE.
Crow Butte Marsland Expansion	10/05/12	Environmental and safety reviews are in progress. The NRC staff issued an RAI on July 23, 2013. The licensee responded on November 18, 2015. Additional information is required to resolve the RAI. The Marsland expansion review has an admitted contention that will go to hearing after completion of

Uranium Recovery Applicant	Application Accepted for Review	Review Status and Projected Budget
		the NRC staff's review. On January 10, 2017, the licensee provided a subsequent update on when it expects to respond to the NRC staff's RAI. This new information may affect the currently anticipated completion date of August 2017. The projected total budget to conduct the review is 3.0 FTE and $600K.
AUC Reno Creek New License Application	06/18/13	The staff completed the SER on September 30, 2016. The supplemental environmental impact statement (SEIS) was completed and published in December 2016. A final decision is expected in February 2017. The actual total budget to conduct the review was 3.5 FTE and $1,700K.
Hydro Resources, Inc. (HRI) License Renewal	06/24/13	The sites, located very close to Navajo Nation lands, were licensed in 1998. Construction has not yet commenced. The license renewal review was placed in abeyance on November 13, 2014, at the request of HRI in order to continue its work with the Navajo Nation Council. In March 2016, the NRC approved the transfer of control of the license from the HRI parent company, Uranium Resources, Inc., to Laramide Resources. The parties finalized the transaction in January 2017. The current schedule for remaining milestones associated with the licensing review is to be determined. The projected total budget to conduct the review is 2.6 FTE.
Kennecott Sweetwater License Renewal	11/25/14	The licensee has maintained the facility in stand-by since 1983, waiting on better market conditions to recommence operations. Environmental and safety reviews are in progress. The licensee will be submitting a revised ER based on environmental RAIs. The NRC staff's EA is expected to be completed by June 2017. On October 18, 2016, the licensee submitted supplemental information related to groundwater detection monitoring. The NRC staff has identified issues with this recent submittal and will be working with the licensee to resolve them. The final decision is now expected in August 2017. The projected total budget to conduct the review is 0.5 FTE.

Uranium Recovery Applicant	Application Accepted for Review	Review Status and Projected Budget
Uranerz Jane Dough Expansion	08/10/15	The draft EA and SER are complete. The NRC staff is finalizing consultation under Section 106 of the National Historic Preservation Act. Development of the final EA is in progress, and is expected to be completed by March 2017. A final decision is expected in March 2017. The projected total budget to conduct the review is 2.5 FTE and $600K, including resources to perform the EA.
Strata Kendrick Expansion	01/14/16	On May 27, 2016 and September 14, 2016, the NRC staff issued RAIs for the environmental review and for the safety review, respectively. On December 15, 2016, the licensee requested that the NRC cease all activities related to this review. As a result of the licensee's request, the NRC staff is no longer reviewing this licensing action. The staff's safety and environmental reviews, including development of the SEIS, are on hold. The projected total budget to conduct the review is 3.5 FTE and $1500K, which includes completing the SEIS.
Lost Creek KM Horizon/East Expansion	TBD	The NRC did not accept the original application because confining units were not sufficiently characterized. The applicant resubmitted its application on February 10, 2016. On May 18, 2016, the NRC staff completed its acceptance review and informed the applicant that it could not accept the application for a detailed technical review because of deficiencies relating to the characterization and performance of the confining unit that separates the proposed KM production zone from the underlying aquifer. The NRC staff anticipates receiving a new application from the applicant in early 2017. The NRC staff is continuing to coordinate with the U.S. Bureau of Land Management (BLM) in its preparation of the environmental impact statement in accordance with the BLM/NRC Memorandum of Understanding and the letter of December 4, 2014, designating BLM as the lead agency and the NRC as a cooperating agency. The projected total budget to conduct the review is 3.0 FTE and $600K.

7. Specific actions taken to improve efficiency of reviews conducted for compliance with the National Historic Preservation Act.

The Section 106 process under the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The NRC carries out its Section 106 obligations in consultation with a number of parties, including the State Historic Preservation Officer (or Tribal Historic Preservation Officer, where appropriate), local government agencies, Indian Tribes and Native Hawaiian organizations, the licensee or applicant, and the public. The Section 106 regulations require that the NRC make a reasonable and good faith effort to identify historic properties that may be affected by the undertaking, including those of traditional and religious significance to Tribes. The NRC must complete the Section 106 process prior to making its licensing decision. For efficiency, the NRC's goal is to conduct the Section 106 process in coordination with the National Environmental Policy Act (NEPA) review process.

Over the past several years, the number of uranium recovery licensing reviews has increased. In addition, the complexity of the Section 106 reviews associated with these licensing actions has grown significantly and, as a result, the NRC's consultation efforts with respect to its obligations under Section 106 have also increased. The complexity of these Section 106 consultations can vary from project to project due to a number of factors. First, the NRC has seen a significant increase in the number of Tribes interested in each licensing review – from a few Tribes prior to 2009 to a current average of 20 Tribes per project. Also, the siting of proposed facilities in areas that are known to be the aboriginal homelands of Tribes, or near sites that are considered sacred by Tribes, can influence the nature and complexity of the Section 106 consultations. Therefore, it has taken an increased amount of time and level of effort to identify historic and cultural properties, as well as to determine the eligibility of these properties for listing in the National Register of Historic Places; this has impacted the timeliness of the NRC staff's review activities. Tribes have requested field surveys at the proposed project sites to identify properties of traditional religious and cultural importance to them. Responding to survey requests has taken a significant amount of staff time due, in part, to extensive discussions with a large number of consulting parties (e.g., Tribes and other Federal and State agencies) on the format, scope, and extent of the field surveys.

Based upon lessons learned in the uranium recovery licensing functional area, the NRC has taken a number of actions to facilitate and enhance its Section 106 reviews. These actions include developing the NRC's Tribal Policy Statement, revising the Tribal Protocol Manual, conducting Tribal workshops, partnering with the ACHP, and issuing guidance documents. These actions are discussed in detail below.

On December 2, 2016, the NRC approved the final Tribal Policy Statement to guide the NRC's government-to-government interactions with Tribes. The final Tribal Policy Statement was published in the *Federal Register* (FR) on January 9, 2017 (82 FR 2402). The policy statement is intended to encourage and facilitate Tribal involvement in activities under the NRC's jurisdiction including Section 106 consultations. Along with the Tribal Policy Statement, the NRC is also revising its Tribal Protocol Manual, NUREG-2173 (ADAMS Accession No. ML14274A014). The Tribal Protocol Manual is intended to facilitate effective consultations and interactions between the NRC and Tribes. Additionally, in 2013, the NRC established an interagency partnership with the ACHP. Through this partnership, the ACHP established a dedicated liaison that works directly with the NRC by providing technical assistance with Section 106 reviews of specific licensing actions, as well as providing relevant training and guidance. In

the area of training, the NRC has developed and conducted training courses for staff involved in consultations. The NRC has also increased its tribal outreach activities. In 2014 and 2015, the NRC completed five workshops where the NRC staff shared information with a number of Tribes on uranium recovery, NEPA reviews, Tribal consultation under the Section 106 process of the NHPA, and health physics.

With respect to the Section 106 reviews for uranium recovery licensing actions, in 2015 and 2016 the NRC visited with several Tribes in the Northern Plains, who have been involved in the licensing process of uranium recovery activities, to gather information about the Tribes' concerns and recommendations with respect to the NRC's consultation and communication efforts. The NRC also developed draft Interim Staff Guidance (ISG) for conducting the Section 106 process specific to uranium recovery licensing actions, namely, "Guidance for Conducting the Section 106 Process of the National Historic Preservation Act for Uranium Recovery Licensing Actions" [FSME-ISG-02) (ADAMS Accession No. ML14163A049)].

In the area of operating nuclear reactors, the NRC follows well-established guidance in carrying out its NHPA Section 106 obligations using Office Instruction LIC-203 (Rev. 3), "Procedural Guidance for Preparing Categorical Exclusions, Environmental Assessments, and Considering Environmental Issues" (ADAMS Accession No. ML12234A708). This guidance provides a framework for fulfilling the NRC's NHPA Section 106 responsibilities for operating reactor licensing reviews, including identification of historic properties, assessment of effects, and resolution of any identified adverse effects. This guidance also includes procedures to efficiently streamline NHPA Section 106 compliance activities by using the NEPA process. In the area of new reactor licensing, the NRC has engaged with industry through the Nuclear Energy Institute (NEI) to develop guidance for early interaction with other agencies including State and Tribal governments in accordance with the Section 106 process [see NEI 10-7, Revision 1, "Industry Guideline for Effective Pre-Application Interactions With Agencies Other than NRC During the Early Site Permit Process," (ADAMS Accession Nos. ML13028A392) and ACHP's slides on "National Historic Preservation Act: Overview for the NRC and Nuclear Energy Institute," dated September 11, 2012, (ADAMS Accession Nos. ML12257A450 and ML12258A114)]. Additionally, the NRC will continue early interactions with industry, other agencies, Tribal governments, and State Historic Preservation Officers, to enhance subsequent operating nuclear reactor license renewal reviews.

8. Status of the pilot project on establishing flat fees for uranium recovery licensees.

In October 2016, the Commission issued direction in SECY-16-0097, Fee Setting Improvements and Fiscal Year 2017 Proposed Fee Rule, to conduct a voluntary pilot to explore whether a flat fee structure could be established for routine licensing matters in the area of uranium recovery. The staff is currently preparing a project schedule to include detailed milestones. The NRC must determine a flat fee that is fair and equitable. Relevant data from a two-year period will be compiled to determine which licensing actions are suitable for flat fees. Once the analysis is complete and specific licensing actions have been selected, the NRC will engage with stakeholders to discuss the proposed strategy and solicit their comments. A recommendation based on the analysis and stakeholder feedback will then be sent to the Commission.

9. Status of specific actions taken or planned to ensure greater discipline and management oversight in the use of the RAI process associated with a regulatory requirement and limited to those RAIs necessary for make a regulatory decision. These actions should describe management oversight, management accountability, and the training necessary to provide stable and sustainable improvement among the applicable program business lines.

Operating Reactors

The Commission has recently taken specific actions to ensure greater discipline and management oversight in the RAI process.

On June 30, 2014, the Commission issued a Staff Requirements Memorandum (ADAMS Accession No. ML14181B402) directing the staff to consider, in the context of Project Aim, ways to reduce the licensing action backlog and get back on target with respect to timeliness. In response the Staff Requirements Memorandum, NRR, as operating reactor business line lead, launched several initiatives and took other actions to focus on how the NRC can leverage or revise its existing licensing processes to enhance agency efficiency, effectiveness, and predictability as a regulator, while maintaining a continued strong safety focus. These initiatives have analyzed the issues that caused the backlog, including issues related to the RAI process, and provided recommendations to NRR management regarding enhancements to the licensing review process. In part, as a result of recommendations from the initiatives, NRR management issued interim guidance to the staff in January 2015, and updated interim guidance in April 2016, that provides expectations to help ensure consistency of the licensing review process, sound decision-making, and discipline of schedule. In January 2017, this interim guidance was incorporated into NRR procedures. Some of the key items in the procedures that have added discipline and management oversight to the RAI process include the following:

- NRR staff review of an application will be limited to the scope of the licensing action and RAIs should have a clear nexus to information required to make a safety determination regarding the licensing action.

- At the point when RAIs are transmitted from the technical staff to the NRR project manager, the technical staff are expected to have developed a draft safety evaluation (SE). In addition to ensuring that the RAIs contain both a sound technical and regulatory basis, the technical staff should be able to correlate each RAI to a “hole” in the draft SE that the licensee response is intended to fill.

- NRR management will maintain a focus on RAIs. Prior to sending a second (and any subsequent) round of RAIs in a specific technical area, NRR division level management will apply additional oversight to discuss the need for the RAIs and whether alternative methods, such as a public meeting or audit, may be more effective and efficient for determining the necessary information that the licensee needs to submit.

- NRR project managers are expected to track licensee timeliness and adherence to RAI response schedules. Any significant delays in licensee responses will be brought to NRR management attention.

Training sessions were held with the technical and project management staff on RAI quality and process. In addition, following issuance of the finalized NRR guidance in this area in January 2017, an online training package was developed and provided to the NRR staff. This training covers expectations regarding added discipline and management oversight of the RAI process.

Other actions taken that help provide a stable and sustainable improvement in the RAI process and add accountability to the process include:

- In November 2014, NRR management began holding periodic meetings to discuss open licensing actions, develop alignment on the best approaches to completing those actions, and monitor licensing performance.

- In October 2016, NRR replaced the existing software used to manage and monitor licensing reviews with a newly developed software package called the Reactor Protection System - Licensing/Workload Management software. This system has the capability to better track RAI issuance and status.

- In December 2016, NRR started an audit of a sample of RAIs. This audit is intended, in part, to assess adherence to the RAI process as well as to assess whether the RAIs were necessary to make a regulatory decision. NRR plans to perform RAI audits on a periodic basis. Feedback from these audits will be used to assess potential opportunities for continuous improvement in the RAI process.

Decommissioning and Low-Level Waste

The Division of Decommissioning, Uranium Recovery, and Waste Programs' internal guidance includes the expectation that RAIs will be developed in conjunction with the draft SER to ensure that the requested additional information is necessary to reach a safety finding. In addition, the guidance contains the expectation to include a reference in the RAI to the specific requirement that has not been met, and encourages staff to conduct telephone conferences with licensees and applicants to efficiently resolve technical issues on RAIs. The NRC staff is in the process of finalizing an internal self-assessment that identifies possible efficiency improvements within the Uranium Recovery Program. The self-assessment includes recommendations for improving the efficiency of the RAI process, such as issuing RAIs as they are written rather than as a group, and reemphasizing the expectation that staff develop the draft safety evaluation and RAIs in concert. The staff will be considering which recommendations to implement in the near future.

New Reactors

The NRC provided information to the Government Accountability Office (GAO) in support of an audit currently underway by GAO on the NRC's RAI process and related enhancements. The NRC provided several documents to GAO that specifically explain its RAI process and steps NRO has taken to ensure that RAIs issued from the office are consistently of high quality and are necessary to make a safety finding. On October 7, 2016, the NRO Director issued the memorandum, "Effective Use of Request for Additional Information, Audit, and Confirmatory Analysis in New Reactor Licensing Review" (ML16278A574), to all NRO staff with the goal being to promote and appreciate safety focus, efficiency, consistency, and clarity in the ongoing and future reviews of new reactor licensing applications.

In 2008, NRO published an RAI Job Aid document to be used as guidance by NRC staff when preparing RAIs. The RAI Job Aid document provided best practices information for preparing RAIs. This past summer, senior managers in NRO reexamined the 2008 RAI job aid and the overall process for issuing RAIs and made additional modifications to incorporate best practices learned throughout the course of many licensing reviews. The RAI process was revised (ML16280A389) to include a new quality check audit process where, in addition to the technical branch's supervisor, the division management of both the technical and project management organizations review an RAI before it is issued to the applicant or licensee. In addition, the

Office Director will review RAIs on a sampling basis to keep abreast of high-priority issues identified in reviews and to support the office's emphasis on efficiency as we focus on safety, security, and environmentally significant matters. The revised job aid was issued in October 2016.

10. Status of specific actions undertaken to reduce corporate overhead costs including the amount of the savings and the timeframe for realizing cost savings.

The agency's FY 2017 Congressional Budget Justification included a request of $319.1 million for Corporate Support activities. This request included resources for the five recognized overhead activities of acquisitions, real property, human capital, financial management, and information technology. Additionally, the Corporate Support request includes the NRC's small business outreach efforts, as well as resources to support the Office of the Commission.

As part of the agency's Project Aim effort to plan and execute the agency's mission in an effective and efficient manner, the Commission approved a staff recommendation to re-baseline the agency's workload — focusing on statutory mandates, as well as work pertaining to the agency's safety and security mission in Staff Requirements Memorandum (SRM) "Project Aim 2020 Report and Recommendations" (ML15159A234). In SRM-SECY-16-0009 (ML16104A158), "Recommendations Resulting from the Integrated Prioritization and Re-baselining of Agency Activities," the Commission approved a total of $8.4 million, including 24.3 FTE, in reductions from the Corporate Support area. Re-baselining reductions totaling $4.8 million, including 13.0 FTE, were taken from Corporate Support in the FY 2017 request, as detailed in the FY 2017 Congressional Budget Justification. The balance of $3.6 million, including 11.3 FTE, in re-baselining savings has been reduced from the original Corporate Support FY 2017 request and are reflected in the agency's current estimate.

In addition to the work of SECY-16-0009 listed above, in SECY-16-0035 (ML16077A184), "Additional Re-baselining Items," the NRC staff identified additional activities that could provide additional savings in the long term. Additional re-baselining cost savings that have already been achieved, as well as possible areas for future savings in the Corporate Support area, are included in the table below. Items listed as complete in the previous month's report have been removed from the table.

The NRC remains committed to continuing to identify efficiencies in the Corporate Support area that will lead to cost savings now and in the future.

Product Line	Description	Total $ (M)*	FTE	Status	Fiscal Year
Re-baselining Reductions (within 6 months)					
Outreach	Eliminates funding for the Minority Serving Institutions Grant Program.	-0.6	0	(Close out in process)	FY 2017
Subtotal – Re-baselining Savings (6 months)		**-$0.6**	**0**		
Re-baselining Reductions (12 – 18 months)					

Product Line	Description	Total $ (M)*	FTE	Status	Fiscal Year
Admin Services, Info Tech, and Human Resource Mgmt.	Reduces the number of supervisors commensurate with other re-baselining reductions, as well as continuing the process to increase the staff to supervisor ratio across the agency.	-0.6	-4.0	On schedule	FY 2018
Information Technology	Reduces contract funding for network and telecommunications, as well as contract funding for office automation and user support services.	-1.9	0	On schedule	FY 2018
Subtotal – Re-baselining Savings (12 – 18 Months)		**-$2.6**	**-4.0**		
Additional Re-baselining Items					
Administrative Services	Reduce Office Space in Three White Flint North (3WFN)	TBD	TBD	In process	FY 2019 and beyond
Administrative Services	Reduce Office Space in the Regions	TBD	TBD	In process	FY 2018 and beyond
Financial Management	Standardize Budget Formulation and Execution across Business Lines	TBD	TBD	In process	FY 2019 and beyond
Financial Management	Use a Federal Shared Service Provider for Accounts Payable	TBD	TBD	In process	FY 2019 and beyond
All Corporate Product Lines	Review of Corporate Offices' FTE Utilization and Workload	TBD	TBD	Under review	FY 2018
Administrative Services and Information Technology	Workstation Efficiencies	TBD	TBD	In process	FY 2019 and beyond
Subtotal – Additional Re-baselining Savings		**TBD**	**TBD**		
Other Corporate Support Savings					
Information Technology	IT Infrastructure Support - the agency expects to realize a 10 to 15 percent drop in contract expenses resulting from a new acquisition strategy.	TBD	TBD	On schedule	FY 2018 and beyond
Information Technology	Reduce the total ownership of the agency's existing fleet of printers, scanners, and copiers using Multi-Functional Devices and Managed Print Services.	TBD	TBD	On schedule	FY 2018 and beyond
Subtotal – Other Corporate Support		**TBD**	**TBD**		
Total		**-$3.2**	**4**		

*Total includes FTE cost.

11. Status of specific actions taken and/or planned to develop metrics for assessing the quality of cost-benefit analyses conducted in association with new requirements, backfit analyses, or rulemaking.

The staff has not yet taken any action to develop specific metrics for assessing the quality of its cost-benefit analyses. As described in narrative item 12, the staff is in the process of revising its existing guidance pertaining to cost-benefit analyses in two phases. Phase 1 primarily involves consolidation and harmonization of existing guidance across business lines including administrative and mythology enhancements. Phase 2 will address potential policy issues and methodology changes. Depending on the nature of the policy issues and methodology changes, Commission approval may be necessary. These efforts, in conjunction with the CRGR efforts, described in narrative item 13 below, to review the application of the Backfit Rule in the licensing and inspection programs across the agency, will inform the development of future metrics for assessing the quality of cost-benefit analyses.

12. Status of the revised guidance currently under development to clarify the use of qualitative factors. In addition to this revised guidance, please list and briefly describe any actions taken and/or planned that would maximize the use of quantitative factors in regulatory analyses required for rulemaking, in the regulatory analyses required under the Backfit Rule, and in the Reactor Oversight Process Significance Determination Process.

The NRC staff is currently updating its cost-benefit guidance and expects to release the draft guidance for public comment in spring 2017. This update will consolidate guidance documents, incorporate recommendations from the GAO's 2014 report on the NRC's cost-estimating practices and cost-estimating best practices from the GAO's guide, and capture best practices for the consideration of qualitative factors in accordance with Commission direction in the Staff Requirements Memorandum for SECY 14-0087. As the staff updates these documents, the staff will engage the Advisory Committee on Reactor Safeguards and the public.

Until the updated guidance is issued for use, all pending regulatory proposals will be guided by the 2004 guidance document. However, the NRC staff will be applying the improvements in cost estimating and cost-benefit analysis to the pending regulatory proposals as each improvement is adopted.

With regard to actions taken or planned that would maximize the use of quantitative factors in the regulatory analyses required for rulemaking or backfitting, the staff makes every effort to quantify the estimates of benefits and costs to the extent possible. However, the staff acknowledges that some attributes in regulatory analyses are difficult to quantify, and thus would require additional resources to develop a strictly quantitative analysis (which might still entail such large uncertainty so as to be of limited practical value). The draft updated cost-benefit guidance includes an appendix that identifies best practices for the consideration of qualitative factors and describes a number of methods that can be used to support the NRC's evidence-based, quantitative, and analytical approach to decisionmaking. This appendix provides a toolkit to enable analysts to clearly present analyses of qualitative results in a transparent way that decisionmakers, stakeholders, and the general public can understand. However, this updated guidance clearly states that these methods (1) should only be used when quantification may not be practical, (2) are not a substitute for collecting accurate information to develop realistic cost estimates, and (3) do not constitute an expansion of the consideration of qualitative factors in regulatory, backfit, or environmental analyses.

With regard to action taken and/or planned that would maximize the use of quantitative factors in the Reactor Oversight Process Significance Determination Process, the staff continues to enhance methods, models, data, and analytical tools that it relies upon to enhance the use and quality of quantitative factors. Specifically, in accordance with a User Need developed by the Office of Nuclear Reactor Regulation (ADAMS Accession No. ML15110A210), NRC's Office of Nuclear Regulatory Research continues to upgrade the plant specific Probabilistic Risk Assessment (PRA) models for internal events to reflect changes to plant design and procedures and continues to develop PRA models for external initiators. In addition, Office of Nuclear Reactor Regulation staff continues to enhance the methods that NRC uses in support of the Significance Determination Process as well as other reactor oversight processes (e.g., incident response) and updates NRC's Risk Assessment Standardization Project (RASP) guidance.

13. Status of the Committee to Review Generic Requirements (CRGR) review of the application of the Backfit Rule in the licensing and inspection programs across the agency. The review should include the following as a minimum:

    a. The need for training on the requirements and application of 10 CFR 50.109;

    b. The need for a process, training, and/or oversight in addressing inspection issues that may redefine or reinterpret the original licensing basis (e.g. unresolved issues, task interface agreements, disputed violations) to ensure that new requirements are not imposed through the inspection program;

    c. A review of proposed regulatory changes that are currently in process to ensure that regulatory actions are appropriately informed by the requirements of 10 CFR 50.109, in light of the Executive Director's recent decision on the backfit appeal. Examples of such actions could include but are not limited to the following:

        i. The Draft Regulatory Issue Summary on Service Life addressing the treatment of vendor recommendations within the regulatory framework

        ii. 10 CFR 50.46(c) rulemaking for which the justification utilizes the adequate protection provisions of the backfit rule to obviate the need to compare the benefits of public health and safety with the cost of compliance for the three major portions of the rule

        iii. Use of the compliance exception backfit as proposed by the NRC staff to address the "open phase condition (OPC)" issue

        iv. Possible alteration of the risk reduction credit given for Incipient Fire Protection after the modifications have been installed and received approval from the NRC crediting the technology

    d. Please report your progress in the monthly report

a & b. The CRGR was requested by the NRC Executive Director of Operations (EDO) in tasking memoranda dated June 9, 2016, and December 15, 2016[2], to review the implementation of agency backfitting guidance. As of January 2017, the CRGR has collected self-assessment reviews from agency program offices and is currently assessing potential agency recommendations. Preliminary insights confirm the need for updates to training, qualification programs, and guidance to address lessons-learned from the recent Executive Director's decision on the Exelon Generating Company backfit appeal, as well as the Commission decision[3] to update policy and guidance to clarify application of certain aspects of

[2] The EDO tasking memorandum dated June 9, 2016, and December 15, 2016, ADAMS Accession Nos. ML16133A575 and ML16344A004, respectively.

[3] The Commission issued SRM-COMSECY-16-0020 directing NRC process changes associated with backfit (available in ADAMS at Accession No. ML16334A462). OGC summarized the issues in COMSECY -16-0020 for CRGR in a memorandum available in ADAMS at Accession No. ML16355A258.

the backfit rule and to reflect recent judicial precedent on backfitting relevant to consideration of costs, including the Supreme Court's decision in Michigan v. Environmental Protection Agency (EPA), 135 S.Ct. 2699 (2015). This precedent will require an examination of agency processes to ensure appropriate consideration of cost in certain backfit decisions. In addition, the CRGR has been requested to examine the CRGR charter[4] to assess whether it should be expanded beyond its current roles and responsibilities to include review of additional agency processes such as task interface agreements and inspection program activities.

By March 27, 2017, the CRGR plans to complete its review and finalize its plan and recommendations to the EDO. Ahead of finalizing the CRGR recommendations, staff conducted a public meeting on February 28, 2017, with stakeholders to discuss the CRGR plan and recommendations to address concerns associated with the backfitting process. An earlier public meeting was completed on September 13, 2016, to obtain stakeholder feedback on the backfitting process[5].

c. In its review of proposed regulatory guidance document changes, the CRGR plans to incorporate the recent lessons learned from the Exelon backfit appeal decision and the Commission decision relating to Michigan v. EPA. These lessons learned will be reflected in the review of generic documents that comes before CRGR in the future.

The table below provides a summary of the status of regulatory changes and issues. The table contains the current CRGR planned review activities.

Status of Select Regulatory Activities		
Title	**Status of Regulatory Change**	**CRGR Review Activities**
RIS on Service Life - "Disposition of Information Related to the Time Period That Safety-Related Structures, Systems, or Components are Installed"	RIS (ML16334A430) was issued for public comment and the public comments have been dispositioned. Internal reviews/concurrences are being completed. The program office plans to request formal CRGR review at the end of February 2017.	Forthcoming formal review
10 CFR 50.46(c) Rulemaking	The NRC staff prepared a regulatory analysis for the 10 CFR 50.46c draft final rule (ML15323A122) to identify the benefits and costs of the particular regulatory approach for addressing emergency core cooling system performance. The regulatory analysis focuses on the marginal difference in benefits and costs for each alternative relative to the "no action" baseline alternative for the three major portions of the rule, which is consistent with the requirements of the backfit rule (10 CFR 50.109), Commission direction, and the ongoing revisions to the agency's cost-	Based on established criteria at the time, the CRGR was not required to review the rulemaking to assess potential backfits. The rulemaking is currently with the Commission for review and vote.

[4] The CRGR Charter, Revision 8, can be found under ADAMS Accession No. ML110620618.
[5] The September 13, 2016, public meeting summary can be found in ADAMS under Accession Number ML16258A299.

Status of Select Regulatory Activities		
Title	**Status of Regulatory Change**	**CRGR Review Activities**
	benefit guidance (e.g., NUREG/BR-0058, Revision 5).	
Open Phase Condition Backfit Analysis	A documented evaluation supporting compliance exception was prepared to support possible future plant-specific backfits requiring licensee actions to effectively address the open phase condition.	CRGR review completed 5/17/16, endorsing the staff recommendation.
Alteration of Credit for Incipient Fire Detection in Prior Approvals	For licensees that have implemented risk-informed fire protection standard [NFPA]-0805[6] and use incipient fire detection. The program obligates licensees to maintain probabilistic risk assessment models to consider updated information on the performance and reliability of plant systems periodically and update accordingly.	At present, no CRGR review or request has been identified for potential backfit consideration.

d. The list of recent CRGR reviews is reported monthly under Graphical Metrics response #13. There were no CRGR reviews completed in February 2017.

14. Status of Project AIM Task 19: Operating Reactor Licensing Process Improvements.

On January 24, 2017, the NRC staff finalized a recommendation for the Commission on Project Aim Task No. 19 regarding the licensing business process improvement (BPI) activity. The staff recommended closing Task No. 19 because the desired outcomes of the BPI review – improving predictability, timeliness, and efficiency of licensing reviews – have been achieved without the need to expend the additional time and cost of a formal BPI. This recommendation is publicly available at ADAMS Accession No. ML16340A115. On March 2, 2017, the Commission approved the staff's recommendation.

15. Status of effort to establish clear schedules and estimated number of review hours for licensing action reviews.

The revised Expectations Memo (ADAMS Accession No. ML16202A029) issued in April 2016, provided the NRC staff additional guidance on establishing clear schedules and providing accurate estimates for the number of review hours. This included finalizing the review hours and estimated schedule following the acceptance review, and additional engagement between the staff and management for milestones that cannot be achieved. On October 1, 2016, NRR implemented additional guidance for licensing actions regarding schedules and review hours. For licensing actions received after October 1, NRR has been providing the licensees an estimate of the predicted staff hours and forecasted number of months the staff anticipates it will need to complete the review. This information is annotated at the completion of the staff's acceptance review of the licensing action. If there are significant changes to the schedule or estimated hours, the staff will communicate the reasons for the changes, along with the new estimates during the routine interactions with the licensees. NRR is monitoring schedule and resource utilization adherence through the monthly workload management process.

[6] National Fire Protection Association 805 "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants"

16. Status of any potential changes to the Reactor Oversight Process (ROP).

Significant potential changes to the ROP include the following:

- Changes to structure of inspection reports

  The staff is currently evaluating changes to the structure and content of reactor licensee inspection reports. These changes seek to improve the readability and understandability of inspection reports, eliminate redundant or unnecessary language, and streamline the process for staff preparation of reports. These changes seek to both improve the clarity of reports and their contents as well as save resources on their preparation. The staff has engaged industry and public stakeholders regarding their needs and desires with respect to inspection report content to ensure any changes are well-received by the intended audience of inspection reports.

- Timing of removal of inputs to the ROP Action Matrix

  The staff is evaluating the viability of a potential change to the timing of Action Matrix inputs to provide an incentive for licensees to have supplemental inspections completed as soon as possible for safety-significant inspection findings and Performance Indicators (PIs) that exceed a threshold. This proposal would eliminate the four-quarter requirement for safety-significant inspection findings to remain inputs into the Reactor Oversight Process (ROP) Action Matrix regardless of licensee and NRC actions. With this proposal, safety-significant inspection findings could be closed when the licensee satisfactorily meets all of the objectives of the appropriate supplemental inspection and eliminate the four-quarter minimum. In addition, staff is evaluating a change that would revise the assessment process so that PIs that return to Green remain as Action Matrix inputs until the licensee satisfactorily meets all of the objectives of the appropriate supplemental inspection, to be consistent with the above proposed approach.

- Inspection Manual Chapter (IMC) 0609, “Significance Determination Process,” Appendix M, “Significance Determination Process Using Qualitative Criteria”

  The staff has received stakeholder feedback on its initially proposed changes to Appendix M and is preparing a revised approach and will re-engage with industry stakeholders to review the changes and plan next steps.

17. Status of effort to provide greater transparency and detail in invoices to applicants and licensees.

The Commission approved staff recommendations identified in SECY-15-0015, “Project AIM 2020 Report and Recommendations,” to undertake an effort to: (1) simplify how the NRC calculates its fees, (2) improve fees transparency, and (3) improve the timeliness of the NRC’s communications about fee changes. Under this initiative as well as other improvement activities, several recommendations to improve invoices are currently under review and appropriate ones will be implemented as systems and processes improvements/enhancements can be achieved. For example, the NRC has already doubled the length of the cost activity description field on Part 170 invoices. This improvement provides licensees with increased and better quality information about the work activities performed by NRC staff and contractors for which they are being billed. Another example is the current effort to improve the descriptions associated with the cost activity codes so more precise information can be placed on invoices.

18. Clarity in Operability Determinations. The predictability and stability of the regulatory framework could be improved if there was greater clarity on operability determinations with regard to the entry conditions for triggering a review and the optimum use of risk insights for evaluating operability. Please describe the feasibility of utilizing an industry consensus document as a means of accomplishing predictability and repeatability in operability determinations.

The NRC relies upon Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety" to guide NRC inspectors in consistently assessing operability determinations. The most recent substantive revision occurred in January 2014. Historically, the nuclear industry has used IMC 0326 as a guide for performing operability determinations in lieu of developing their own guidance. The nuclear industry has recently informed the NRC that it intends to develop its own consensus guidance document and seek NRC endorsement. The NRC is prepared to engage on the industry consensus document regarding operability determinations. A final alignment would result in NRC endorsement of the consensus document and a complementary revision to Inspection Manual Chapter 0326 to ensure mutual consistency in the approach to operability determinations.

19. Significance Determination Process. Licensees maintain detailed, plant-specific PRA models that are accessible to the NRC. Please describe the potential to utilize these more detailed models in lieu of the NRC's Standardized Plant Analysis Risk (SPAR) model as a means of reaching quantitative regulatory decisions that are more efficient and timely. Please also describe the actions taken and/or planned to address this opportunity.

NRC staff uses plant-specific SPAR models, developed and maintained by NRC staff, in a number of risk-informed applications. The SPAR models utilize standardized conventions and modeling methods to improve staff efficiency and, in some cases, are more detailed than the associated licensee-maintained, non-standardized models. In 2015, NRC's Risk-Informed Steering Committee (RISC), which comprises NRC's senior leadership, directed the NRC staff to evaluate the costs and benefits associated with using licensees' PRA models in lieu of the SPAR models.

The staff identified and evaluated a number of technical, regulatory, cost, and other related factors pertinent to use of licensees' PRA models in lieu of the SPAR models. These included, but were not limited to, fixed and variable costs, ease of use for NRC staff (including training costs), potential legal issues (including loss of the ability to perform independent confirmatory analysis), and licensee willingness to participate. The results from the cost analysis indicated a significant cost for transition to licensee models with a potential for longer-term small cost savings once full transition was complete.

The NRC staff also worked with the NEI to gauge licensees' willingness to participate, since the viability of the proposal depended upon full NRC access to licensee PRA models (which are not normally submitted to the NRC under the current regulatory framework). While some licensees were supportive of the proposal, there was considerable resistance with allowing NRC staff full access to the licensee PRA models.

Based on these considerations, the NRC staff recommended that the NRC should continue to rely on SPAR models in implementing its risk-informed regulatory activities. Based on the staff's recommendation, the RISC made the decision to no longer continue the evaluation and continue to use SPAR models for operating reactor oversight programs.

20. On a monthly basis, please report each instance where Inspection Manual Chapter 609 Appendix M, "Significance Determination Process Using Qualitative Criteria," has been applied in the Reactor Oversight Process Significance Determination Process, including the justification for doing so.

Appendix M was not used to disposition any inspection findings in January 2017.

21. Engineering Inspection Programs. In a rolling three year period, the NRC performs multiple inspections of engineering programs (e.g., Component Design Basis Inspection (CDBI), 10 CFR 50.59 and Modifications Inspection, Ultimate Heat Sink (UHS) Inspection, Tri-Annual Fire Protection Inspection). The CDBI and UHS inspections predominantly look at the original licensing basis information on a recurring basis. This previously NRC-approved design basis information is the least likely to change and, without sufficient management oversight, could be subject to unjustified and post hoc reinterpretation by NRC inspectors and consultants. Please evaluate the potential benefits of utilizing the CDBI and UHS inspections as reactive inspection tools to be used only when issues are identified with current performance. Please provide a summary of your conclusions and any actions planned to address this issue.

Staff recently made changes to the CDBI inspection procedure effective January 1, 2017. This was done, in part, to address industry feedback that the current level of inspection resources being applied to verify licensees' compliance with their original licensing basis were excessive, as the NRC had already reviewed the most risk-significant components associated with the licensee's mitigation system through the CDBI inspections over the last ten years. Additionally, inspection guidance was added to the revised CDBI inspection procedure to remind NRC inspectors and consultants that issues that could result in different interpretation of the plant licensing bases should be referred to NRC management and technical staff for resolution. To emphasize that NRC inspectors and consultants should not reinterpret the original licensing bases while performing CDBI inspections, the CDBI inspection procedure was renamed Design Bases Assurance (DBA) inspection. Additionally, the 10 CFR 50.59 and Modifications Inspection was reduced in scope, and the modification samples moved to the new DBA inspection procedure. This revision will allow recent changes to mitigation systems to be sampled for inspection to ensure that mitigation systems will still meet their design requirements. The inspection resources saved by revisions to the CDBI and the 10 CFR 50.59 and Modifications Inspection were moved to a new programmatic design basis program inspection procedure.

No significant revisions were made to the Ultimate Heat Sink inspection procedure or the Tri-Annual Fire Protection inspection in CY 2016, although the agency is considering performing a more holistic review of all engineering inspections during CY 2017 to evaluate what engineering inspections are needed and their basis and what inspection resources should be applied to these inspections and at what frequency. The nuclear industry is also planning to perform a similar, independent review during CY 2017.

Changing the categorization of the CDBI and the UHS inspection to reactive would result in these activities being removed from the baseline inspection program.

The NRC staff believes that it is prudent to periodically verify that the designed capabilities of mitigation systems are maintained by licensees.

22. Please describe the actions planned and/or taken to ensure that the Technical Specifications Task Force (TSTF) process achieves the regulatory efficiencies that were initially projected. Please include progress reports with regard to any TSTF "travelers" adopted by the industry.

Industry, through the TSTF, proposes changes to the Standard Technical Specifications (STS) via a “traveler” submitted for NRC staff review and approval. The traveler process was collaboratively developed between NRC and the nuclear industry 20 years ago as a means for industry to revise the STS. Since then, the NRC has approved over 340 travelers that have provided a streamlined process for NRC review and approval of plant specific license amendment requests to adopt the approved STS changes. Once approved by the NRC, the traveler can be adopted by individual licensees via a plant specific license amendment request, saving both NRC and licensee resources. Both the traveler review and the license amendment request are voluntary for licensees.

Historically, NRC staff has reviewed travelers and associated license amendment requests in accordance with established agency metrics. However, some challenges have occurred in approving plant-specific license amendment requests to adopt the approved travelers. Two identified challenges were: (1) older travelers where no SE was written documenting the approval of the traveler, and (2) changes in technical reviewers or omission of a technical reviewer. The first challenge – lack of SE – has been rectified going forward. In 2000 the NRC staff began issuing SEs documenting the basis for approval for certain travelers, then in 2008 the NRC staff expanded this to issuing SEs for all travelers. Travelers approved prior to 2000 with no SE are less likely to be adopted in the future, since most plants that would use them have already done so. If any late submittals are received, the precedent SE from prior plant-specific amendment requests can be used. For the second challenge – changes in or omission of technical reviewers – the NRC is addressing this through management actions to reduce its occurrence. Specifically, the NRC has implemented more robust work planning during traveler reviews such as ensuring that all appropriate technical branches are involved during the traveler review. In addition, the NRC has requested that licensees submit requests to adopt the traveler soon after its approval, thus ensuring the higher likelihood of continuity with the same technical reviewers. These actions coupled with the development of safety evaluations, will ensure that the technical basis for acceptability of the traveler and any subsequent licensing actions has been documented.

The NRC is committed to continuing to work with industry on travelers to make improvements to the STS. In recent years the requested STS changes from industry have shifted to more complex items (e.g., risk-informed STS changes). To ensure the traveler process achieves the regulatory efficiencies that were initially projected, the NRC holds quarterly public meetings and monthly status calls with the TSTF. The NRC staff has also made improvements in how the staff processes the travelers under review; industry input was solicited when making these process improvements.

In 2016, three travelers were approved by the NRC. Currently three travelers are under review by the NRC staff. The TSTF has indicated that there may be as many as 12 new travelers to be submitted this calendar year. Exact timing and submittal dates will be discussed in more detail during the quarterly public meetings (the most recent meeting was February 9, 2017). The latest status report of travelers currently under review is available in ADAMS at accession number ML17005A163.

23. Improving New Plant Application Review Efficiency. Please review new-plant application reviews to identify necessary changes in practices and guidance to ensure the appropriate level of detail for application acceptance and review. Please describe any justifications for increasing the level of detail required beyond that of previous applications such as Vogtle 3 and 4, Summer 2 and 3, and the AP1000.

Following the completion of the AP1000 design certification review and the issuance of the Vogtle and Summer combined licenses, the NRC initiated a lessons learned review to identify potential enhancements to 10 CFR Part 52 ("Licenses, Certifications, and Approvals for Nuclear Power Plants") licensing process and contribute to more effective and efficient reviews of future applications. The NRC staff drew on previous assessments of portions of the new reactor licensing process, lessons shared at the NRC's 2012 Regulatory Information Conference, feedback received at a public meeting on lessons learned, and the results of internal and external surveys on the new reactor licensing process. As a result of this review, in April 2013 the NRC issued its "New Reactor Licensing Process Lessons Learned Review: 10 CFR Part 52" (ML13059A239).

On December 18, 2014, the NRC issued Revision 2 of NRO-REG-100, "Acceptance Review Process for Early Site Permit, Design Certification, and Combined License Applications" (ML14078A152), which provides guidance to NRC staff who conduct acceptance reviews for ESP, DC, and COL applications submitted under 10 CFR Part 52. The changes made in Revision 2 include 1) changing the standard for accepting an application from enough information to "begin" the review to enough information to "conduct" the review; 2) adding criteria to support the new standard for acceptance; 3) adding a flow chart and supporting discussion to clarify the acceptance review process; 4) expanding the applicability of this office instruction to ESP applications; 5) clarifying text to indicate that acceptance reviews will be performed in 60 days; 6) adding text to describe pre-application interactions; and 7) incorporating lessons learned from the APR1400 design certification application acceptance review.

24. Please provide a list of any unresolved policy issues with regard to the licensing of small modular reactors (SMRs). Please include an approximate date for when each issue was first raised, any plans or actions taken to resolve the issue, and the projected date of resolution.

Issue Title/Applicability	Status	References
I. Appropriate Source Term, Dose Calculations, and Siting for SMRs	In the Commission Memo dated December 29, 2011, the staff stated it would remain engaged with SMR stakeholders regarding applications of a mechanistic source term (MST) methods, review of pre-application white papers and topical reports it receives from potential SMR applicants concerning source term issues that discuss design-specific proposals to address MST, and considerations of research and development in this area. If necessary, the staff would propose revised review guidance or regulations, or propose new guidance to support reviews of SMRs.	SECY-16-0012 (02/07/16) Commission Memo (06/20/14) Commission Memo (05/30/13) Commission Memo (12/29/11)

Issue Title/Applicability	Status	References
	In Commission Memos dated May 30, 2013, and June 20, 2014, the staff provided updates on interactions with U.S. Department of Energy (DOE) and nuclear industry organizations regarding MST. NRO developed Information SECY 16-0012, dated February 7, 2016, which addressed this item. The paper concluded that (1) SMR and non-Light Water Reactor (LWR) applicants can employ modern analysis tools to demonstrate quantitatively the safety features of those designs, (2) MST analysis methods can also be used by applicants to demonstrate the ability of the enhanced safety features of plant designs to mitigate accident releases allowing future COL applicants to consider reduced distances to Exclusion Area Boundaries and Low Population Zones and potentially increased proximity to population centers. **Disposition:** As discussed in SECY-16-0012, the staff will engage with interested stakeholders on this issue in 2017 and inform the Commission, as necessary.	
II. Offsite Emergency Planning (EP) Requirements for SMRs	In SECY-11-0152, staff identified a possible approach for a scalable Emergency Planning Zone (EPZ) for SMRs. The NRO staff is working with the NSIR and NRR on an internal working group to review these issues further. The Office of the Secretary (SECY) stated that the staff would liaise with other stakeholders (DHS/FEMA, EPA, DOS, DOC, NEI, ANS, and the public) to consider industry position papers on this topic, and develop recommendations. In a 2013 Commission Memo dated 05/30/2013, the staff provided updates on staff activities. The staff stated that it would not go further in proposing new policy or revising guidance for specific changes to EP requirements absent specific proposals from industry. On December 23, 2013, NEI submitted a white paper on this topic. The staff conducted a public meeting to discuss the white paper on April 8, 2014, issued follow-up questions to NEI on June 11, 2014, and NEI responded in November 2014. The SECY-15-0077 regarding EP for SMRs and non-LWRs, was issued on May 29, 2015, and the SRM was issued on August 4,	SRM-SECY-16-0069 (06/22/16) SECY-16-0069 (05/31/16) SRM-SECY-15-0077 (08/04/15) SECY-15-0077 (05/29/15) NEI Response to NRC Questions on White Paper (11/19/14) NRC Letter to NEI (R. Bell) (06/11/14) NEI White Paper (12/23/13) Commission Memo (05/30/13) SECY-11-0152 (10/28/11)

Issue Title/Applicability	Status	References
	2015. The Commission approved the staff's recommendation to initiate a rulemaking. Staff developed notation vote SECY-16-0069, which discussed the rulemaking plan and schedule. On June 22, 2016, the Commission approved the staff's plan and schedule for the rulemaking pertaining to emergency preparedness for small modular reactors and other new technologies. **Disposition:** The rulemaking will disposition EP issues for future SMRs, non LWR and other new design technologies such as isotope producing facilities. The Commission directed the staff to utilize exemptions in the interim (e.g., for the TVA ESP) until completion of the EP rulemaking. The draft regulatory basis is currently under development and is scheduled to be made public in March 2017.	
III. Insurance and Liability for SMRs *This issue only applies to multi-module designs with electrical power generation less than 100 MWe per module, such as the NuScale design or small non-LWR designs; or for reactors designed for process heat generation with a rated output greater than 10 MWt.*	In SECY-11-0178, the staff identified a potential inequity between the insurance requirements for power reactors producing electrical power equal or greater than 100 MWe per unit and those SMR designs with individual modules producing less than 100 MWe. Specifically, staff raised the question of whether there would be insurance and indemnity coverage sufficient to pay all public claims in the case of an insurable event for an SMR with an individual module sized at less than 100 MWe under the current Price-Anderson Act and associated regulatory language. Since completing that paper, staff prepared a comparative analysis of different SMR designs to further explore the potential inequity. Staff is using this analysis, and other inputs, to develop a SECY paper for this topic. In the paper, staff will identify whether rulemaking or a change to the current interpretation of the definitions given in the Price-Anderson Act is recommended. **Disposition:** This is a narrowly focused issue and is related to other multi-module issues, such as the multi-module licensing process. Staff intends to complete the SECY paper in 2017.	SECY-11-0178 (12/22/11)

Issue Title/Applicability	Status	References
IV. Security and Safeguards Requirements for SMRs	Staff determined in SECY-11-0184 that the current regulatory framework is adequate to certify, approve, and license light-water SMRs, the manufacturing of SMR fuel, transportation of special nuclear material and irradiated fuel, and the interim storage of irradiated fuel proposed for light-water SMRs under 10 CFR Parts 50, 52, 70, 71, and 72, respectively. The staff also determined that security and material control and accounting (MC&A) requirements in 10 CFR Parts 72, 73, and 74, respectively, are also adequate. In the case of non-LWRs, the staff's preliminary conclusion is that the current security regulatory framework is comprehensive and sufficiently robust to certify, approve, and license non LWRs. Sufficient provisions are available to provide flexibility for designers and applicants to meet performance-based and prescriptive security requirements and to apply methods or approaches to achieve the objective of high assurance that activities involving special nuclear materials are not inimical to the common defense and security and do not constitute an unreasonable risk to public health. On December 14, 2016, NEI submitted a white paper on a "Proposed Consequence-Based Physical Security Framework for Small Modular Reactors and Other New Technologies." This paper, "…proposes an approach to security that appropriately considers the enhanced safety and security incorporated into these designs and provides a more effective and efficient means to protect the public health and safety." In the transmittal letter, NEI requests that "...the NRC establish regulatory positions on this approach and the associated policy and technical issues." NEI submitted a fee waiver request for NRC's review of this white paper. **Disposition:** The NRC is currently considering NEI's fee waiver request.	NEI White Paper (12/14/16) SECY-11-0184 (12/29/11)

25. Please describe the process toward preparing to review non-light water reactor applications.

The agency has developed a vision and strategy to assure NRC readiness to conduct its mission for these technologies effectively and efficiently. The staff described the vision and strategy in "NRC Vision and Strategy: Safely Achieving Effective and Efficient Non-Light Water Reactor Mission Readiness," which was published in the *Federal Register* on July 21, 2016, for stakeholder input. The NRC updated its vision and strategy document (ML16356A670) to reflect stakeholder feedback and made it publicly available in December of 2016.

The NRC's non-LWR vision and strategy has three strategic objectives—enhancing technical readiness, optimizing regulatory readiness, and optimizing communication. The NRC is preparing implementation action plans (IAPs) to identify the specific activities the NRC will conduct in the near-term (0-5 years), mid-term (5-10 years), and long-term (beyond 10 years) timeframes to achieve non-LWR readiness. In the fall of 2016, the NRC released its draft near-term IAPs to obtain stakeholder feedback. The staff is developing mid- and long-term IAPs, and is on track to complete a draft in February 2017.

As part of its activities related to the regulatory readiness strategic objective, the NRC will seek to optimize the regulatory framework for non-LWR reviews and licensing processes. In the near term (0–5 years), the staff will examine opportunities for flexibilities within the existing regulatory framework. Potential examples of these flexibilities include the use of a staged-review process and the use of conceptual design assessments during the pre-application period. The NRC described these approaches in "A Regulatory Review Roadmap for Non-Light Water Reactors" (ML16291A248), which was released as a draft on October 25, 2016, to facilitate stakeholder feedback. Over the longer term, the NRC will examine whether a new risk-informed, performance-based regulatory framework for non-LWRs would be beneficial, effective, and efficient.

The NRC is also developing advanced reactor design criteria. As part of that effort, DOE completed a report entitled, "Guidance for Developing Principal Design Criteria for Advanced (Non-Light Water) Reactors," and submitted it to the NRC in December 2014. The NRC reviewed DOE's report and published draft design criteria for advanced reactors on the NRC's public web site on April 7, 2016, to facilitate stakeholder feedback. The draft criteria were then revised to incorporate stakeholder feedback and published in draft regulatory guide DG-1330, "Guidance for Developing Principal Design Criteria for Non-Light Water Reactors," in the *Federal Register* on February 3, 2017, for public comment (ML16301A307). The NRC plans to issue the final regulatory guide in 2017.

As part of its activities related to the communications strategic objective, the NRC is conducting public meetings with stakeholders every four to six weeks. The NRC and DOE also hosted the second in a series of Advanced Non-Light-Water Reactors Workshop on June 7–8, 2016. The focus of this series of workshops is to open a dialogue between key stakeholders to discuss challenges in the commercialization of non-LWR technologies and to discuss possible solutions. The second workshop included presentations and discussions on strategies for non-LWR development and deployment and reactor fuel development and qualification. The staff is planning a third workshop with DOE on April 25 and 26, 2017. In addition, the NRC continues to meet with potential applicants upon request.

On November 10, 2016, the NRC and DOE signed a Memorandum of Understanding (MOU) (ML16215A382) on the Gateway for Accelerated Innovation in Nuclear (GAIN) Initiative. This MOU describes the roles, responsibilities, and processes related to the implementation of the

DOE GAIN initiative. GAIN is an initiative that is intended to provide the nuclear energy community with increased access to the technical, regulatory, and financial support necessary to move new or advanced nuclear reactor designs toward commercialization while ensuring the continued safe, reliable, and economic operation of the existing nuclear fleet. As described in the MOU, the NRC is responsible for providing DOE and the nuclear energy community with accurate, current information on the NRC's regulations and licensing processes. DOE is responsible for then sharing that information with the prospective applicants, as appropriate. The NRC will also continue to share information with various international groups, including the Organization for Economic Co-operation and Development's Nuclear Energy Agency (NEA), the International Atomic Energy Agency, the Generation IV International Forum, and the NRC's international regulatory counterparts. The NRC chairs NEA's ad hoc group for international regulators of non-LWRs known as the Group on the Safety of Advanced Reactors. The purpose of the Group is to bring interested regulators together to discuss common interests, practices, and problems and address both the regulatory interests and research needs.