



# ENFORCEMENT PROGRAM ANNUAL REPORT

Calendar Year 2016

U.S. Nuclear Regulatory Commission  
Office of Enforcement  
Washington, DC 20555

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## Executive Summary

The U.S. Nuclear Regulatory Commission (NRC) effectively carried out the agency's Enforcement Policy and Program in calendar year (CY) 2016. NRC regional and headquarters offices continued to focus on appropriate and consistent enforcement of the agency's regulations.

### *Escalated Enforcement Action Data*

The NRC's Enforcement Policy (Policy) defines an escalated enforcement action as any of the following:

- a notice of violation (NOV) with a severity level (SL) of I, II, and III
- NOVs associated with an inspection finding that the significance determination process evaluates as having low to moderate (white) or greater safety significance
- civil penalties (CPs)
- NOVs to individuals
- orders to modify, suspend, or revoke NRC licenses or the authority to engage in NRC-licensed activities
- orders issued to impose CPs
- enforcement-related confirmatory orders

During CY 2016, the NRC issued 89 escalated enforcement actions under traditional enforcement, the Reactor Oversight Process, and the Construction Reactor Oversight Process. Of these actions, 16 involved CPs totaling \$297,500, 12 were enforcement orders without an imposed CP, and 61 were escalated NOVs without a proposed CP.

The total number of escalated enforcement actions increased in CY 2016 by approximately 10 percent compared to CY 2015. This rise was largely the result of a 94-percent increase in the number of escalated actions issued to nuclear materials user licensees, offset by a concurrent 40-percent decrease in the number of escalated actions issued to operating reactors. In the 3 years preceding CY 2016, the number of escalated enforcement actions issued by the agency was generally steady, averaging about 81 actions per year; however, the increase in CY 2016 marked a slight departure from recent trends in the number of escalated enforcement actions issued. Section I of the annual report provides additional information on these trends.

## Enforcement Program Annual Report

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### *Noteworthy Program Accomplishments*

On August 1, 2016, the Office of Enforcement published a revision to the Policy to change the maximum civil penalties that may be proposed to licensees. This change resulted in the doubling of the previous maximum civil penalties that could be assessed under statutes enforced by the Agency. The Commission also approved another revision to the Policy that became effective on November 1, 2016. The Office of Enforcement issued one revised enforcement guidance memorandum to support consistent enforcement decisions. During CY 2016, the agency met all metrics for enforcement timeliness that are reported to Congress.

### *Significant Cases*

In CY 2016, the agency processed a number of significant cases that required extensive coordination and cooperation between internal and external stakeholders. These significant cases included:

- a Confirmatory Order (CO) issued to Tetra Tech EC, Inc., confirming commitments reached as part of alternative dispute mediation associated with a deliberate failure to obtain accurate soil sample surveys at the U.S. Navy's Hunters Point Naval Shipyard in San Francisco, CA
- an SL III violation with a proposed CP of \$140,000 to Tennessee Valley Authority involving the failure to conduct compensatory fire watches at the Browns Ferry Nuclear Plant
- a CO issued to C&D Technologies, Inc., to formalize commitments made as a result of alternative dispute mediation regarding the apparent failure to perform adequate technical evaluations and report defects in accordance with Title 10 of the *Code of Federal Regulations* Part 21, "Reporting of Defects and Noncompliance"

## Contents

Executive Summary .....	i
I. Program Overview .....	1
A. Mission and Authority.....	1
B. Assessment of Escalated Enforcement Actions .....	3
1. Escalated Enforcement Trends.....	5
2. Civil Penalty Actions .....	7
3. Notices of Violation without Civil Penalties.....	10
4. Enforcement Program Timeliness .....	11
5. Alternative Dispute Resolution .....	14
C. Nonescalated Enforcement .....	16
II. Enforcement Case Work.....	23
A. Significant Enforcement Actions.....	23
B. Hearing Activities .....	25
C. Enforcement Orders.....	25
D. Enforcement Actions Supported by the Office of Investigations.....	25
E. Actions Involving Individuals and Nonlicensee Organizations .....	25
F. Enforcement Action Involving Discrimination .....	26
G. Use of Judgment and Discretion in Determining Appropriate Enforcement Sanctions .....	26
1. Discretion Involving Temporary or Interim Enforcement Guidance.....	26
2. Discretion Involving No Significance Determination Process Performance Deficiency .....	28
3. Discretion Involving Violations Identified Because of Previous Enforcement Actions .....	28
4. Discretion Involving Special Circumstances.....	29
5. Notices of Enforcement Discretion.....	30
H. Withdrawn Actions.....	32
III. Ongoing Activities .....	33
A. Enforcement Policy.....	33
1. Enforcement Policy Revisions .....	33
2. Enforcement Guidance Memoranda.....	33
B. Knowledge Management and Improvement Initiatives.....	34
C. Regional Accomplishments .....	35
D. Calendar Year 2017 Focus Areas.....	36

**TABLES**

Table 1 — Escalated Action Trends ..... 5  
Table 2 — Civil Penalty Information ..... 8  
Table 3 — Escalated Enforcement Actions by Region and Program Office ..... 20  
Table 4 — Escalated Enforcement Actions by Type of Licensee, Nonlicensee, or Individual ..... 21  
Table 5 — Escalated Enforcement Action Trends by Type of Licensee ..... 22

**FIGURES**

Figure 1 — How the NRC Regulates ..... 1  
Figure 2 — Escalated Enforcement by Type of Action (CY 2016) ..... 3  
Figure 3 — Escalated Enforcement by Business Line (CY 2016) ..... 4  
Figure 4 — Escalated Enforcement Issued (CY 2012 to CY 2016) ..... 6  
Figure 5 — Escalated Enforcement by Business Line (CY 2011 to CY 2016) ..... 7  
Figure 6 — Civil Penalties by Business Line (CY 2012 to CY 2016) ..... 9  
Figure 7 — Percentage of Civil Penalties by Business Line ..... 10  
Figure 8 — Escalated Enforcement Associated with ROP SDP Findings ..... 11  
Figure 9 — Non-OI Case Timeliness (CY 2012 to CY 2016) ..... 13  
Figure 10 — OI Case Timeliness (CY 2012 to CY 2016) ..... 14  
Figure 11 — Alternative Dispute Resolution Confirmatory Orders Issued (CY 2012 to CY 2016) ..... 15  
Figure 12 — Calendar Days from Alternative Dispute Resolution Offer to Issuance of Confirmatory Order ..... 16  
Figure 13 — Nonescalated Enforcement (CY 2012 to CY 2016) ..... 17  
Figure 14 — Nonescalated Enforcement per Operating Reactor by Region (CY 2012 to CY 2016) ..... 18  
Figure 15 — Nonescalated Enforcement per Operating Reactor by Region (CY 2012 to CY 2016) ..... 19

**APPENDICES**

Appendix A — Summary of Cases Involving Civil Penalties ..... A1  
Appendix B — Summary of Escalated Notices of Violation without Civil Penalties .... B1  
Appendix C — Summary of Orders ..... C1  
Appendix D — Summary of Escalated Enforcement Actions Against Individuals ..... D1  
Appendix E — Summary of Escalated Enforcement Actions Against Nonlicensees... E1

# I. Program Overview

## A. Mission and Authority

The U.S. Nuclear Regulatory Commission (NRC) regulates the civilian uses of nuclear materials in the United States to protect public health and safety, the environment, and the common defense and security. The agency accomplishes this mission through licensing of nuclear facilities and the possession, use, and disposal of nuclear materials; the development and implementation of requirements governing licensed activities; and inspection and enforcement activities to ensure compliance with these requirements (see Figure 1).

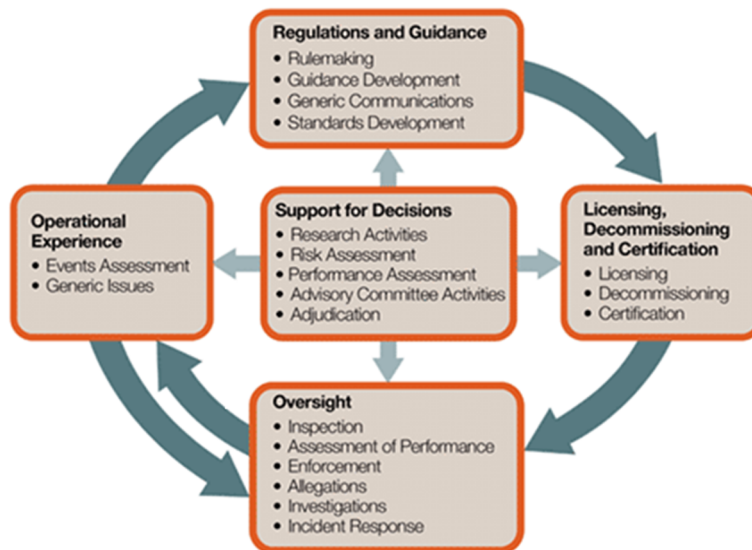


Figure 1 — How the NRC Regulates

The NRC conducts various types of inspections and investigations designed to ensure that the activities it licenses are conducted in strict compliance with the Commission’s regulations, the terms of the licenses, and other requirements.

The sources of the NRC’s enforcement authority are the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and the Energy Policy Act of 2005. These statutes give the NRC broad authority with respect to its enforcement program. The Energy Policy Act of 2005 expanded the definition of byproduct material, placing additional byproduct material under the NRC’s jurisdiction, including both naturally occurring and accelerator-produced radioactive materials (NARM). The agency carries out its enforcement authority through Title 10, “Energy,” of the Code of Federal Regulations (10 CFR) Part 2, “Agency Rules of Practice and Procedure,” Subpart B, “Procedure for Imposing Requirements by Order, or for Modification, Suspension, or Revocation of a License, or for Imposing Civil Penalties.” The Administrative Dispute Resolution Act of 1996 provides the statutory framework for the Federal Government to use alternative dispute resolution (ADR).

The NRC Enforcement Policy establishes the general principles governing the NRC’s Enforcement Program and specifies a process for implementing the agency’s enforcement authority in response to violations of NRC requirements. This statement of policy is based on the NRC’s view that compliance with its requirements has a key role in ensuring safety, maintaining security, and protecting the environment. The Enforcement Policy applies to all NRC licensees, to various categories of nonlicensees, and to individual employees of licensed and nonlicensed firms involved in NRC-regulated activities.

## Enforcement Program Annual Report

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The NRC enforces compliance as necessary. Enforcement actions serve as a deterrent, emphasize the importance of compliance with regulatory requirements, and encourage the prompt identification and comprehensive correction of violations. In addition, because violations occur in a variety of activities and vary in significance, the NRC Enforcement Policy contains graduated sanctions.

Enforcement authority includes using notices of violation (NOVs), civil penalties (CPs), demands for information, and orders to modify, suspend, or revoke a license. The NRC staff may exercise discretion in determining the appropriate enforcement sanctions to be taken. Most violations are identified through inspections and investigations and are normally assigned a severity level (SL) ranging from SL IV for those of more than minor concern to SL I for the most significant.

The Reactor Oversight Process (ROP) supplements the enforcement process for operating nuclear reactors. The NRC has implemented a similar process to assess findings at new reactor construction sites. Under the ROP, violations are not normally assigned an SL but instead are assigned “significance” by assessing their associated inspection findings through the ROP. Under this program, the NRC determines the risk significance of inspection findings using the significance determination process (SDP), which in turn assigns the colors of green, white, yellow, or red with increasing risk significance. Findings under the ROP may also include licensee failures to meet self-imposed standards. In such cases, ROP findings may or may not involve a violation of a regulatory requirement. Violations and findings assigned a greater-than-green color are considered escalated enforcement actions. While the ROP can process most violations at operating power reactors, it cannot address aspects of some violations; such violations require the NRC to follow the traditional enforcement process.

Under the ROP, violations that result in actual safety or security consequences, affect the ability of the NRC to perform its regulatory oversight function, or involve willfulness are processed under the traditional Enforcement Policy. In addition, while ROP findings are not normally subject to CPs, the NRC does consider CPs for any violation that involves actual consequences. SL IV violations and violations associated with green ROP findings are normally dispositioned as noncited violations (NCVs). Inspection reports or records document NCVs and briefly describe the corrective action that the licensee has taken or plans to take, if they are known at the time the NCV is documented. Additional information about the ROP is available at <https://www.nrc.gov/reactors/operating/oversight.html>.

The Office of Enforcement (OE) develops policies and programs for the enforcement of NRC requirements. In addition, OE oversees NRC enforcement activities, giving programmatic and implementation guidance to regional and headquarters offices that conduct or are involved in enforcement activities, to ensure consistency among regional and program office implementation of the agency’s Enforcement Program.

The NRC’s enforcement Web site, available at <http://www.nrc.gov/about-nrc/regulatory/enforcement.html>, presents a variety of information, such as the Enforcement Policy; the Enforcement Manual; and current temporary enforcement guidance contained in enforcement guidance memoranda (EGM). This Web site also has information about escalated enforcement actions the NRC has issued to reactor and materials licensees, nonlicensees (vendors, contractors, and certificate holders), and individuals. In keeping with NRC practices and policies, details associated with most security-related actions and activities are not available on the NRC’s public Web site.

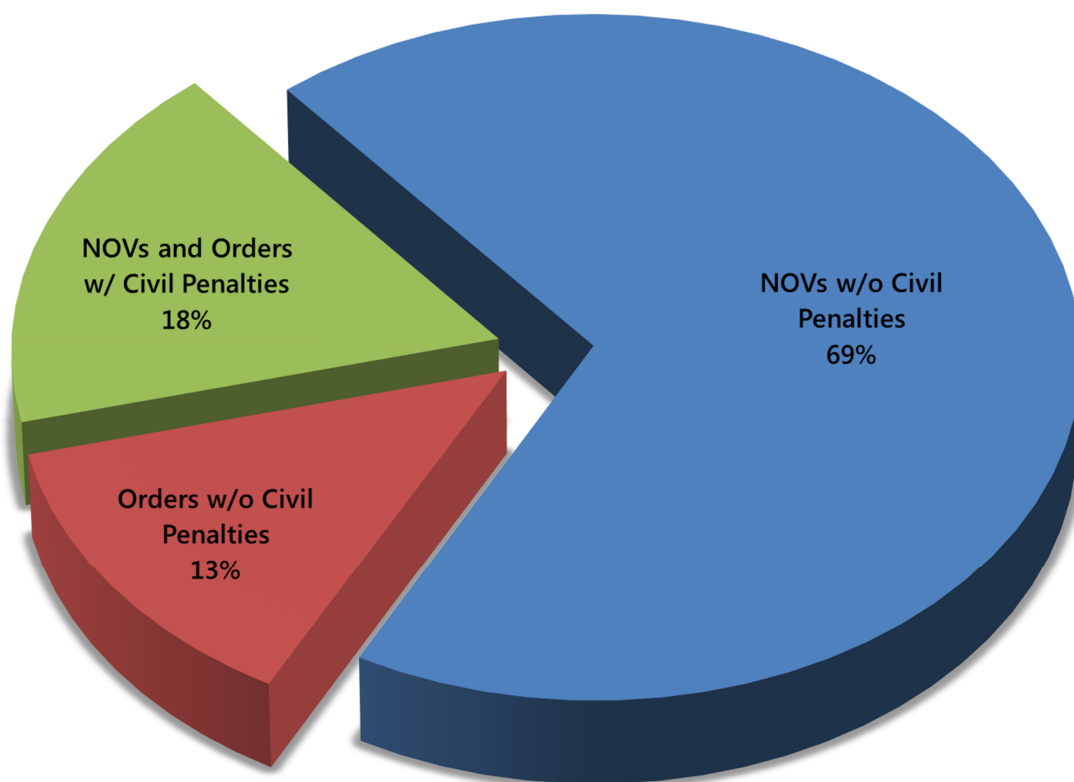


## B. Assessment of Escalated Enforcement Actions

Escalated enforcement actions include the following:

- NOVs, including SL I, II, or III violations
- NOVs associated with red, yellow, or white SDP findings (for operating reactor facilities)
- CP actions
- enforcement orders (including confirmatory orders (COs) that result from the ADR process and orders to suspend, revoke, or modify an NRC license)

During calendar year (CY) 2016, the NRC issued 89 escalated enforcement actions to licensees, nonlicensees, and individuals. Figure 2 shows the distribution of these actions, by the category of action, for CY 2016.



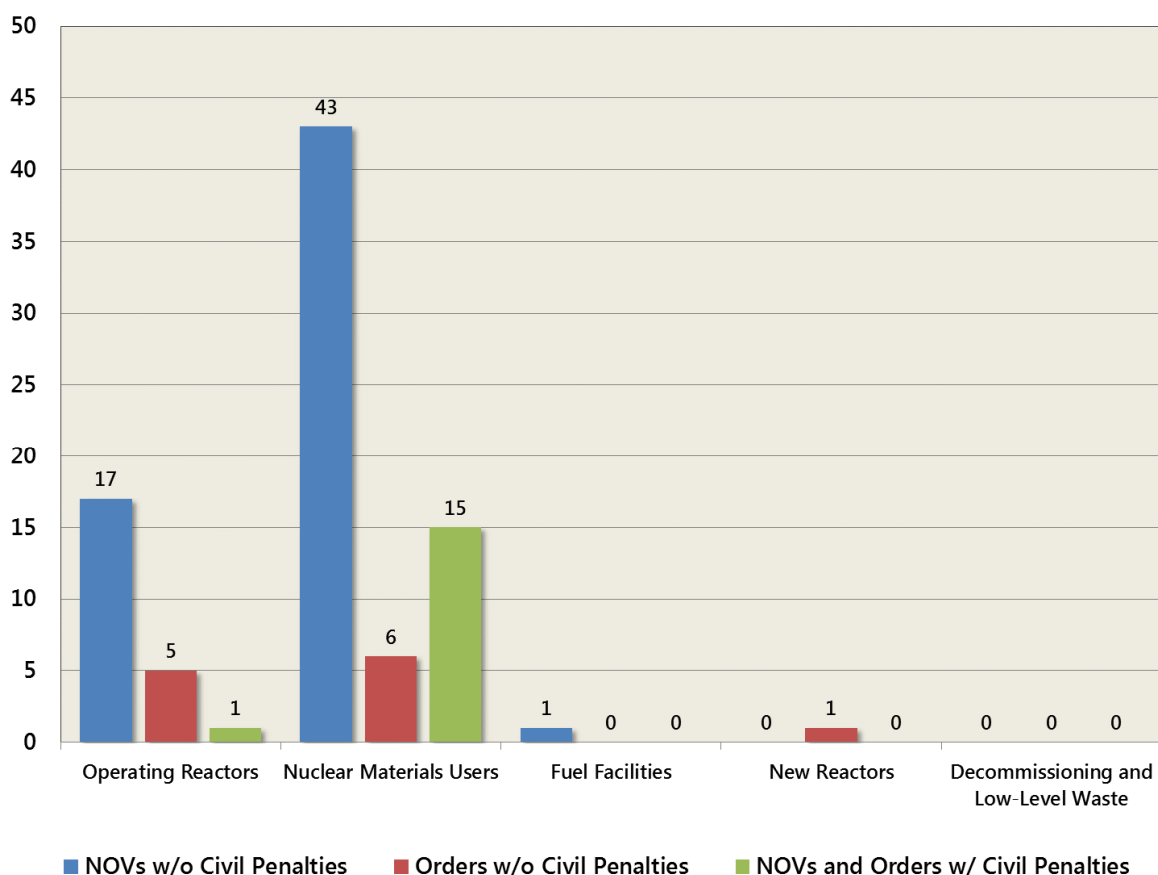
**Figure 2 — Escalated Enforcement by Type of Action (CY 2016)**

The most common type of escalated enforcement action was an NOV without a CP, with 61 of the 89 escalated actions (or 69 percent) issued during the year fitting this category. This percentage is very consistent with the overall distribution of escalated enforcement actions during the past 5 years, when approximately 71 percent of all escalated actions issued between CY 2012 and CY 2016 were NOVs without a CP. Generally speaking, a large percentage of NOVs without CPs is considered a positive outcome because it demonstrates that most licensees identify and correct violations—a goal of the Enforcement Program.

## Enforcement Program Annual Report

The remaining 31 percent of escalated enforcement actions were split between (1) NOVs and orders with a CP and (2) orders without a CP. As shown in Table 1 (on page 5), the NRC issued 16 CP actions (18 percent) and 12 orders without a CP (13 percent). The 16 CP actions included 14 NOVs and 2 orders imposing a CP.

Figure 3 shows the distribution of escalated enforcement actions issued in CY 2016 by business line, or type of licensee. For this figure, individual actions were included in the appropriate category of licensee, instead of being counted separately. Tables 3 and 4 (at the end of Section I of this report) give further details by identifying the region or program office that initiated the action, as well as additional details on the type of licensee, nonlicensee, and individual involved.



**Figure 3 — Escalated Enforcement by Business Line (CY 2016)**

As shown in Figure 3, nuclear materials users received the largest percentage of all escalated enforcement actions (72 percent) issued by the NRC in CY 2016. This was followed by operating reactor licensees, who received 26 percent of all escalated enforcement actions. In CY 2016, the NRC also issued one escalated action to fuel facilities, one escalated action to a new reactors vendor, and no escalated actions to decommissioning and low-level waste licensees. Nuclear materials users received approximately two times the number of non-CP actions and a significant majority (15 of 16) of the CP actions this past year.

## 1. Escalated Enforcement Trends

As previously noted, the NRC issued 89 escalated enforcement actions in CY 2016. The 89 actions represent an approximately 10-percent increase from the number of actions issued in CY 2015. Table 1 shows a breakdown of the total number of escalated enforcement actions issued by the NRC over the past 5 years by type of enforcement action. Figure 4 displays this information in a graph.

**Table 1 — Escalated Enforcement (CY 2012 to CY 2016) †**

	CY 2012	CY 2013	CY 2014	CY 2015	CY 2016	Average
Escalated NOVs without CPs	78	55	60	62	61	63
NOVs and Orders with CPs	16	11	12	15	16	14
Orders without CPs	19	10	13	4	12	12
<b>Total</b>	<b>113</b>	<b>76</b>	<b>85</b>	<b>81</b>	<b>89</b>	<b>89</b>

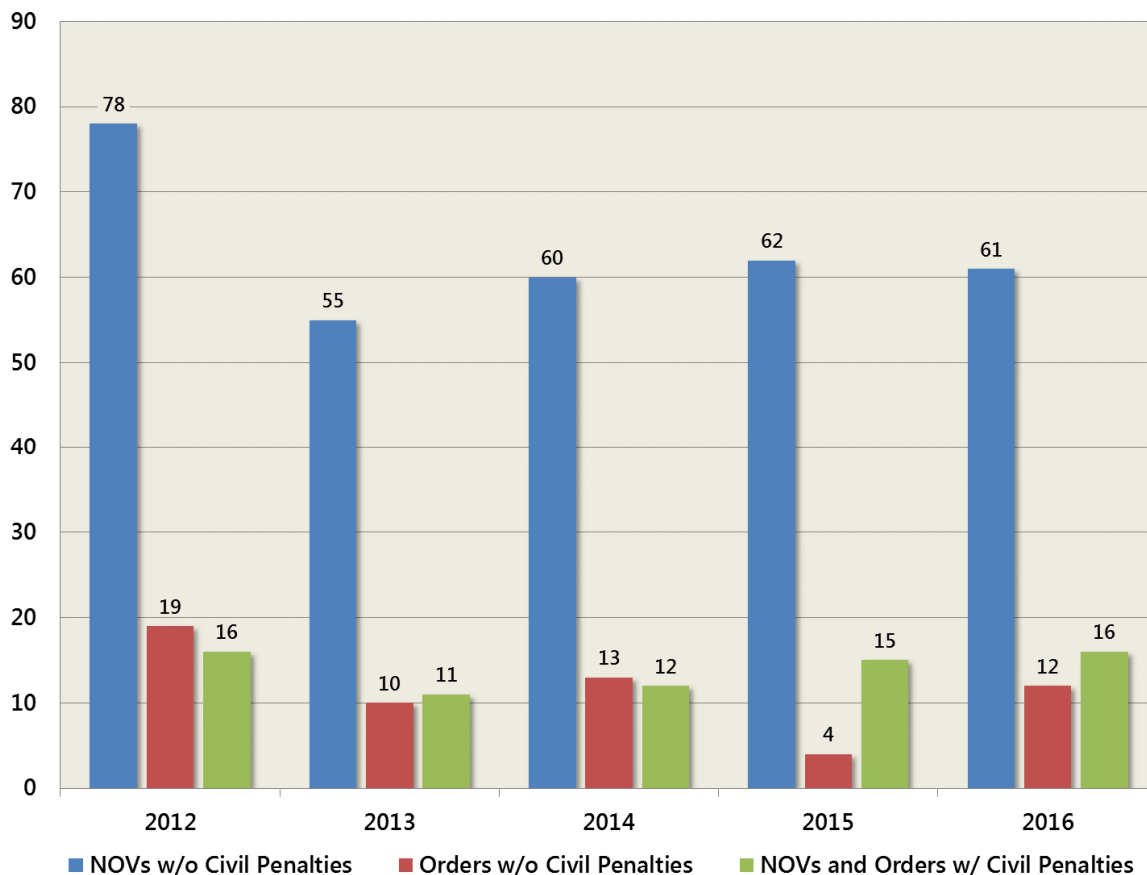
† Information reported for prior CYs may have been adjusted in this year's annual report to reflect more accurate data that were not available when the CY 2015 annual report was published.

As shown in Table 1, the number of escalated enforcement actions issued in CY 2016 is very close to the 5-year average. Figure 4 suggests that the number of escalated actions that do not involve a CP have largely influenced the trends observed since 2012. Since that year, the total number of orders and escalated actions with a CP has consistently been between 10 and 16, averaging about 13 actions per year.

To help explain possible reasons for the annual trends, Figure 5 presents escalated enforcement trends between CY 2012 and CY 2016 by business lines. As shown in Figure 5, the CY 2016 increase in escalated actions compared to the actions in CY 2015 may be solely attributed to the increase in the number of escalated enforcement actions issued to materials user licensees (from 33 to 64). This overall increase was offset by the fact that only 23 actions were issued to operating reactors (38 actions were issued to operating reactors in 2015), and 1 escalated action was issued to fuel facilities this year (5 escalated actions were issued to fuel facilities in 2015). When considered over the past 5 years, the data show that the previous declining trend in escalated actions reversed this year, and CY 2016 is more comparable to CY 2011.

Tables 4 and 5 at the end of Section I of this report offer a more detailed breakdown of enforcement actions issued during CY 2016 by the type of licensee.

## Enforcement Program Annual Report



**Figure 4 — Escalated Enforcement Issued (CY 2012 to CY 2016)**

Figure 5 is expanded to 6 years to show the variation in the number of actions issued to nuclear materials users and operating reactors over that time span. As in previous years, the number of actions issued in CY 2016 was largely influenced by cases involving nuclear materials users, specifically gauge users and radiographers. Gauge user cases rose from 10 to 18 (an increase of 80 percent) mostly because of an increase in the number of cited violations of 10 CFR 30.34(i), addressing security requirements for portable gauges. Additionally, the number of escalated actions involving radiographers increased from 4 to 10 in CY 2016. While the increase may appear significant, this number is comparable to the average number of actions issued to radiographers in CY 2011 and CY 2012. Of the 10 escalated actions issued to radiographers in CY 2016, 4 involved violations of the new security requirements in 10 CFR Part 37, “Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material.” Individual wrongdoing cases also significantly influenced the 1-year increase in the number of materials users’ actions issued in CY 2016 (seven escalated actions compared to one action in CY 2015).

Figure 5 also shows that the number of escalated enforcement actions issued to operating reactor licensees between CY 2011 and CY 2015 has generally ranged between 31 and 38 actions per year. The only exception to this trend occurred in CY 2012 when the NRC issued 51 escalated actions to operating reactors. However, in CY 2016, the agency issued only 23 escalated actions to operating reactors, a 40-percent decrease when compared to the average number of actions issued in the

previous 5 years. Of the 23 violations issued to operating reactors in CY 2016, 6 were associated with white SDP findings under the ROP. No violations were associated with yellow or red SDP findings in 2016.

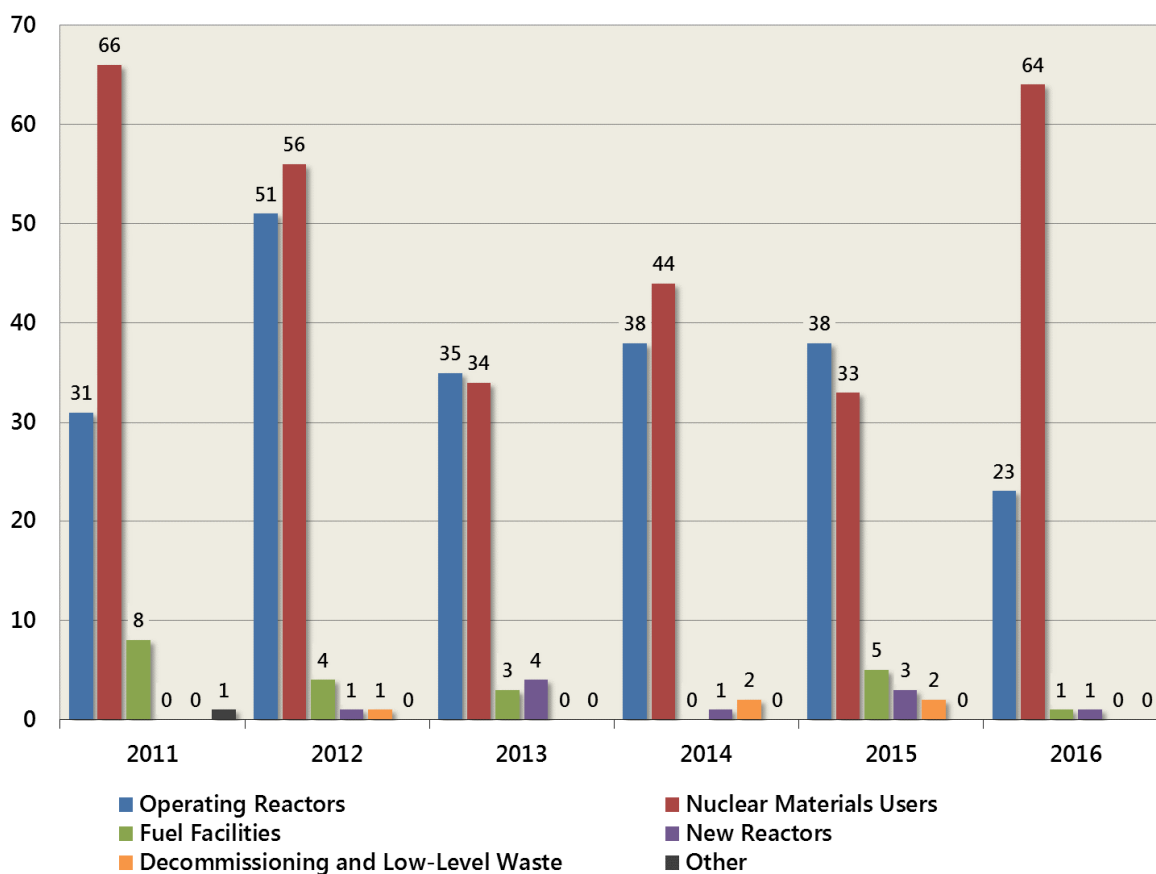


Figure 5 — Escalated Enforcement by Business Line (CY 2011 to CY 2016)

## 2. Civil Penalty Actions

In CY 2016, the agency processed 16 enforcement actions that involved CPs. Of the 16 CP actions, 15 were associated with materials user licensees, including 3 separate SL III violations totaling \$42,000 issued to Plus, LLC (the proposed CPs were later reduced to \$21,000). One CP action of \$140,000 was associated with an SL III NOV/CP issued to the Tennessee Valley Authority’s Browns Ferry Nuclear Plant for violation of requirements of 10 CFR 50.48, “Fire Protection,” when contract fire watch employees deliberately failed to conduct compensatory roving fire watch patrols as required by site procedures.

Of the 16 cases, 8 also involved “willfulness,” which is defined as either deliberate misconduct or careless disregard. The Commission is particularly concerned with the identification of willful violations. The NRC’s regulatory program is based on licensees and their contractors, employees, and agents acting with integrity and communicating with candor; therefore, the agency may consider a violation involving willfulness to be more egregious than the underlying violation taken alone, and it may increase the SL accordingly.

## Enforcement Program Annual Report

Table 2 compares CP assessments proposed, imposed, and paid for the most recent 5 CYs and the 5-year average. When reviewing the information in this table, it is important to note that an enforcement action may include more than one CP or more than one violation. In addition, a CP may be proposed one year and paid or imposed in another year. In some cases, the NRC has approved a CP payment plan which permits a licensee to pay the CP in regular installments. Finally, the amount of a proposed CP may be reduced, for example, as a result of exercising discretion as part of a settlement agreement developed during ADR.

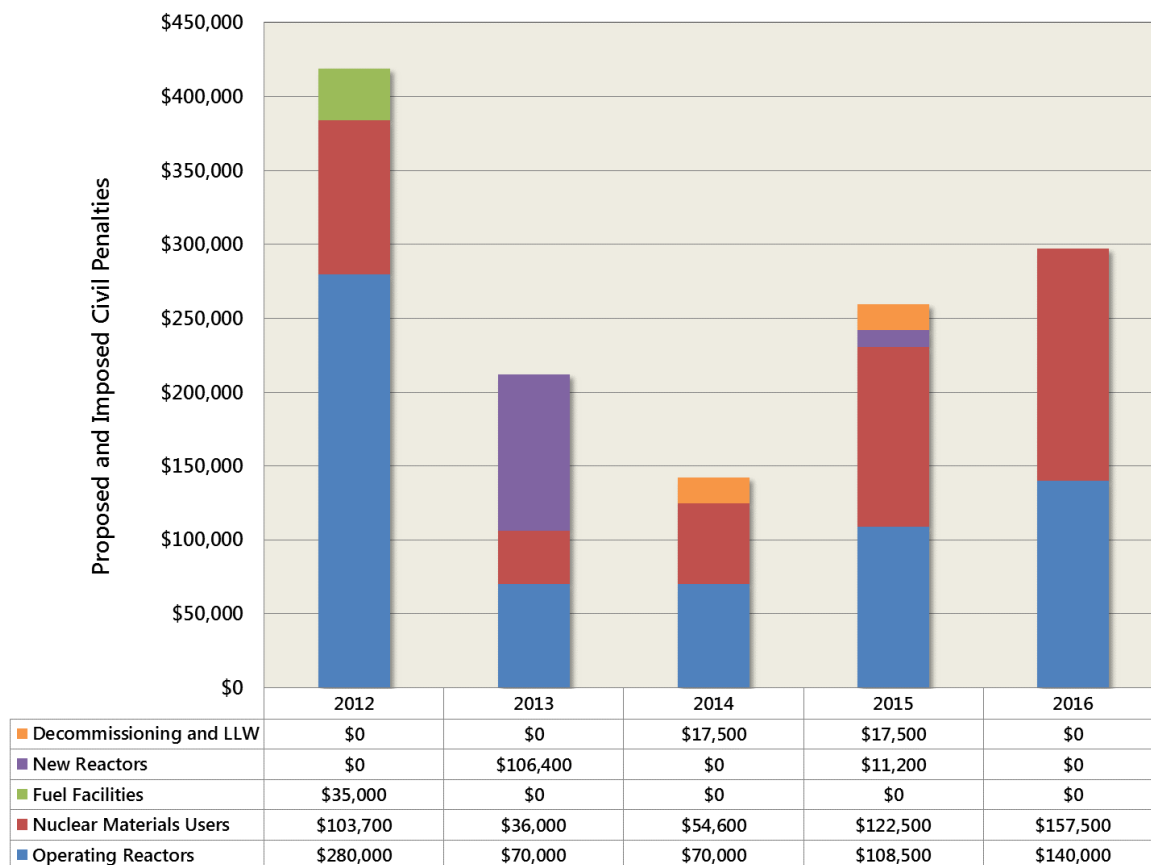
**Table 2 — Civil Penalty Information**

	2012	2013	2014	2015	2016	Average
Number of Proposed CPs	13	10	9	12	14	12
Number of Imposed CPs ♦	3	1	3	3	2	2
Number of Paid CPs	13	8	8	12	12	11
Amount of Proposed CPs	\$404,700	\$211,400	\$56,700	\$214,200	\$262,500	\$229,900
Amount of Imposed CPs	\$14,000	\$1,000	\$85,400	\$45,500	\$35,000	\$36,180
Amount of Paid CPs	\$404,450	\$176,500	\$110,362	\$176,364	\$206,500	\$214,835

♦ Imposition cases and associated CP amounts reflect CPs issued via an order and include both (1) orders imposing a CP after a licensee does not pay a proposed CP, and (2) CPs agreed to in an ADR case that are included in the case CO. In the first scenario, the case is a subset of the proposed CP cases in that imposing the CP is the next step after a licensee does not pay a proposed CP. However, in the second scenario, an ADR settlement, potentially with a CP, typically occurs before any proposed CP.

The total number of CPs (proposed and imposed) issued in CY 2016 was slightly higher than the number of CPs issued in CY 2015 and was consistent with the average number issued over the last 5 years. The total CP dollar amount (proposed and imposed amounts) also increased slightly (approximately 15 percent) in CY 2016 compared to CY 2015. The increase in CP amounts could be explained by the \$140,000 NOV/CP that was issued to TVA Browns Ferry on November 28, 2016. Had this action been issued before August 1, 2016, when changes were made to the CP amounts listed in the Enforcement Policy, the proposed CP would have been \$70,000.

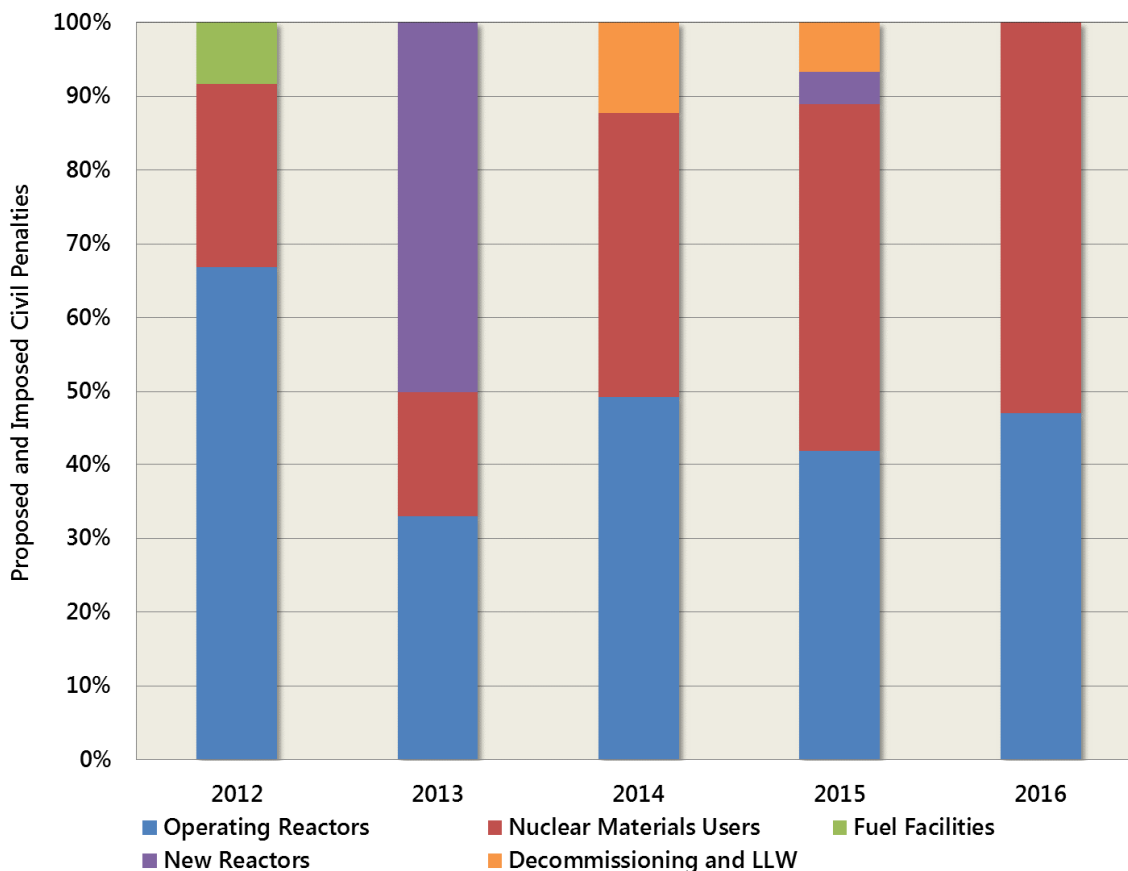
There were no CPs associated with ADR settlement agreements in CY 2016 (one CP was imposed in CY 2015).



**Figure 6 — Civil Penalties by Business Line (CY 2012 to CY 2016)**

Figure 6 shows the total dollar amount of proposed and imposed CPs, by licensee business lines, in CY 2016 and the preceding 4 years. Figure 7 shows the share of the total CP amounts issued over the past 5 years between each of the operating reactor, nuclear materials user, fuel facility, and other licensee business lines. Often total CP amounts may peak in a particular year because of one or two CP actions. For example, in 2012 the NRC issued two NOV/CPs in the amount of \$140,000 to River Bend and Turkey Point. This caused a spike in the total CP amounts for that year. Therefore, a single year does not indicate a trend—an important factor to consider when assessing possible trends.

Appendix A includes a brief description of each of the CP actions for CY 2016. Although the appendix does not address security-related issues involving NOV/CPs, the data discussed in this report include the number of NOV/CPs associated with security-related issues.



**Figure 7 — Percentage of Civil Penalties by Business Line**

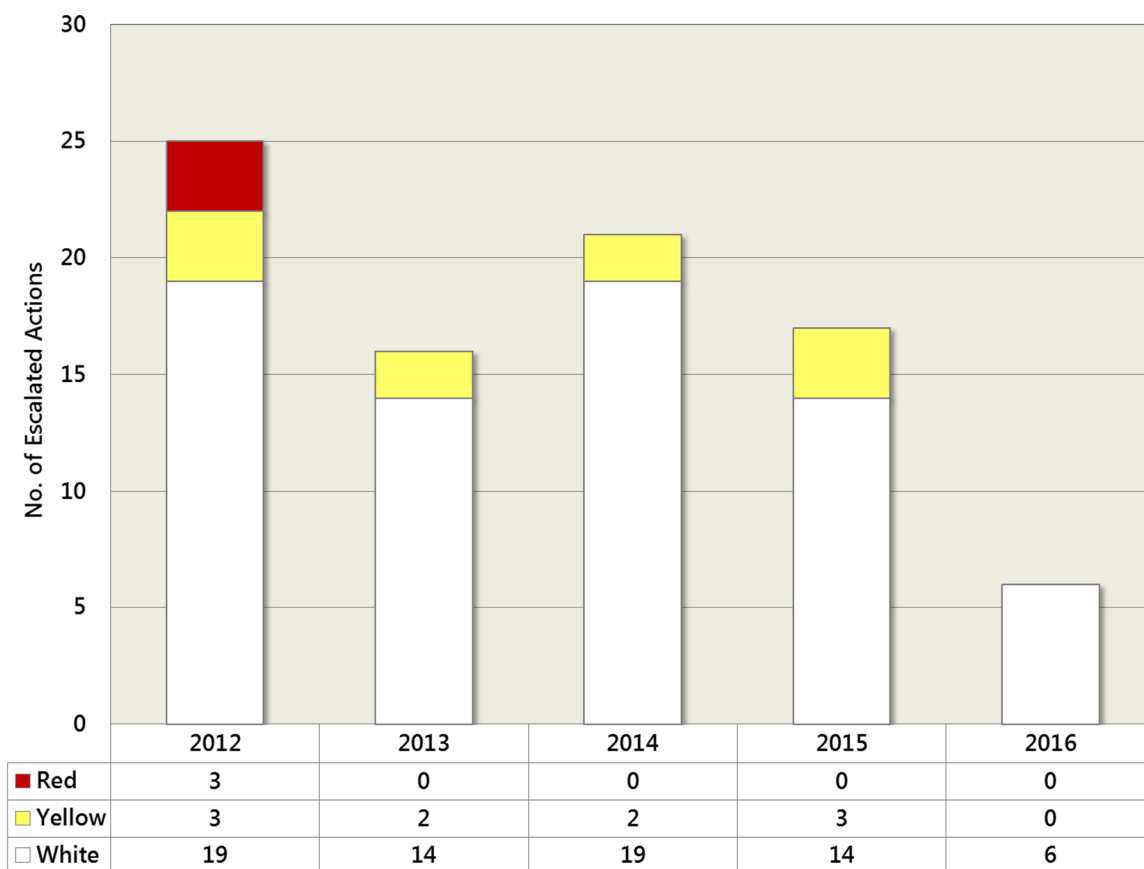
### 3. Notices of Violation without Civil Penalties

In accordance with Section 2.3.4 of the Enforcement Policy, a CP may not be warranted for escalated enforcement actions evaluated under traditional enforcement if certain criteria are met. For example, if (1) the identified violation is the first nonwillful SL III violation identified in the past 2 years or during two inspections at the licensee’s facility and the licensee took adequate corrective action to prevent its recurrence, or (2) this was not the first nonwillful SL III violation identified in the past 2 years or during two inspections, but the licensee self-identified the violation and took adequate corrective action to prevent its recurrence. Violations assessed under the ROP SDP are normally not considered for CPs unless they involve actual consequences. In addition, the agency may use enforcement discretion, when deemed appropriate, to refrain from proposing a CP, regardless of the normal CP assessment process described above.

In CY 2016, the NRC issued 61 escalated NOV without CPs. These actions were predominately issued to materials user licensees (43 of 61) and operating reactor licensees (17 of 61). Of the 43 NOVs issued to materials licensees, 14 were associated with gauge users. Of the 17 operating reactors’ violations, 6 were associated with white SDP findings under the ROP. No violations were related to yellow SDP findings and, for a fourth consecutive year, the NRC issued no red SDP



findings with associated violations in CY 2016. Figure 8 shows escalated NOV trends for SDP findings over the past 5 years. As indicated in Figure 8, the six escalated enforcement actions associated with SDP findings that were issued in CY 2016 represent a significant decrease from the past four years.



**Figure 8 — Escalated Enforcement Associated with ROP SDP Findings**

In CY 2016, there was one escalated NOV without CPs issued to fuel facility licensees. In the 4 years before 2015, fuel facility licensees averaged two escalated NOV each year. Appendix B to this report summarizes each of the NOVs issued without a CP, as well as the NOVs associated with SDP findings. Appendix B does not address security-related issues involving NOV without CPs; however, the data discussed in this report include the number of NOVs associated with security-related issues.

#### 4. Enforcement Program Timeliness

Escalated enforcement actions are issued in cases involving violations assessed at SL I, II, or III, if they are dispositioned under the traditional enforcement process; violations associated with white, yellow, or red findings issued to facilities participating in the ROP; and orders that impose sanctions. The timeliness associated with issuing escalated enforcement actions to reactor and materials licensees is an output measure (external goal) reported annually to Congress as part of the NRC’s Performance Accountability Report. The external goals, modified in 2012 to stress the importance of timely escalated enforcement actions, are as follows: (1) 100 percent of non-Office

## Enforcement Program Annual Report

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of Investigations (non-OI)-based cases are to be completed within an NRC processing time of less than or equal to 160 days, and (2) 100 percent of OI-based cases are to be completed within an NRC processing time of less than or equal to 330 days.

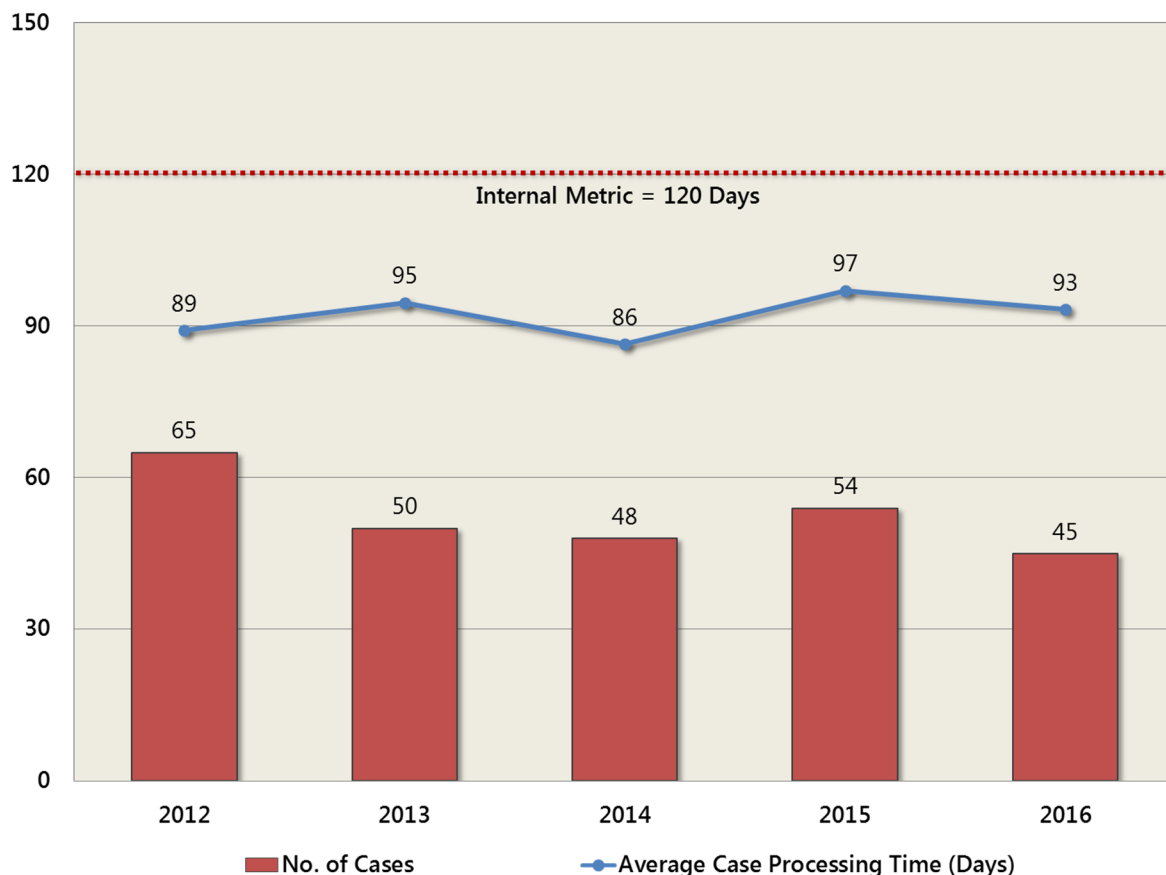
In addition to the external goals, the NRC staff continues to use other internal timeliness measures for trending purposes and to provide information to support potential improvements to its processes. These internal goals are (1) completing non-OI-based cases with an average NRC processing time of less than or equal to 120 days, and (2) completing OI-based cases with an average NRC processing time of less than or equal to 180 days.

The NRC processing time starts on the latest of the following dates: (1) the inspection exit for non-OI cases, (2) the date of the memorandum forwarding the OI report to the staff for OI-related cases, (3) the date that the U.S. Department of Justice indicates that the NRC may proceed for cases either prosecuted or reviewed for an extended period of time by the Department, or (4) the date of the U.S. Department of Labor decision that is the basis for the action. For timeliness reporting purposes, multiple escalated enforcement actions may be grouped together and treated as a single case if the enforcement actions are related to each other. For example, the NRC may disposition a violation and take escalated enforcement action against a licensee and one or more individuals. Although multiple enforcement actions were taken, these actions will be treated as one case for timeliness purposes in order to not skew timeliness data in either a positive or negative direction.

In CY 2016, all non-OI-related actions were issued within 160 processing days, and the staff met the external goal for dispositioning non-OI cases. This represents a positive trend when compared to CY 2015 when 4 of the 54 non-OI-related cases exceeded the goal. For OI-related cases, the NRC issued all 14 OI-related enforcement actions in fewer than 330 processing days in CY 2016. Therefore, the staff also met the external goal for dispositioning OI-related enforcement actions in CY 2016.

In CY 2016, the staff streamlined the SDP and enforcement processes (e.g., the staff increased use of the modified panel process and revised the SERP process). To help elevate and resolve potential differing views earlier in the enforcement process, OE will continue to work closely with the regional and program office staff in identifying enforcement cases that are likely to involve complex technical issues or other case-specific challenges. To maintain the improved performance in this area, these actions, coupled with additional emphasis on timeliness, will need to continue.

Figure 9 also shows that, on average, the agency required 93 processing days to issue a non-OI-related enforcement action. This is less than the goal of 120 processing days and is generally consistent with the overall trend for the past 5 years.



**Figure 9 — Non-OI Case Timeliness (CY 2012 to CY 2016)**

Figure 10 shows the case processing timeliness trends for OI-related escalated enforcement actions for the past five CYs. The figure shows that, on average, the agency required 196 days to issue an OI-related enforcement action in CY 2016. While this number is greater than the internal goal of 180 days, it represents an improvement from 2014 and 2015 when the number of processing days averaged 201 and 220, respectively. The staff will continue to monitor OI-related case processing timeliness trends and seek additional ways to improve case processing timeliness to meet the internal goal of 180 days.

## Enforcement Program Annual Report

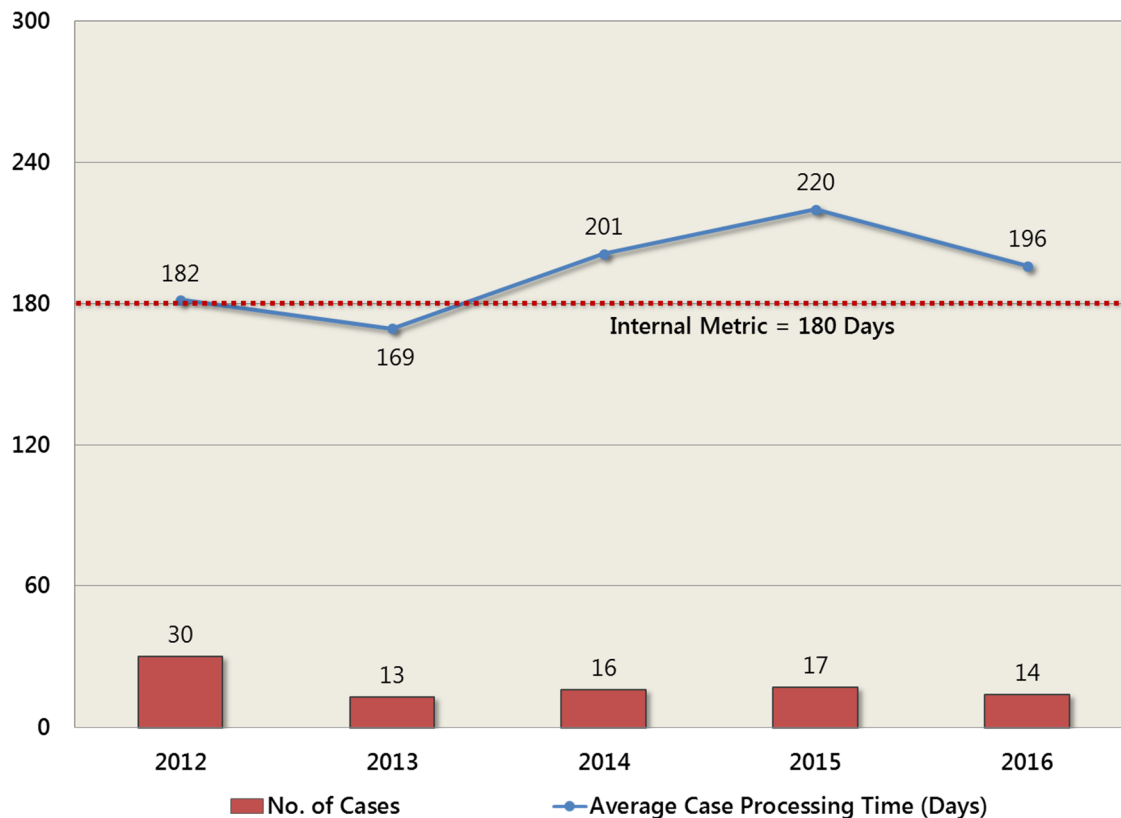


Figure 10 — OI Case Timeliness (CY 2012 to CY 2016)

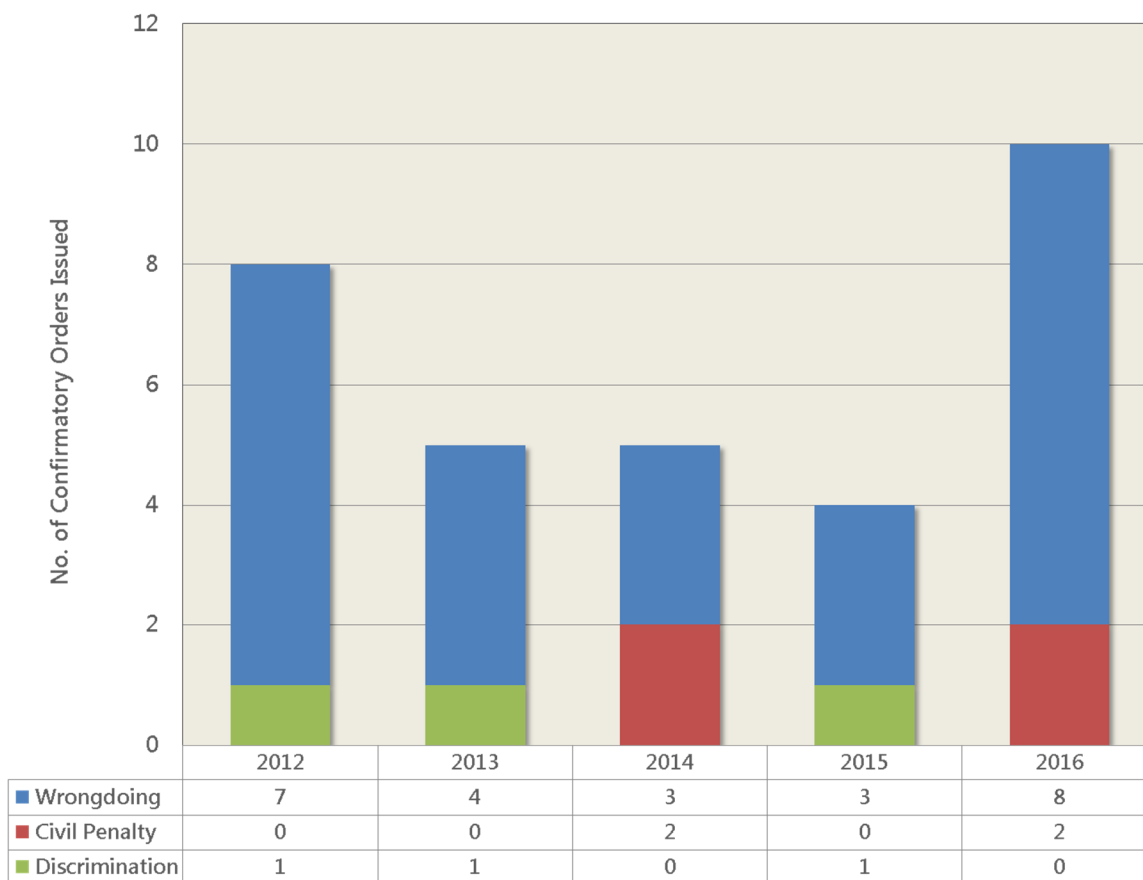
### 5. Alternative Dispute Resolution

Alternative dispute resolution (ADR) refers to a variety of voluntary processes, such as mediation and facilitated dialogue, to assist parties in resolving disputes and potential conflicts outside of courts by using a neutral third party. The NRC employs mediation for its enforcement ADR program (formerly known as the post-investigation ADR program), using a neutral third party with no decisionmaking authority, to help the parties attempt to reach an agreement. The process is voluntary in terms of the decision to participate, and the content of the final agreement is mutually agreed upon.

The term “enforcement ADR” refers to the use of mediation (1) after OI has completed its investigation and an enforcement panel has concluded that pursuit of an enforcement action appears to be warranted, and (2) all escalated nonwillful, traditional enforcement cases with the potential of civil penalties.

Under the OE’s enforcement ADR process, mediation may be offered at three points in the enforcement process: (1) before a predecisional enforcement conference, (2) after the initial enforcement action (typically the issuance of an NOV or proposed imposition of a CP), or (3) with the imposition of a CP and before a hearing request. The staff believes that for certain escalated enforcement actions, mediation gives the staff an opportunity to institute broader or more comprehensive corrective actions to better ensure public health, safety and security than outcomes typically achieved through the traditional enforcement process.

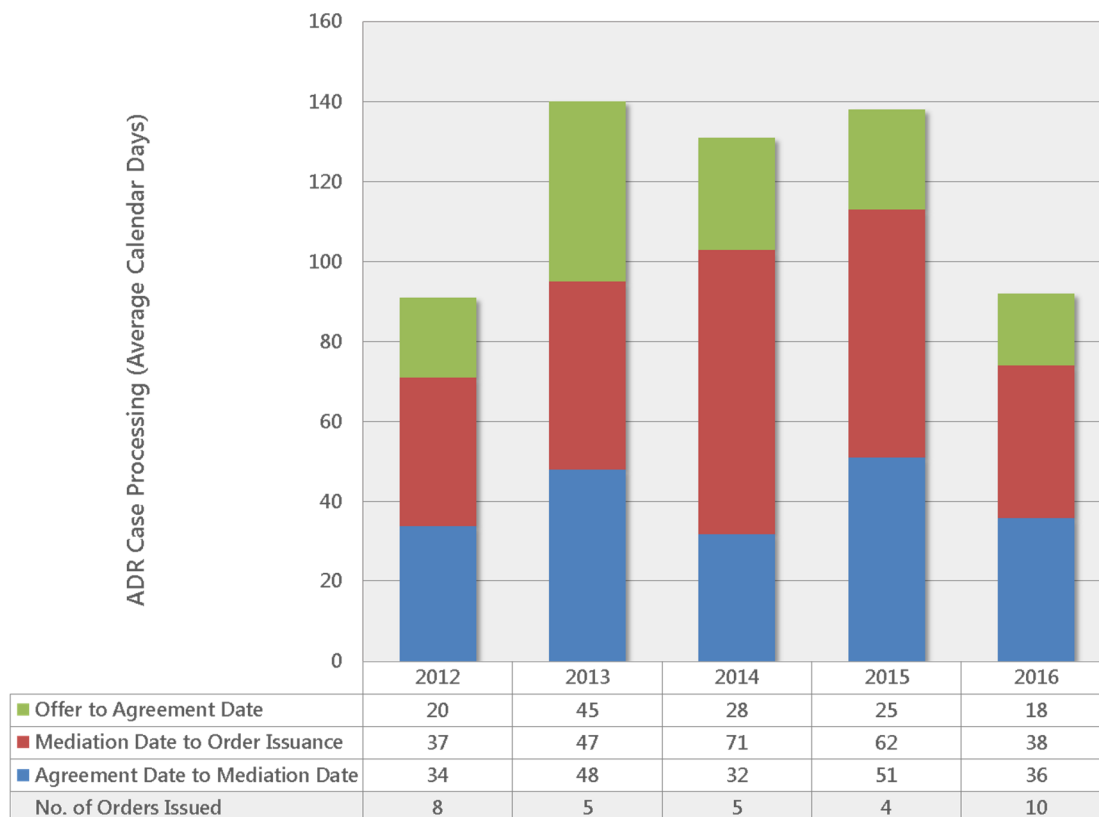
As Figure 11 shows, approximately six Confirmatory Orders (COs) are issued under the enforcement ADR program annually. In CY 2016, the NRC participated in 10 ADR mediations, and all 10 resulted in orders confirming the terms of the parties' agreement. In the past 5 years, all of the cases that used enforcement ADR have resulted in a settlement agreement.



**Figure 11 — Alternative Dispute Resolution Confirmatory Orders Issued (CY 2012 to CY 2016)**

In CY 2016, the staff continued its focus on enhancing the enforcement ADR program's timeliness, transparency, and overall effectiveness. While the program enhancements initiated in CY 2012 had a positive effect on the ADR process, between 2013 and 2015, the time taken to review OI investigative materials, bring a case to panel, and issue a choice letter increased steadily. As a result, OE implemented process improvements to improve case timeliness. In CY 2016, the time it took to issue the associated COs decreased notably from the prior CY (see Figure 12). This occurred even though the NRC conducted the largest number of ADR mediation sessions during this period. The decrease is accredited to efficiencies in mediation session preparation and improved internal coordination to support order issuance.

## Enforcement Program Annual Report



**Figure 12 — Calendar Days from Alternative Dispute Resolution Offer to Issuance of Confirmatory Order**

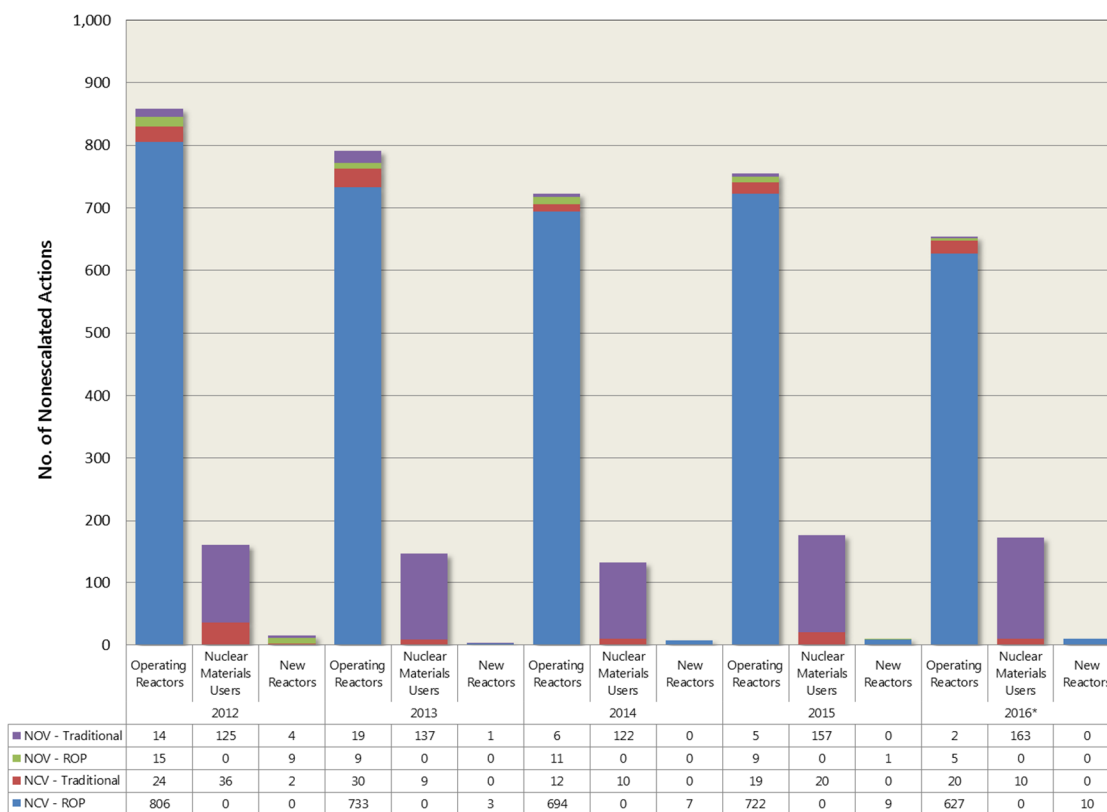
### C. Nonescalated Enforcement

When OE first published the Enforcement Program Annual Report, it solely focused on escalated enforcement actions while providing limited information on nonescalated enforcement. Nonescalated actions include SL IV NOVs and NCVs under traditional enforcement and NOVs and NCVs associated with green SDP findings under the ROP. In recent years, recognizing that most enforcement actions fall in this category, OE began to provide more information on nonescalated enforcement trends. One of the challenges in tracking and trending nonescalated enforcement actions is that the regions and program offices record these actions in separate databases. Operating reactors information is recorded in the Reactor Program System (RPS) and can be obtained by the NRC staff through the “Digital City” portal via the Office of Nuclear Reactor Regulation internal web site. Materials users’ nonescalated actions are stored in the Web-Based Licensing (WBL) system, and new reactors construction data are maintained in the Construction Inspection Program Information Management System (CIPIMS).

In 2015, OE completed a review of tracking systems used for nonescalated enforcement actions in selected program areas. OE performed this review, in part, because of commitments made in response to a 2008 audit by the Office of the Inspector General that identified recommendations for tracking nonescalated violations (OIG-08-A-17, “Audit of NRC’s Enforcement Programs,” dated September 26, 2008). OE’s report identified the need for more detailed guidance from the respective program offices to improve the consistency

and completeness of nonescalated enforcement data, as well as to clarify tracking expectations. Furthermore, the report highlighted the value of each program area uniformly applying a single electronic tracking system, available to multiple users, that offers both electronic searching and collection of similar information to address information needs. While a single electronic tracking system could allow for a more complete presentation of the agency’s use of nonescalated enforcement actions, OE will continue to compile this data from the available tracking systems on an annual basis.

Figure 13 provides information obtained from the RPS, WBL, and CIPIMS. OE notes that information for the most recent CY is typically artificially low because violations are recorded by the event date, and there is often a time lag between this date, the date of the inspection report, and the date this information is recorded in the RPS, WBL system, and CIPIMS.



\* Data for CY 2012 through CY 2015 may have been adjusted from previous annual reports to reflect the most current information available. The information for CY 2016 is lower than previous years because of the time lag inspection information is recorded in RPS, WBL and CIPIMS.

**Figure 13 — Nonescalated Enforcement (CY 2012 to CY 2016)**

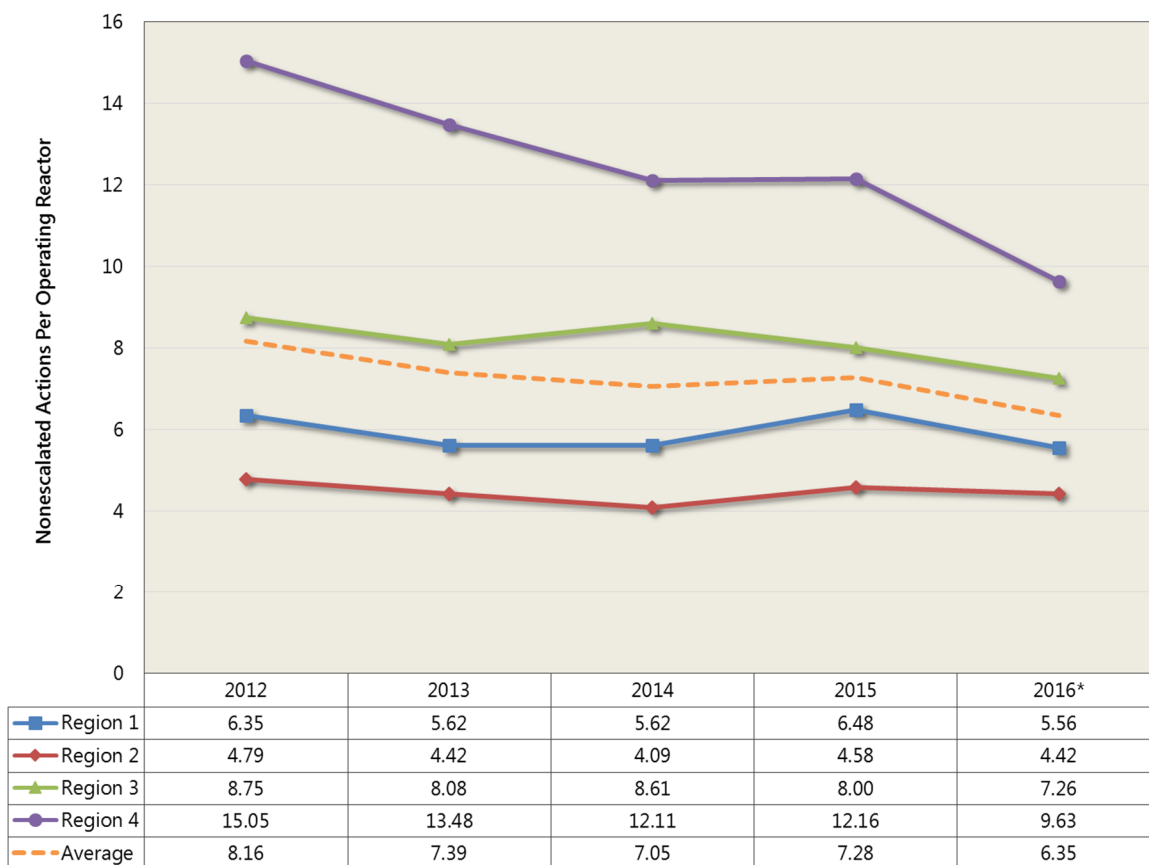
As shown in Figure 13, the NRC has issued approximately 600 to 850 nonescalated enforcement actions each year to operating reactors, and nuclear materials users have received, on average, 140 to 175 nonescalated actions for the 5 most recent CYs. New reactor licensees have received approximately nine nonescalated actions in each of the last 5 years.

In September 2013, the Government Accountability Office (GAO) issued GAO-13-743, “Nuclear Power: Analysis of Regional Differences and Improved Access to Information

## Enforcement Program Annual Report

Could Strengthen NRC Oversight.” One of the report’s findings related to the enforcement program generally and stated that “differences exist across NRC regions in identifying and resolving findings, and NRC has taken some steps to address them.” More specifically, GAO observed that the identification of nonescalated findings, which equate to very low risk significance, differed from region to region. GAO also noted that the NRC had taken some steps to address these differences but had not done a comprehensive review of the underlying reasons. The number of escalated findings, which equate to greater risk significance, was more consistent across regions.

In 2014, the NRC performed a study to address, in part, the differences across the regions described in the GAO report, and this study revealed that the regions were screening performance deficiencies for more than minor findings and assigning identification credit to findings of very low safety significance differently. As a result, in 2015, the staff began to enhance its procedures and completed procedural revisions and training to make the screening process more predictable.



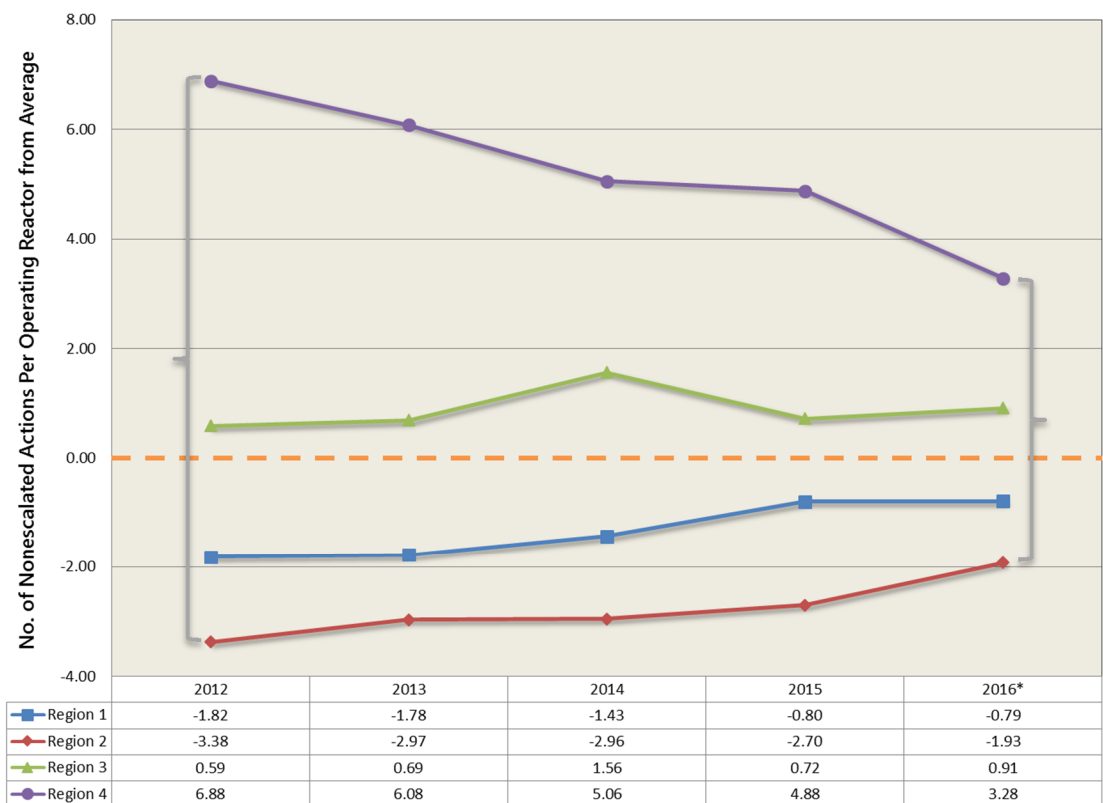
\* The information for CY 2016 may not reflect final differences from the average because of the time lag inspection information is recorded in RPS.

**Figure 14 — Nonescalated Enforcement per Operating Reactor by Region (CY 2012 to CY 2016)**

Figure 14 shows the trend of nonescalated enforcement actions issued by the regional offices for the past 5 years. The information, obtained from RPS, was “normalized” to show the average number of nonescalated actions per operating reactor in each of the regions.



As seen in Figure 14, there has been a steady improvement in the consistency among the regional offices in the number of nonescalated enforcement actions issued since CY 2012. However, notable differences remain between the regions, with the number of nonescalated enforcement actions ranging between 4.4 and 9.6 actions per operating reactor. OE will continue to monitor these trends in CY 2017.



\* The information for CY 2016 may not reflect final differences from the average because of the time lag inspection information is recorded in RPS.

**Figure 15 — Nonescalated Enforcement per Operating Reactor by Region (CY 2012 to CY 2016)**

Figure 15 provides information similar to that in Figure 14, noting the differences from the average number of nonescalated actions per operating reactor (i.e., the average number of actions per operating reactor is equal to zero). As noted in the figure, Region IV issued about 3.3 more nonescalated actions per operating reactor than the average regional office, and Region II issued 1.9 fewer actions than the average in CY 2016. Again, while differences remain, this is a significant improvement from CY 2012 when the same regional offices issued approximately 6.9 more and 3.4 fewer nonescalated actions per operating reactor, respectively.

## Enforcement Program Annual Report

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**Table 3—Escalated Enforcement Actions by Region and Program Office**

	<b>NOVs w/o CPs</b>	<b>Orders w/o CPs</b>	<b>NOVs and Orders w/ CPs</b>	<b>Total</b>
REGION I	12	1	7	20
REGION II	4	0	1	5
REGION III	24	2	2	28
REGION IV	18	5	2	25
NMSS	2	1	4	7
NRO	0	1	0	1
NRR	0	0	0	0
NSIR	0	0	0	0
OE	0	1	0	1
OIP	1	1	0	2
<b>Total</b>	<b>61</b>	<b>12</b>	<b>16</b>	<b>89</b>

Key to Offices

- NMSS—Office of Nuclear Material Safety and Safeguards
- NRO—Office of New Reactors
- NRR—Office of Nuclear Reactor Regulation
- NSIR—Office of Nuclear Security and Incident Response
- OE—Office of Enforcement
- OIP—Office of International Programs

**Table 4—Escalated Enforcement Actions by Type of Licensee,  
Nonlicensee, or Individual**

	NOVs w/o CPs	Orders w/o CPs	NOVs and Orders w/ CPs	Total
Gauge	14	0	4	18
Operating Reactor	11	5	1	17
Materials Distributor	5	1	4	10
Radiographer	7	0	3	10
Individual Actor - Materials	5	2	0	7
Hospital	4	0	1	5
Other	2	2	1	5
Individual Actor - Reactors	3	0	0	3
Licensed Operator	3	0	0	3
Pharmacy	0	0	2	2
Irradiator	2	0	0	2
Import / Export	1	1	0	2
Fuel Facility	1	0	0	1
Academic	1	0	0	1
Physician	1	0	0	1
Vendor - New Reactors	0	1	0	1
Well Logger	1	0	0	1
<b>Total</b>	<b>61</b>	<b>12</b>	<b>16</b>	<b>89</b>

## Enforcement Program Annual Report

**Table 5—Escalated Enforcement Action Trends by Type of Licensee**

	2012	2013	2014	2015	2016	Total
Operating Reactor	40	30	29	27	17	143
Gauge	11	5	17	10	18	61
Radiographer	12	5	6	4	10	37
Hospital	10	8	4	5	5	32
Materials Distributor	5	2	1	7	10	25
Individual Actor—Materials	8	2	5	1	7	23
Individual Actor—Reactors	3	1	5	8	3	20
Licensed Operator	7	2	4	2	3	18
Fuel Facility	4	3	0	5	1	13
Physician	0	3	4	1	1	9
Academic	0	4	3	1	1	9
Irradiator	1	2	1	0	2	6
Vendor—New Reactors	0	3	1	1	1	6
Import/Export	1	0	0	1	2	4
Nonoperating Reactors	0	0	1	2	0	3
Research Reactor	0	2	0	1	0	3
New Construction—Reactor	1	1	0	1	0	3
Pharmacy	0	0	0	0	2	2
Well Logger	0	1	0	1	1	3
Decommissioned Reactor/Site	1	0	1	0	0	2
Individual Actor—Vendor	0	0	0	1	0	1
Vendor—Operating Reactors	1	0	0	0	0	1
Waste Disposal	0	1	0	0	0	1
Other	8	1	3	2	5	19
<b>Total</b>	<b>113</b>	<b>76</b>	<b>85</b>	<b>81</b>	<b>89</b>	<b>444</b>

## II. Enforcement Case Work

### A. Significant Enforcement Actions

In CY 2016, the agency was involved in several noteworthy enforcement actions.

#### **C&D Technologies, Inc.**

On April 20, 2016, the NRC issued a Confirmatory Order (CO) to C&D Technologies, Inc., a vendor, to formalize commitments made as a result of an alternative dispute resolution (ADR) mediation session. The vendor made the commitments as part of a settlement agreement with the NRC regarding apparent violations of NRC requirements. The agreement resolves the apparent failure to perform adequate technical evaluations of defects and the associated periodic reporting of ongoing deviation evaluations and final determinations, contrary to the requirements in 10 CFR 21.21, "Notification of Failure to Comply or Existence of a Defect and Its Evaluation." C&D agreed to corrective actions, including (1) restoring full compliance for all currently identified noncompliances, (2) revising policies and procedures to provide reasonable assurance of continued compliance, (3) providing initial and continuing training for C&D staff and supervisors, (4) instituting an annual independent third-party program review, and (5) periodically communicating to staff and managers senior management's expectations and commitment to complying with NRC requirements. In consideration of these commitments, the NRC agreed to refrain from issuing a proposed imposition of a CP and NOV.

#### **Acuren USA**

On July 7, 2016, the NRC issued a notice of violation and proposed imposition of civil penalty (NOV/CP) in the amount of \$7,000 to Acuren USA for violations associated with two SL III problems. The first problem identified violations of 10 CFR 34.51, "Surveillance," and 10 CFR 34.53, "Posting," involving the failure to keep the radiation restricted area perimeter and high-radiation area under constant surveillance during radiographic operations and the failure to post the area with the signs required in 10 CFR 20.1902, "Posting Requirements." The second problem involved violations of NRC requirements associated with (1) demonstrating that the total effective dose equivalent to the member of the public likely to receive the highest dose does not exceed annual dose limits, (2) inspecting the job performance of radiographers, (3) reviewing (at least annually) the content and implementation of the radiation protection program, and (4) providing annual refresher training for each radiographer at intervals not to exceed 12 months.

#### **Tetra Tech EC, Inc.**

On July 28, 2016, the NRC issued an NOV/CP in the amount of \$7,000 to Tetra Tech EC, Inc., for an SL III violation. The violation involved a deliberate failure to obtain soil sample surveys, in accordance with 10 CFR 20.1501(a), by employees of Tetra Tech at the U.S. Navy's Hunters Point Naval Shipyard site in San Francisco, CA. Specifically, on several occasions between November 18, 2011, and June 4, 2012, when obtaining soil samples to ascertain the amount of residual radioactivity in specific locations within Parcel C at the site, Tetra Tech employees deliberately obtained soil samples from other areas that were suspected to be less contaminated and represented that the samples had been obtained

## **Enforcement Program Annual Report**

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from within the specified locations. In response to the NOV/CP, Tetra Tech requested ADR. On October 11, 2016, the NRC issued a CO to Tetra Tech confirming commitments reached as part of ADR mediation. The licensee agreed to take several actions, in addition to steps it had already taken, to address the violations (see Appendix C). In consideration of the licensee's commitments outlined in the CO, the NRC agreed to withdraw the proposed CP.

### **International Cyclotron, Inc.**

On August 30, 2016, the NRC issued an NOV/CP in the amount of \$14,000 to International Cyclotron, Inc., for an SL III violation involving the licensee's failure to begin and complete decommissioning of its site in accordance with 10 CFR 30.36, "Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas." Specifically, on March 22, 2014, International Cyclotron notified the NRC that no principal activities under the license have been conducted for a period of 24 months and decommissioning would begin as soon as possible, before April 18, 2014. As of August 30, 2016, International Cyclotron had neither begun decommissioning nor submitted a decommissioning plan and did not complete the decommissioning of its site.

On November 17, 2016, the NRC issued an Order Imposing Civil Monetary Penalty to International Cyclotron in the amount of \$14,000 for failing to pay the proposed civil penalty. As of the end of 2016, International Cyclotron had not responded to the original NOV/CP or Imposition Order, and the licensee has apparently taken no actions towards site decommissioning. This case underscores the challenges faced by the staff when a licensee is generally nonresponsive to NRC requirements to decommission its site and properly dispose of regulated material in a timely manner.

### **Power Resources, Inc.**

On September 30, 2016, the NRC issued a CO to Power Resources, Inc., confirming commitments reached as a result of ADR mediation. The ADR addressed apparent violations identified through an investigation. The investigation found (1) a failure to comply with 10 CFR 20.1501, "General," requirements when the licensee did not ensure that a member of the health physics department performed a free-release contamination survey of equipment and (2) a deliberate failure by the operations supervisor to maintain complete and accurate records of contamination exit surveys, contrary to the requirements in 10 CFR 40.9, "Completeness and Accuracy of Information." Specifically, the operations supervisor filled out monitoring logs indicating that personnel contamination surveys were performed on two contractors when the surveys were not performed. The licensee agreed to take several actions to address the violations (see Appendix C) for the willful failure to comply with NRC requirements. In consideration of these and other commitments from the licensee, the NRC agreed to not pursue further enforcement action.

### **Tennessee Valley Authority, Browns Ferry Nuclear Plant**

On November 28, 2016, the NRC issued an NOV/CP in the amount of \$140,000 to Tennessee Valley Authority (TVA) for an SL III violation at its Browns Ferry Nuclear Plant. The violation involved the failure to conduct compensatory fire watches as required by TVA corporate procedures and 10 CFR 50.48. Specifically, on multiple occasions in May 2015, hourly fire watches required as compensatory measures for fire protection equipment that was out of service in the Unit 3 Diesel Building and Unit 3 4-kilovolt (kV) Shutdown Board Room were not performed.

## B. Hearing Activities

There were no hearing activities as a result of enforcement actions in CY 2016.

## C. Enforcement Orders

In CY 2016, the NRC issued 14 orders to licensees, nonlicensees, and individuals. This is double the number of orders issued in 2015. The 14 orders included 12 COs that were issued to confirm commitments associated with ADR settlement agreements. None of the ADR-related COs included a requirement to pay a CP as a result of the settlement agreement. Two orders imposed CPs on materials user licensees.

As shown in Table 1, the number of orders the NRC issued in CY 2016 increased from CY 2015. This increase can be attributed almost solely to the number of COs issued following ADR mediation (the NRC issued 4 COs in 2015 and 12 in 2016). Appendix C includes a brief description of the enforcement orders issued in 2016.

## D. Enforcement Actions Supported by the Office of Investigations

In CY 2016, OI investigations supported 34 percent of the escalated enforcement actions (30 of the 89) issued by the agency. This figure is slightly higher than the percentage of cases supported by OI investigations in CY 2015. The escalated actions supported by OI investigations include the following:<sup>1</sup>

- 8 of the 16 escalated NOVs and orders with CPs (50 percent)
- 14 of the 61 escalated NOVs without CPs (23 percent)
- 8 of the 12 enforcement orders without CPs (67 percent)

The 30 enforcement actions supported by OI investigations are slightly more than the average number of enforcement actions supported by OI investigations over the previous 4 years (actions averaged 27.5 between CY 2012 and CY 2015). The average percentage of enforcement actions supported by an OI investigation over the past 5-year period (CY 2012 through CY 2016) is approximately 31 percent.

## E. Actions Involving Individuals and Nonlicensee Organizations

In CY 2016, the agency issued 12 escalated enforcement actions to licensed and unlicensed individuals. This number is included in the total number of escalated enforcement actions (NOVs and orders) that the agency issued in 2015. Appendix C summarizes the orders that were issued to individuals, and Appendix D summarizes the NOVs issued to individuals in CY 2016. These appendices do not describe individual enforcement actions involving security-related violations. The number of escalated actions issued to individuals in CY 2016 (12) is generally consistent with the average number of actions issued between CY 2012 and CY 2016 (14 per year).

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<sup>1</sup> Note that the number of escalated actions reported in this section differ from the number of cases shown in Figure 10 since a single case may encompass multiple actions.

## Enforcement Program Annual Report

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The agency issued one escalated enforcement action to a nonlicensee organization (a vendor) in CY 2016. Appendix E summarizes this action.

### **F. Enforcement Action Involving Discrimination**

In CY 2016, there were no escalated enforcement actions resulting from a substantiated allegation of discrimination. Between CY 2012 and CY 2016, the NRC handled, on average, one substantiated discrimination case each year; however, it is not unprecedented to have a year with no escalated enforcement action taken because of discrimination.

### **G. Use of Judgment and Discretion in Determining Appropriate Enforcement Sanctions**

Within its statutory authority, the NRC may choose to exercise discretion and either escalate or mitigate enforcement sanctions or otherwise refrain from taking enforcement action. The exercise of discretion allows the NRC to determine actions that are appropriate for a particular case, consistent with the Enforcement Policy. After considering the general tenets of the Policy and the safety and security significance of a violation and its surrounding circumstances, the NRC may exercise judgment and discretion in determining the severity levels of violations and the appropriate enforcement sanctions.

In CY 2016, the NRC exercised enforcement discretion in 34 cases to address violations of NRC requirements. This number reflects a small (13 percent) decrease in the number of cases in which the agency used discretion from CY 2015 (39 cases) and a slight increase from CY 2014 (31 cases). Although 2016 saw a decrease from 2015 in the number of cases in which discretion was used, this year was comparable to more recent years. A discussion follows of the more significant cases dispositioned using enforcement discretion in CY 2016.

#### **1. Discretion Involving Temporary or Interim Enforcement Guidance**

In 26 cases, the NRC used discretion in accordance with either an Interim Enforcement Policy or an EGM.

- On March 13, 2014, the NRC issued EGM-14-001, “Interim Guidance for Dispositioning 10 CFR Part 37 Violations with Respect to Large Components or Robust Structures Containing Category 1 or Category 2 Quantities of Material at Power Reactor Facilities Licensed under 10 CFR Parts 50 and 52.” The NRC staff established this EGM following a review of how 10 CFR Part 37 applies to large components and Category 1 or Category 2 quantities of radioactive material stored in robust structures. The staff determined that enforcement discretion, under certain conditions, is appropriate for some violations of 10 CFR Part 37 at power reactor facilities while a long-term regulatory action is being considered. In CY 2016, 15 cases met the criteria listed in the EGM, and the NRC exercised discretion to not cite violations that were evaluated at SL IV.
- The NRC dispositioned six violations using discretion in accordance with EGM-11-004, “Interim Guidance for Dispositioning Violations of Security Requirements for Portable Gauges,” dated April 28, 2011. The NRC may exercise enforcement discretion in the form of a reduced SL for violations of 10 CFR 30.34(i) if certain criteria are met as described in EGM-11-004. Although



the pilot program was completed, the provisions of this EGM remained in effect until the Enforcement Policy was revised on November 1, 2016, to incorporate the EGM.

- The NRC dispositioned three violations using discretion in accordance with EGM-11-003, “Dispositioning Boiling Water Reactor Licensee Non-Compliance with Technical Specification Containment Requirements during Operations with a Potential for Draining the Reactor Vessel,” dated October 4, 2011. The NRC may exercise enforcement discretion for violations of certain technical specification (TS) requirements at boiling-water reactors under EGM-11-003. In comparison, the NRC dispositioned nine cases using this discretion in CY 2015.
- On October 2, 2014, the NRC issued EGM-14-002, “Dispositioning Westinghouse Pressurized Water Reactor Licensee Noncompliance with 10 CFR 50.59, ‘Changes, Tests, and Experiments,’ for the Installation of Complex Programmable Logic Device (CPLD) Based Solid State Protection System (SSPS) Cards.” This EGM provides guidance on the use of enforcement discretion to disposition Westinghouse pressurized-water reactor licensee noncompliance with 10 CFR 50.59 for plants that have installed CPLD-based circuit boards in the SSPS without meeting the requirements of 10 CFR 50.59(c)(2)(vi) and/or 10 CFR 50.59(d)(1). The SSPS circuit boards provide the coincidence logic to produce trip signals for the reactor protection system and actuation signals for the engineered safety features actuation systems. In CY 2016, the agency dispositioned one case that met the criteria under this guidance.
- The NRC continued to perform fire protection inspections at power reactor sites to verify compliance with the requirements of 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities,” Appendix R, “Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979.” Violations of these requirements that were identified at sites transitioning to the National Fire Protection Association Standard 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants,” and that met the criteria as stated in the Interim Enforcement Policy 9.1, “Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48),” warranted enforcement discretion, and the NRC did not issue NOVs. One documented case involved this type of discretion in CY 2016.

### 2. Discretion Involving No Significance Determination Process Performance Deficiency

Section 2.2.4.d of the Enforcement Policy (now Section 3.10, “Reactor Violations with No Performance Deficiencies”) states that violations of NRC requirements normally falling within the ROP SDP process for operating power reactors for which there are no associated SDP performance deficiencies (e.g., a violation of TS, which is not a performance deficiency) are normally dispositioned using discretion, similar to the approach described in Section 3.2 of this Policy. In 2016, the NRC exercised enforcement discretion in three cases involving four violations in accordance with Section 2.2.4.d of the Policy. All four violations involved TS attributable to equipment failures that were not considered avoidable.

- Oyster Creek Nuclear Generating Station—A failed electrical relay assembly caused an emergency diesel generator (EDG) to be inoperable for 15 days in late CY 2015. This period exceeded the allowed outage time of 7 days detailed in the TS. The NRC determined that the relay failure that caused the EDG to be inoperable was not within the licensee’s ability to reasonably foresee and correct.
- Edwin I. Hatch Nuclear Plant, Unit 1—The licensee discovered during a February 2016 refueling outage that 2 of the 11 three-stage safety-relief valves (SRVs) had experienced setpoint drift during the previous operating cycle and were inoperable from the initiation of the degraded condition until the unit shut down for refueling. Based on its review of the SRV testing and maintenance program, the NRC determined that the SRV TS inoperability was not within the licensee’s ability to reasonably foresee and correct. A similar situation occurred at Hatch, Unit 2, where the unit operated from the initiation of a degraded condition until March 2016, with the 2C EDG fuel oil relief valve inoperable.
- Joseph M. Farley Nuclear Plant, Units 1 and 2— On November 20, 2015, the Unit 1 turbine-driven auxiliary feedwater (TDAFW) pump over-spun and tripped on startup during routine surveillance testing. The licensee determined that an earlier design change resulted in a set point conflict that revealed itself during the test. Consequently, Unit 1 operated from May 3, 2015, until November 22, 2015, with the Unit 1 TDAFW pump inoperable, and Unit 2 operated from January 10, 2015, until November 22, 2015, with the Unit 2 TDAFW pump inoperable. The region determined that the impact of the design change was not within the licensee’s ability to foresee and correct beforehand due to the number of successful TDAFW pump starts following implementation of the design change. The issue was entered into the licensee’s corrective action program.

### 3. Discretion Involving Violations Identified Because of Previous Enforcement Actions

The staff may exercise enforcement discretion, in accordance with Enforcement Policy, Section 3.3, “Violations Identified Because Of Previous Enforcement Action,” if the licensee identified the violation as part of the corrective action for a previous enforcement action, and the violation has the same or a similar root cause as the violation causing the previous enforcement action. In CY 2016, the NRC dispositioned no violations consistent with the guidance in Section 3.3 of the Policy.

#### 4. Discretion Involving Special Circumstances

Four cases involved use of discretion to disposition violations in accordance with Section 3.5, "Special Circumstances," of the Enforcement Policy. Below is a brief discussion of the cases dispositioned in CY 2016.

- EA-15-158: The NRC exercised its discretion to refrain from issuing an NOV to Arizona Public Service Company for an SL IV violation of Palo Verde Nuclear Generating Station TS Limiting Condition of Operation (LCO) 3.4.14.a, which requires that reactor coolant system operational leakage shall be limited to no pressure boundary leakage. On April 7, 2015, during the Unit 3 Refueling Outage 18, the licensee discovered reactor coolant system pressure boundary leakage at instrument nozzle 18 on the 2A reactor coolant pump suction piping. The leakage was discovered during a planned visual inspection of Unit 3 hot- and cold-leg nozzles. Isotopic analysis of the leak deposits indicated that the leak had occurred between 6 and 10 months before its discovery. While the unit was operating, the leak was not detectable either by the licensee's reactor coolant system leak rate determination procedure or by containment atmospheric radiation monitor trend reviews. The violation was evaluated to be more than minor and best characterized as SL IV (very low safety significance) because it is similar to the example in the NRC Enforcement Policy, Section 6.1.d.1. Additionally, a qualitative assessment of the observed reactor coolant system leakage condition concluded that the risk was of very low safety significance (green). The NRC exercised enforcement discretion because the issue was of very low safety significance (green), was not within the licensee's ability to foresee and correct, and the licensee's actions did not contribute to the degraded condition and were reasonable to identify and address this matter.
- EA-16-049: The NRC exercised its discretion to refrain from issuing an SL IV violation of 10 CFR 50.82(a)(8)(ii) to Vermont Yankee. In part, this regulation states that initially, 3 percent of the generic amount of decommissioning funds as specified in 10 CFR 50.75, "Reporting and Recordkeeping for Decommissioning Planning," may be used for decommissioning planning. Contrary to this requirement, Entergy withdrew decommissioning funds for an activity that was not directly related to decommissioning planning. The NRC determined that it was appropriate to exercise enforcement discretion because of the lack of clarity in Regulatory Guide 1.184, "Decommissioning of Nuclear Power Reactors," on this issue.
- EA-15-272: The NRC exercised its discretion to refrain from issuing an SL III NOV to Prime NDT Services, Inc., for failing to limit occupational dose to 5 rem in a year to an individual. The NRC determined the individual received most of the dose while working in the Commonwealth of Pennsylvania (an Agreement State), and the Commonwealth had already issued an enforcement action against Prime NDT Services which included a \$40,000 CP for this violation. The NRC considered that the Commonwealth's enforcement action adequately addressed the issue and was commensurate with any enforcement that the NRC might issue.

## Enforcement Program Annual Report

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- EA-16-129: The NRC exercised its discretion to refrain from issuing an NOV to Mr. Mark Ficek for a violation of an Atomic Safety Licensing Board Order and Settlement Agreement condition prohibiting Mr. Ficek from having a controlling interest in Metals Testing Services, Inc. (MTS). On May 31, 2016, the President and Radiation Safety Officer (RSO) of MTS informed Mr. Ficek that he had resigned effective May 29, 2016, without giving prior notification of his intent. On June 6, 2016, Mr. Ficek informed the NRC that the President/RSO had resigned, and the controlling interest of MTS had automatically reverted to Mr. Ficek. Condition 34 of the Settlement Agreement prohibited such an arrangement. Before the President/RSO's departure, all of the licensed material possessed under the license had been transferred to another NRC-licensed company. Therefore, the NRC determined that the violation resulted from matters not entirely within Mr. Ficek's control, that he provided timely notification of the change in ownership to the NRC in observance of the violation of the terms of the Settlement Agreement, and he acted promptly to restore compliance.

### 5. Notices of Enforcement Discretion

Occasionally, circumstances may arise where a power reactor licensee's compliance with a TS or other license condition would require a plant transient or performance testing, inspection, or other system realignment that is of greater risk than the current specific plant conditions. In these circumstances, the NRC staff may choose not to enforce the applicable requirements. The staff exercises this enforcement discretion, designated as a notice of enforcement discretion (NOED), in accordance with Enforcement Policy, Section 3.8, "Notices of Enforcement Discretion for Operating Power Reactors and Gaseous Diffusion Plants," only if it is clearly satisfied that the action is consistent with protecting public health and safety. The staff may also issue NOEDs in cases involving severe weather or other natural phenomena when it determines that exercising this discretion will not compromise safety. NOEDs require justification from a licensee or certificate holder that documents the safety basis for the request and provides other information the staff deems necessary to issue an NOED. In CY 2016, the NRC issued the following two NOEDs:

- NOED 16-2-001: The NRC verbally granted enforcement discretion on March 4, 2016, to Duke Energy Progress, Inc. (Duke Energy), to not enforce compliance with the actions required in Brunswick Steam Electric Plant, Unit 2, TS 3.8.1, "AC Sources—Operating," Condition I (i.e., one or more offsite circuits and two or more EDGs inoperable). On March 2, 2016, EDG 1 was declared inoperable in support of modifications, maintenance activities, and testing. Emergency bus E1 and balance-of-plant (BOP) bus 1D were de-energized in support of this work. Because of the shared electrical distribution system at the Brunswick plant, Unit 2 entered TS 3.8.1, Condition B (i.e., two Unit 1 offsite circuits inoperable because one Unit 1 BOP circuit path to the downstream 4.16-kV emergency bus was inoperable for planned maintenance, and the EDG associated with the affected downstream 4.16-kV emergency bus was inoperable for planned maintenance). The completion time to restore both Unit 1 offsite circuits and the EDG to operable status was 7 days. On March 3, 2016, work was ongoing to restore power to BOP bus 1D when an error in the restoration sequence resulted in an invalid auto-start of EDGs 2 and 4. The invalid signal mimicked undervoltage on the startup auxiliary transformer, which is not a TS

required start and, per design, would have started EDGs 1, 2, 3, and 4. Duke Energy later determined that a fuse block connection on the auto-start circuitry for EDG 3 had failed. Failure of this connection prevented the TS-required auto-actuation of EDG 3. Therefore, EDG 3 was declared inoperable. Unit 2 entered TS 3.8.1, Condition I. TS Required Action I.1 directed the licensee to immediately enter into TS LCO 3.0.3, and within 1 hour, place Unit 2 in Mode 2 within 7 hours (i.e., by March 4, 2016, at 7:35 p.m. EST), Mode 3 within 13 hours, and Mode 4 within 37 hours. Duke Energy requested enforcement discretion to extend the time required to be in Mode 2 by an additional 17 hours and that subsequent Mode 3 and Mode 4 entries be extended by 17 hours as well. This was to ensure adequate time for testing and an orderly and controlled return of EDG 3 to operable status. Based on its review, the NRC exercised discretion to not enforce compliance with the completion times associated with the TS required actions, and Unit 2 entry into Mode 2 was extended by 17 hours, as were the subsequent mode changes required by TS LCO 3.0.3.

- NOED 16-2-01: The NRC verbally granted enforcement discretion on October 14, 2016, to TVA to not enforce compliance with the actions required in Watts Bar Nuclear Plant (WBN), Units 1 and 2, TS 3.8.1, “AC Sources—Operating,” Required Action B.4. When one or more EDGs in either Train A or Train B are inoperable, TS 3.8.1, LCO Required Action B.4, directs restoration of the affected EDG to operable status within 72 hours, or else placement of the unit in operational Mode 3 (Hot Standby) within the next 6 hours, and then operational Mode 5 (Cold Shutdown) within the next 36 hours. On October 12, 2016, the operations staff declared the 1A-A EDG inoperable when the output breaker to the 1A shutdown board opened unexpectedly because of phase overcurrent during performance of the load test required by procedure 0-SI-82-13, “24 Hour Load Run—DG 1A-A.” TVA reported that the 1A-A EDG was operating normally before the opening of the breaker. The licensee’s initial assessment determined the likely cause of the breaker trip to be operation of the tap changer associated with the offsite power supply transformer. During a subsequent 24-hour EDG load test on October 13, 2016, the operations staff noted megavolt amps (reactive) (MVAR) swings, and subsequent troubleshooting activities determined that the MVAR variance could be consistently reproduced by slight movement of a potentiometer on the 1A-A EDG voltage regulator. TVA determined that an issue in the voltage regulation circuit was the most likely cause of the output breaker trip and prepared to replace and calibrate the voltage regulator on which the potentiometer was located. Although TVA acted to avoid the need for an NOED, more than 72 hours would be required to complete the replacement and postmaintenance testing. TVA requested enforcement discretion to allow WBN, Units 1 and 2, to remain in Mode 1, Power Operations, during the completion of activities necessary to return the 1A-A EDG to full operability. Based on its review of information from the licensee, including compensatory measures taken, the NRC granted enforcement discretion to WBN to extend the completion time for TS 3.8.1, Required Action B.4, to restore the 1A-A EDG to operable status from 72 hours to 202 hours. The additional period of 130 hours provided by the NOED expired on October 20, 2016.

### H. Withdrawn Actions

Licensees can challenge enforcement actions for several reasons; for example, a licensee might dispute the requirements, the facts of the case, the agency's application of the Enforcement Policy, or the significance of the violation. Licensees may provide clarifying information that was not available at the time of the inspection, and this may affect a finding of noncompliance.

OE has established a metric for quality of enforcement actions based on the number of disputed and withdrawn enforcement actions. The goal is fewer than four withdrawn enforcement actions in a CY per region. This metric does not include violations that are withdrawn on the basis of supplemental information that was not available to an inspector before the assessment of an enforcement sanction.

In CY 2016, the NRC issued approximately 800 nonescalated enforcement actions to operating reactor, nuclear materials user, fuel cycle facility, and new reactor licensees. This number is generally consistent with the trend in the number of nonescalated enforcement actions issued annually in the past 3 years. Of these actions, 11 nonescalated enforcement actions were disputed. This number is generally consistent with the average number of actions disputed between CY 2012 and CY 2016. In CY 2016, the NRC withdrew only two nonescalated actions. In both cases, the agency withdrew the actions after it had received additional information that was not available to the staff before the original action. The two actions are also on par with the number of actions withdrawn each year between CY 2012 and 2016. As a result, the NRC met the goal for disputed violations in CY 2016, which indicates that NOVs and other nonescalated enforcement actions were prepared properly and accurately.

In CY 2016, the agency issued 89 escalated enforcement actions, and only one SL III NOV was disputed. The agency did not withdraw the disputed NOV.

### III. Ongoing Activities

#### A. Enforcement Policy

##### 1. Enforcement Policy Revisions

The NRC Enforcement Policy (Policy) is periodically revised to reflect Congressional mandates, regulatory changes, operating experience, and stakeholder input.

- On August 1, 2016, the NRC published a revision to the Policy to change the maximum civil penalties it may propose to licensees. The change was prompted by the passage of the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 on November 2, 2015, and resulted in the doubling of the previous maximum civil penalties the NRC can assess under statutes enforced by the agency.
- On September 21, 2016, the Commission approved the staff's proposed revision to the Policy (SECY-15-0163), with edits, as well as the publication of a draft *Federal Register* notice to announce the revision. The approved revision to the Policy became effective on November 1, 2016, and is available in ADAMS (ML16271A446).

More substantive proposed revisions to the Policy included:

- a rewrite of Section 6.13, "Information Security," to incorporate a more risk-informed approach for assessing the significance of information security violations
- the implementation of the cROP
- miscellaneous modifications to: (1) Section 7.0, "Glossary," (2) Section 6.0, "Violation Examples," and (3) Section 2.3.4, "Civil Penalty"

##### 2. Enforcement Guidance Memoranda

OE issues EGMs to provide guidance on the interpretation of specific provisions of the Enforcement Policy. During CY 2016, the office issued one revision to an EGM, summarized below. The full text of all publicly-available EGMs (Appendix A to the Enforcement Manual) are on the NRC's public Web site <https://www.nrc.gov/reading-rm/basic-ref/enf-man/app-a.html>.

- On January 15, 2016, the staff issued Revision 3 to EGM 11-003, "Dispositioning Boiling Water Reactor Licensee Non-Compliance with Technical Specification Containment Requirements during Operations with a Potential for Draining the Reactor Vessel." This EGM includes immediate actions criteria for operations with a potential for draining the reactor vessel (OPDRV) activities and specifies a draindown time that will allow most routine activities to take place. The EGM further clarifies the staff's intent to ensure that water-level monitoring detects a draining event with sufficient time to meet containment closure criteria during

## Enforcement Program Annual Report

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OPDRV activities, thereby providing continuing reasonable assurance of safe operations during OPDRV activities.

### **B. Knowledge Management and Improvement Initiatives**

In CY 2016, OE engaged in several knowledge management and continuous improvement activities. Some of the ongoing activities being conducted to maintain an adequate knowledge base include supporting training, completing reviews and self-assessments, developing internal office procedures, mentoring of new staff members by more experienced staff, and conducting counterpart meetings.

#### **1. Enforcement Counterpart Meeting**

The regional and headquarters enforcement staff held a combined counterpart meeting on November 15–17, 2016, to discuss ways to improve the enforcement process and enhance communications among staff. Representatives from the NRC’s Allegations Program, Office of General Counsel, and Office of Investigations also participated with the enforcement staff from NRC Headquarters and the regional offices. The meeting used a case study to discuss topics including intake and processing of allegations, wrongdoing investigations, and various aspects of the enforcement process. Presentations addressed potential changes to the dispositioning of drug and alcohol fitness-for-duty violations, revisions to the Enforcement Policy, revised Enforcement Manual guidance, and ways to increase consistency with the Enforcement Program among the regions and program offices. The meeting resulted in action items to improve the Enforcement Program.

#### **2. Reviews and Assessments**

Every year, OE routinely performs one or two assessments of the implementation of the Enforcement Program within a regional or program office. The primary focus of these reviews is to ensure that the Enforcement Program is being consistently implemented in the agency. The assessments also provide an opportunity to share “best practices” between the regions and to enhance knowledge management for the enforcement process. The assessments typically focus on nonescalated enforcement actions and processes, which do not normally have significant NRC Headquarters involvement.

In CY 2016, OE did not perform an Enforcement Program assessment. OE considered limitations in available travel funds for a team of five or six members along with other cost-cutting efforts being implemented within the NRC through Project Aim, and concluded that deferring the planned program reviews for 2016 would make the best use of agency resources at this time.

In CY 2017, OE is considering conducting an Enforcement Program assessment of a headquarters program office in addition to regional offices. Program modifications, if necessary, will be incorporated during these future assessments.



### **3. Organizational Enhancements**

In June 2016, OE established the position of senior enforcement advisor to provide a focal point within the office for knowledge management, staff development, training, and other program enhancements. The incumbent reports directly to, and advises, the Office Director and Deputy Director on these matters as well as on the more complex cases to ensure consistent application of the Policy in potentially precedent-setting cases. During the recent counterpart meeting, the senior enforcement advisor developed a case study in concert with the Office of the General Counsel and the Agency Allegations Advisor to enhance the training experience for meeting participants on topics related to the enforcement process. This new approach was well received by those in attendance.

### **4. Continuous Improvement and Staff Development Initiatives**

Other continuous improvement and staff development activities included the following:

- OE began a major initiative to create an electronic files and retrieval system within the Office's SharePoint site to capture documents associated with precedent-setting enforcement cases and Policy changes. The system will leverage the full capabilities of ADAMS and SharePoint to make it easier for staff members to search and retrieve enforcement-related documents that have shaped the NRC's enforcement policy throughout its history.
- An NRC Headquarters enforcement specialist participated in a 6-week rotational assignment to Region IV to gain valuable field experience within a regional office and operating nuclear power plants. Much of the rotational assignment involved time at the South Texas Project and Comanche Peak nuclear power plants where the enforcement specialist participated in several plant walkdowns and inspections with the resident inspectors.
- OE filled two vacant enforcement specialist positions with two former senior resident and regional inspectors from Region II and Region III. These two recent hires have greatly increased the depth and diversity of knowledge and experience of the enforcement staff and will add a fresh perspective within the office.

### **C. Regional Accomplishments**

In CY 2016, the regional offices conducted periodic self-assessments of the enforcement program to ensure effective performance and to identify opportunities for continuous improvement. The self-assessments encompassed both the reactor and materials arenas, considered performance associated with the development and issuance of both nonescalated and escalated enforcement actions, and included activities that required a high degree of coordination with other NRC stakeholders.

Overall, the self-assessments showed that the regions were effectively implementing the Enforcement Program. For any weaknesses identified, the assessments recommended improvements.

In addition to assessments, the enforcement staff (1) trained regional technical staff on the revised Enforcement Policy, recent EGM, and proper enforcement documentation

## Enforcement Program Annual Report

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requirements for inspectors and (2) participated on inspector qualification review boards as necessary.

### **D. Calendar Year 2017 Focus Areas**

During CY 2017, OE plans to address several focus areas including:

- OE is considering a revision to the Enforcement Policy, which could include changes to how the staff dispositions drug and alcohol fitness-for-duty violations.
- The office may consider new and revised interim enforcement policies and EGM.
- OE will address action items identified during the 2015 and 2016 Enforcement Counterpart Meetings.
- OE will continue to support agency efforts to modify procedures and conduct training to enhance the predictability of screening very low safety significance findings.
- The focus on case timeliness will continue, particularly cases involving complex technical or regulatory issues that may challenge timeliness metrics. Increasing management attention will focus on timelier decisionmaking, particularly in complex cases.
- Enforcement staff across the agency will continue to develop through training and enhanced internal procedures.
- OE will focus on consistency as part of regional and program office assessments to identify the need for improved guidance.
- In cooperation with OGC, OI and OCIO, continue to support an OI initiative to develop a means to distribute OI reports and exhibits in an electronic format rather than through paper copies.
- Explore options to enhance the reporting capability of nonescalated enforcement information stored in WBL.

## Appendix A—Summary of Cases Involving Civil Penalties\*

### Civil Penalties Issued to Operating Reactor Licensees

Tennessee Valley Authority  
Browns Ferry Nuclear Plant

EA-16-064

On November 28, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued a Notice of Violation and Proposed Imposition of Civil Penalty (NOV/CP) in the amount of \$140,000 to Tennessee Valley Authority (TVA) for a Severity Level (SL) III violation of NRC requirements. The violation involved the failure to conduct compensatory fire watches as required by corporate procedures and Title 10 of the *Code of Federal Regulations* (10 CFR) 50.48, "Fire Protection." Specifically, on multiple occasions in May 2015, hourly fire watches required as compensatory measures for fire protection equipment that was out of service in the Unit 3 Diesel Building and Unit 3 4kV Shutdown Board Room were not performed.

### Civil Penalties Issued to Materials Licensees

Megan, LLC  
Bridgeport, CT

EA-15-184

On January 25, 2016, the NRC issued an NOV/CP in the amount of \$3,500 to Megan, LLC, for an SL III violation of NRC regulations. The violation involved a failure to use two independent controls to secure a portable gauge from unauthorized removal whenever the gauge was not under licensee control or constant surveillance as required by 10 CFR 30.34(i). Specifically, on August 12, 2015, Megan, LLC, kept a gauge in a locked trunk of the car with the locked transportation case secured to the vehicle. The vehicle was unlocked, allowing access to a mechanism that could be used to open the trunk of the vehicle. The gauge user was in a trailer at the temporary jobsite and was not keeping the gauge under control and constant surveillance.

Plus, LLC  
Stamford, CT

EA-13-190

On May 3, 2016, the NRC issued an NOV/CP in the amount of \$42,000 to Plus, LLC, for three willful SL III violations. The violations involved (1) the distribution of material to unlicensed persons without an NRC license to distribute in accordance with 10 CFR 32.14, "Certain Items Containing Byproduct Material; Requirements for License to Apply or Initially Transfer," (2) the possession of material before obtaining an NRC license pursuant to 10 CFR 30.3, "Activities Requiring License," and (3) importing byproduct material into the United States without first obtaining a general or specific license in accordance with 10 CFR Part 110, "Export and Import of Nuclear Equipment and Material." Specifically, between February 23, 2013, and February 2015, Plus initially transferred for sale or distribution approximately 1,827 tritium watches containing byproduct material to unlicensed persons without obtaining a specific license pursuant to 10 CFR 32.14 authorizing such

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\* Cases involving security-related issues are not included.

## Enforcement Program Annual Report

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transfers. Between February 23, 2013, and September 7, 2014, and from January 26, 2015, to April 23, 2015, Plus possessed approximately 1,717 watches containing tritium, without having the required NRC license. Between February 23, 2013, and September 7, 2014, the company imported into the United States approximately 1,942 watches manufactured in Switzerland, without having a possession license or a specific import license from the NRC.

Novelis Corporation  
Fairmont, WV

EA-15-213

On May 13, 2016, the NRC issued an NOV/CP in the amount of \$7,000 to Novelis Corporation for an SL III violation. The violation involved the deliberate repairs of a nuclear gauge that were not permitted under the terms of Novelis' NRC license. Specifically, on September 12, 2014, the licensee replaced a pneumatic cylinder that controls the position of the shutter, and on September 13, 2014, the licensee adjusted the shutter control mechanism of a nuclear gauge. These repairs were specifically prohibited by conditions of its license.

Acuren USA  
Anchorage, AK

EA-15-173  
EA-14-062

On July 7, 2016, the NRC issued an NOV/CP in the amount of \$7,000 to Acuren USA for violations associated with two SL III problems. The first problem identified violations of 10 CFR 34.51, "Surveillance," and 10 CFR 34.53, "Posting," involving the failure to keep the radiation restricted area perimeter and high-radiation area under constant surveillance during radiographic operations and the failure to post the area with the signs required in 10 CFR 20.1902, "Posting Requirements." The second problem involved four violations of NRC requirements associated with a common root cause:

- (1) 10 CFR 20.1301(b)(1) by failing to demonstrate that the total effective dose equivalent to the member of the public likely to receive the highest dose does not exceed the annual dose limit in 10 CFR 20.1301, "Dose Limits for Individual Members of the Public"
- (2) 10 CFR 34.43(e) by failing to conduct an inspection program of the job performance of radiographers
- (3) 10 CFR 20.1101(c) by failing to periodically (at least annually) review the content and implementation of the radiation protection program
- (4) 10 CFR 34.43(d) by failing to provide annual refresher training for each radiographer at intervals not to exceed 12 months

Specifically, on April 10, 2014, radiographic operations were performed inside the shop at the licensee's Kenai, AK, facility without maintaining constant surveillance of or posting the radiation-restricted area and high-radiation area outside of the shop. Further, at both the Kenai and Anchorage locations, the licensee had not made the measurements or calculations required to demonstrate that the total effective dose to the public did not exceed the annual dose limit. Finally, the licensee failed to conduct radiation program reviews from February 2012 through May 2014, and did not provide annual refresher safety training for two radiographers between December 2012 and April 2014.

Patriot Engineering and Environmental, Inc.  
Indianapolis, IN

EA-16-075

On July 12, 2016, the NRC issued an NOV/CP in the amount of \$3,500 to Patriot Engineering and Environmental, Inc., for an SL III violation of 10 CFR 20.1802, "Control of Material Not in Storage," and 10 CFR 30.34(i). The violation involved the failure to secure licensed material from unauthorized removal or access, with a minimum of two independent physical controls that form tangible barriers, while the portable gauge was not in storage and not under the control and constant surveillance of the licensee. Specifically, an authorized user left a gauge unattended and unsecured, and the gauge was run over.

Tetra Tech EC, Inc.  
Morris Plains, NJ

EA-15-230

On July 28, 2016, the NRC issued an NOV/CP in the amount of \$7,000 to Tetra Tech EC, Inc., for an SL III violation. The violation involved a deliberate failure to obtain soil sample surveys in accordance with 10 CFR 20.1501(a) by employees of Tetra Tech at the U.S. Navy's Hunters Point Naval Shipyard site in San Francisco, CA. Specifically, on several occasions between November 18, 2011, and June 4, 2012, when obtaining soil samples to ascertain the amount of residual radioactivity in specific locations within Parcel C at the site, Tetra Tech employees deliberately obtained soil samples from other areas that were suspected to be less contaminated and represented that the samples had been obtained from within the specified locations.

Applied Technical Services, Inc.  
Chesapeake, VA

EA-16-046

On July 28, 2016, the NRC issued an NOV/CP in the amount of \$7,000 to Applied Technical Services, Inc. (ATS), for an SL III problem for three related violations. The violations involved the following:

- (1) a failure to conduct a survey of the camera guide tube after taking an image of a pipe weld in accordance with 10 CFR 34.49, "Radiation Surveys"
- (2) a deliberate failure to post an area where industrial radiography was being performed with conspicuous radiation or high-radiation signs that established a radiological boundary as required by 10 CFR 34.53 and 10 CFR 20.1902
- (3) a failure to comply with a condition on the ATS license from the State of Georgia to ensure continuous direct visual surveillance of the operation to protect against unauthorized entry into a radiation area, as required by 10 CFR 150.20(b)(5)

Specifically, on October 20, 2015, while conducting industrial radiography at the National Aeronautics Space Administration Langley Research Center in Hampton, VA, after completing an exposure of a pipe weld, a radiographer approached the camera and the guide tube without a survey meter and did not conduct a survey of the camera to ensure that the source had been retracted. The radiographer did not post accessible portions of the radiation area with radiation or high-radiation signs, and the radiographer did not comply with provisions of the State of Georgia license to ensure continuous direct visual surveillance of the operation to protect against unauthorized entry into a radiation area or

## **Enforcement Program Annual Report**

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high-radiation area. As a result, an NRC inspector was allowed to walk unnoticed and unimpeded into the radiation area during radiographic operations.

International Cyclotron, Inc.  
San Juan, PR

EA-16-055

On August 30, 2016, the NRC issued an NOV/CP in the amount of \$14,000 to International Cyclotron, Inc., for an SL III violation of NRC requirements. The violation involved International Cyclotron's failure to begin and complete decommissioning of its site in accordance with 10 CFR 30.36, "Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas." Specifically, on March 22, 2014, International Cyclotron notified the NRC that no principal activities under the license had been conducted for a period of 24 months, and decommissioning would begin as soon as possible, before April 18, 2014. As of August 30, 2016, International Cyclotron had neither begun decommissioning nor submitted a decommissioning plan and had not completed the decommissioning of its site.

EMSI Engineering, Inc.  
Manassas, VA

EA-16-138

On December 15, 2016, the NRC issued an NOV/CP in the amount of \$14,000 to EMSI Engineering, Inc., for an SL III violation of NRC requirements. The violation involved the failure to file NRC Form 241, "Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters," at least 3 days before engaging in licensed activities within NRC jurisdiction, as required by 10 CFR 150.20, "Recognition of Agreement State Licenses." Specifically, between April 9, 2009, and November 18, 2015, EMSI, a licensee of the Commonwealth of Virginia, used byproduct material within NRC jurisdiction on numerous occasions without filing the required documentation with the NRC.

### **Civil Penalties Issued to Fuel Cycle Facility Licensees**

None

### **Civil Penalties Issued to New Reactor Licensees**

None

### **Civil Penalties Issued to Decommissioning and Low-Level Waste Licensees**

None

## Appendix B—Summary of Escalated Notices of Violation without Civil Penalties\*

### Notices of Violation Issued to Operating Reactor Licensees

Wolf Creek Nuclear Operating Corporation  
Wolf Creek Generating Station

EA-15-170

On January 27, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued a Notice of Violation (NOV) to Wolf Creek Nuclear Operating Corporation for violations of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.9, “Completeness and Accuracy of Information,” and 10 CFR 55.25, “Incapacitation Because of Disability or Illness.” Specifically, from June 30, 2006, to July 9, 2015, the licensee failed to report a permanent disability of an NRC-licensed operator. Additionally, on January 10, 2010, the licensee submitted an NRC-licensed operator application that certified the medical fitness of the applicant without a necessary restricting license condition. Based in part on the inaccurate information, the NRC issued the applicant a renewed operator license without the required restricting license condition on February 25, 2010. The two violations represented a Severity Level (SL) III problem.

Entergy Nuclear Operations, Inc.  
Pilgrim Nuclear Power Station

EA-15-247

On April 11, 2016, the NRC issued an NOV to Entergy Nuclear Operations, Inc., for an SL III problem involving two related violations of NRC requirements. The first violation involved the failure to conduct compensatory fire watches as required by Pilgrim Nuclear Power Station’s corporate procedures and 10 CFR 50.48, “Fire Protection.” Specifically, on multiple occasions between June 1, 2012, and June 26, 2014, fire watch personnel failed to examine the areas involved in the hourly fire watch postings for evidence of fire or conditions that may lead to a fire. The second violation involved the failure to maintain complete and accurate records as required by 10 CFR 50.9(a). Specifically, on multiple occasions during the same timeframe, log sheets for hourly fire watches were falsified when an individual initialed that fire watches were completed when, in fact, these fire watches had not been performed.

Exelon Generation Company, LLC  
Oyster Creek Nuclear Generating Station

EA-16-057

On July 6, 2016, the NRC issued an NOV with a white significance determination process (SDP) finding to Exelon Nuclear for a violation of 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities,” Appendix B, “Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” Criterion V, “Instructions, Procedures, and Drawings,” and Technical Specification 3.7.C.2, for failing to appropriately prescribe an activity affecting quality, in documented instructions, associated with maintenance of the Oyster Creek Nuclear Generating Station emergency diesel generators (EDGs).

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\* Cases involving security-related issues are not included.

## Enforcement Program Annual Report

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Specifically, since 2002, Exelon did not have appropriate work instructions to replace the EDG cooling flexible hose every 12 years as specified by Exelon's procedure and vendor information. As a result, a flexible coupling hose remained in service for approximately 22 years and was subject to thermal degradation and aging that eventually led to the failure of EDG 1 during a surveillance test on January 4, 2016. In addition, based on analysis of the hose failure and review of past operability, the NRC determined that EDG 1 was inoperable for a period longer than the outage time of 7 days allowed by its technical specification.

Exelon Generation Company, LLC  
R.E. Ginna Nuclear Power Plant

EA 16-128

On September 20, 2016, the NRC issued an NOV with a white SDP finding to Exelon Generation Company, LLC, for a violation identified during an inspection of the R.E. Ginna Nuclear Power Plant. The finding involves an inadvertent change Exelon made that introduced an error to the Ginna Emergency Plan. Specifically, Exelon implemented a revision to the emergency action level (EAL) table for the fission product barrier matrix that was incorrect with respect to the EAL threshold associated with a potential loss of containment barrier. This could have resulted in an untimely declaration of a General Emergency or a failure to declare a Site Area Emergency during an actual event. The NOV is based on Exelon's failure to meet 10 CFR 50.54(q)(2), which requires licensees to follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50 and, for nuclear power reactor licensees, the planning standards of 10 CFR 50.47(b).

Florida Power & Light Company  
Turkey Point Nuclear Plant

EA-16-099

On October 10, 2016, the NRC issued an NOV to Florida Power & Light for an SL III violation involving Turkey Point Nuclear Plant's failure to maintain complete and accurate records as required by 10 CFR 50.9(a). Specifically, on multiple occasions between November 2014 and April 2015, Fire Watch Shift Supervisors initialed and signed hourly fire watch logs indicating that hourly fire watches had been completed, with all required areas checked, when on multiple occasions some areas had not been checked or hourly fire watches had not been performed.

Southern Nuclear Operating Company, Inc.  
Edwin I. Hatch Nuclear Plant

EA-16-163

On October 19, 2016, the NRC issued an SL III NOV to Southern Nuclear Operating Company, Inc., for a violation of 10 CFR 50.9. This violation involved the licensee's failure to provide information to the Commission that was complete and accurate in all material respects. The issue was the result of the mismanagement of information by Edwin I. Hatch Nuclear Plant personnel which resulted in losing track of the type of configuration that had been implemented to deal with intergranular stress-corrosion cracking in 1988. The NRC used this inaccurate information to approve the plant's proposed alternative to the American Society of Mechanical Engineers (ASME) Code and deferral of nondestructive examinations required by the ASME Code.



Northern States Power Company  
Monticello Nuclear Generating Plant

EA-16-175

On December 12, 2016, the NRC issued an NOV associated with a white SDP finding to Northern States Power Company (the licensee) for a violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," involving the Monticello Nuclear Generating Plant's failure to correct oil leakage from the safety-related high-pressure coolant injection system, a condition adverse to quality, in accordance with relevant written documents. Specifically, between March 14, 2006 and March 21, 2016, the licensee initiated a number of work orders and subsequently closed them without any further work performed to correct the conditions adverse to quality, which resulted in gradual degradation and loss of the high-pressure coolant injection system's safety function.

Pacific Gas and Electric Company  
Diablo Canyon Power Plant

EA-16-168

On December 28, 2016, the NRC issued an NOV associated with a white SDP finding to Pacific Gas and Electric Company (the licensee) for a violation involving the licensee's failure to develop adequate instructions for the installation of external limit switches on safety-related motor-operated valves, as required by Technical Specification 5.4.1.a, "Procedures," at the Diablo Canyon Power Plant. Specifically, Procedure MP E-53.10R, "Augmented Stem Lubrication for Limitorque Operated Valves," Revision 4, which is used to perform maintenance on safety-related equipment, failed to provide instructions to establish and check that the travel of external switches installed on motor-operated valves is within vendor-established criteria. Consequently, the limit switch for valve RHR-2-8700B was installed in a way that allowed it to operate repeatedly beyond over-travel tolerances resulting in its failure on May 16, 2016. Additionally, the licensee also violated Technical Specification 3.5.2 because train B of the emergency core cooling system was determined to be inoperable for longer than the outage time of 14 days allowed by the technical specification.

### **Notices of Violation Issued to Materials Licensees**

Ferrovia Agroman, S.A.  
San Juan, PR

EA-15-205

On February 1, 2016, the NRC issued an NOV to Ferrovia Agroman, S.A., for an SL III violation. The violation involved a failure to control and maintain constant surveillance or failure to use two independent physical controls that form tangible barriers to secure a portable gauge from unauthorized removal as required by 10 CFR 20.1802 and 10 CFR 30.34(i). Specifically, on April 28, 2015, a gauge containing licensed material was left unattended and uncontrolled in the back of a pickup truck at a temporary jobsite and was secured to the truck with two independent controls. However, the keys to both the vehicle and the gauge locks were left in the unlocked truck, which was stolen from the jobsite.

Whitworth-Muench, Inc.  
Sikeston, MO

EA-15-190

On February 2, 2016, the NRC issued an NOV to Whitworth-Muench, Inc., for an SL III violation. The violation involved the failure to use a minimum of two independent physical

## Enforcement Program Annual Report

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controls that form tangible barriers to secure portable gauges from unauthorized removal when the portable gauges are not under the control and constant surveillance of the licensee as required by 10 CFR 30.34(i). Specifically, from approximately July 18 to August 18, 2015, a locked pantry door provided the single physical barrier against unauthorized removal of the licensee's portable gauges.

Materials Testing Consultants, Inc.  
Grand Rapids, MI

EA-15-221

On February 19, 2016, the NRC issued an NOV to Materials Testing Consultants, Inc., for an SL III violation. The violation involved the failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal when the portable gauges are not under the control and constant surveillance of the licensee as required by 10 CFR 30.34(i). Specifically, on August 5, 2015, the licensee stored portable gauges with only a single physical barrier during business hours, and the gauges were not under the control and constant surveillance of the licensee.

Pacific Soils Engineering and Testing, Inc.  
Barrigada, GU

EA-15-188

On March 10, 2016, the NRC issued an NOV to Pacific Soils Engineering and Testing, Inc., for an SL III violation involving failure to use a minimum of two independent physical controls that form tangible barriers to secure a portable gauge from unauthorized removal when the gauge is not under the control and constant surveillance of the licensee. Specifically, on June 24, 2015, the licensee stored a portable gauge without the two independent physical controls present when the gauge was not under the licensee's direct control and constant surveillance.

Weaver Consultants Group  
Grand Rapids, MI

EA-16-035

On May 10, 2016, the NRC issued an NOV to Weaver Consultants Group for an SL III violation of both 10 CFR 20.1801, "Security of Stored Material," and 10 CFR 30.34(i). The violation involved the failure to secure licensed material from unauthorized removal or access with a minimum of two independent physical controls that form tangible barriers, while the portable gauge was stored in a controlled or unrestricted area and not under the control and constant surveillance of the licensee. Specifically, an authorized user left a gauge unattended and unsecured behind his vehicle while searching for additional forms. He later backed up the vehicle and struck the gauge.

FMC & Associates, LLC  
Washington, DC

EA-16-054

On May 17, 2016, the NRC issued an NOV to FMC & Associates, LLC, for an SL III problem for eight related violations. The first violation involved a failure to use a minimum of two independent physical controls that form tangible barriers to secure a portable gauge from unauthorized removal in accordance with 10 CFR 30.34(i). Specifically, between November 1, 2014, and May 6, 2015, a portable gauge was stored in the trunk of a personal vehicle at a jobsite, and the gauge was secured with only one tangible barrier (locked vehicle trunk) to prevent unauthorized removal when it was not under control and constant surveillance. The seven other violations involved the failure to (1) confine possession of

byproduct material to the activity limit authorized on the NRC license, (2) perform physical inventories of radioactive sources/devices every 6 months, (3) perform annual radiation protection program reviews, (4) provide annual refresher training to authorized gauge users, (5) review and maintain occupational exposure records, (6) provide proper package labeling of transport gauges, and (7) include required information on shipping papers during transportation of gauges.

Wayne County Well Surveys, Inc.  
Wayne County, IL

EA-16-031

On May 19, 2016, the NRC issued an NOV to Wayne County Well Surveys, Inc., for an SL III violation. The violation involved the failure to file, at least 3 days before engaging in the activity for the first time in a calendar year, a submittal containing NRC Form 241, "Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters," a copy of the Agreement State specific license, and the appropriate fee as required by 10 CFR 150.20. On several occasions between January 18, 2013, and October 16, 2015, the Agreement State licensee possessed and used licensed materials at temporary jobsites in Indiana, a non-Agreement State, without first filing the required documentation with the NRC.

Curtiss-Wright Corporation  
Charlotte, NC

EA-16-078

On May 20, 2016, the NRC issued an NOV to the Curtiss-Wright Corporation for an SL III violation. The violation involved the failure to file an application and receive a specific license before exporting nuclear equipment to China. Specifically, on September 4, 2013, Curtiss-Wright exported four nozzle dams with the associated nozzle dam control console and installation tools to China, for ultimate use at the Changjiang Nuclear Power Plant. This export was not authorized by a general or specific license issued under 10 CFR Part 110, "Export and Import of Nuclear Equipment and Material." The NRC's general license under 10 CFR 110.26, "General License for the Export of Nuclear Reactor Components," does not authorize the export of nuclear reactor components to China, and Curtiss-Wright failed to obtain a specific license before shipping the nozzle dam equipment.

Thielsch Engineering, Inc.  
Cranston, RI

EA-16-045

On June 1, 2016, the NRC issued an NOV to Thielsch Engineering, Inc., for an SL III problem for two related violations. The violations involved a failure to control and maintain constant surveillance or failure to use two independent physical controls that form tangible barriers to secure a portable gauge from unauthorized removal as required by 10 CFR 20.1802 and 10 CFR 30.34(i) and a failure to have a lock on a portable gauge or have the gauge contained in an outer locked container in accordance with the company's NRC license condition. Specifically, on January 20, 2016, a portable gauge was left unattended and uncontrolled at a U.S. naval base jobsite, and the gauge was not secured with any physical controls that form tangible barriers to secure it from unauthorized removal. The unattended gauge was not under the direct surveillance of the authorized user, and the gauge did not have a lock and was not kept inside a locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position.

## Enforcement Program Annual Report

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Montana State University  
Bozeman, MT

EA-15-165

On June 24, 2016, the NRC issued an NOV to Montana State University for four violations of NRC requirements, collectively characterized as an SL III problem. The violations involved the following:

- (1) failure to control and maintain constant surveillance of licensed material as required by 10 CFR 20.1802
- (2) failure to test for leakage and/or contamination of sealed sources in accordance with License Condition 14.A
- (3) failure to conduct a physical inventory of sealed sources in accordance with License Condition 25
- (4) failure to maintain complete and accurate information with regard to leak test and inventory documentation as required by 10 CFR 30.9(a) and by License Conditions 14.F and 25 of NRC License No. 25-00326-06

Specifically, between approximately 2008 and 2014, Montana State University lost two Varian/Agilent gas chromatographs containing approximately 13.73 millicuries of nickel-63 and did not conduct physical inventories or testing for leakage and/or contamination at the specified intervals. Additionally, licensee records indicated that two nickel-63 sealed sources had been leak tested and physically accounted for, when in fact, the licensee did not possess the sources at the time the leak tests and inventories were documented as having been performed.

7NT Enterprises, LLC  
Dayton, OH

EA-16-098

On July 1, 2016, the NRC issued an NOV to 7NT Enterprises, LLC, for an SL III violation. The violation involved the failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal when the portable gauges are not under the control and constant surveillance of the licensee as required by 10 CFR 30.34(i). Specifically, on multiple occasions, and most recently on March 22, 2016, the licensee stored portable gauges with only a single physical barrier, and the gauges were not under the control and constant surveillance of the licensee.

Medstar Washington Hospital Center  
Washington, DC

EA-16-109

On July 19, 2016, the NRC issued an NOV to Medstar Washington Hospital Center for an SL III violation. The violation involved a failure to transfer licensed material to an authorized recipient in accordance with 10 CFR 20.2001(a)(1). Specifically, on May 15, 2015, the hospital center transferred radioactive waste containing iodine-131 to Stericycle, Inc., in Curtis Bay, MD, a waste processing company that was not authorized to receive the radioactive waste.

QHG of Indiana, Inc.  
Fort Wayne, IN

EA-16-074

On July 23, 2016, the NRC issued an NOV to QHG of Indiana, Inc., for an SL III violation involving the failure to develop, implement, and maintain written procedures to provide high confidence that each administration is in accordance with the written directive as required by 10 CFR 35.41(a). Specifically, on January 7, 2016, during two separate medical administrations, the licensee used an instrument that was not capable of measuring with high confidence the amount of yttrium-90 remaining in the equipment used to deliver the dose. Therefore, the licensee could not determine that the two administrations were in accordance with the written directive. The licensee's procedures did not specify the instrumentation needed to provide high confidence that the administration would be performed in accordance with the written directive.

City of Muskegon  
Muskegon, MI

EA-16-100

On August 8, 2016, the NRC issued an NOV to the City of Muskegon, MI, for an SL III violation. The violation involved the failure to have the individual specifically named on the license fulfill the duties of the radiation safety officer (RSO) as required by NRC License Condition 12. Specifically, on April 18, 2014, the individual listed as RSO on the license was no longer employed by the city and could not fulfill the duties and responsibilities of the RSO.

Consumers Energy  
Jackson, MI

EA-16-115

On September 14, 2016, the NRC issued an NOV to Consumers Energy for an SL III violation involving the failure of each individual who acts as a radiographer or a radiographer's assistant to wear a direct reading dosimeter, an operating alarm rate meter, and a personnel dosimeter at all times during radiographic operations as required by 10 CFR 34.47(a). Specifically, on April 7, 2016, the individuals wore a single device to perform the functions of both a direct reading dosimeter and an alarming rate meter simultaneously.

Ontonagon County Road Commission  
Ontonagon, MI

EA-16-135

On September 26, 2016, the NRC issued an NOV to the Ontonagon County Road Commission for an SL III violation. The violation involved the failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal when the portable gauges are not under the control and constant surveillance of the licensee as required by 10 CFR 30.34(i). Specifically, as of June 14, 2016, the licensee secured portable gauges with only a single physical barrier during business hours. The gauges were not under the control and constant surveillance of the licensee.

## Enforcement Program Annual Report

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IDEKER, Inc.  
St. Joseph, MO

EA-16-140

On September 27, 2016, the NRC issued an NOV to IDEKER, Inc., for an SL III violation. The violation involved the failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal when the portable gauges are not under the control and constant surveillance of the licensee as required by 10 CFR 30.34(i). Specifically, on several occasions, including May 31, 2016, the licensee secured portable gauges with only a single physical barrier. The gauges were not under the control and constant surveillance of the licensee.

Jenbo USA, LLC  
Fremont, CA

EA-16-097

On September 29, 2016, the NRC issued an NOV to Jenbo USA, LLC, for an SL III violation and an SL III problem for two related violations. The first violation involved a failure to submit annual reports detailing all transfers of byproduct material, in accordance with 10 CFR 32.16, "Certain Items Containing Byproduct Material: Records and Reports of Transfer." Specifically, between 2012 and 2016, Jenbo failed to file annual reports for transfers of byproduct material made in 2011, 2012, 2013, 2014, and 2015, on or before January 31 of the following year. The violations collectively characterized as an SL III problem involved a failure to obtain a license amendment to change the authorized location in License No. 04-23986-01E and for distribution of byproduct material from an unauthorized location. Specifically, in 2014, Jenbo distributed byproduct materials at 3672 Edison Way, Fremont, CA, which was not an authorized location in the specific license issued by the NRC, and did not obtain the required authorization to include this new location in its license.

CQM, Inc.  
Green Bay, WI

EA-16-154

On November 14, 2016, the NRC issued an NOV to CQM, Inc., for an SL III violation. The violation involved the failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal when the portable gauges are not under the control and constant surveillance of the licensee as required by 10 CFR 30.34(i). Specifically, on several occasions, including July 14 and 15, 2016, the licensee secured portable gauges with only a single physical barrier and did not provide control and constant surveillance.

Hartford Quality Assurance  
New Albany, IN

EA-16-172

On December 2, 2016, the NRC issued an NOV to Hartford Quality Assurance for an SL III violation involving the failure to ensure that each individual who acts as a radiographer or a radiographer's assistant wears a direct reading dosimeter, an operating alarm rate meter, and a personnel dosimeter at all times during radiographic operations as required by 10 CFR 34.47(a). Specifically, on June 17, 2016, an assistant radiographer failed to wear a direct reading dosimeter, an operating alarm rate meter, and a personnel dosimeter at all times during radiographic operations.

Lehigh Cement Company, LLC  
Mitchell, IN

EA-16-153

On December 7, 2016, the NRC issued an NOV to Lehigh Cement Company, LLC, for an SL III violation. The violation involved the failure to have the individual specifically named on the NRC license fulfill the duties of the RSO as required by License Condition 11. Specifically, the RSO left the company on November 13, 2014, and the licensee did not submit an amendment request to the NRC until March 7, 2016.

Romeo RIM  
Romeo, MI

EA-16-179

On December 15, 2016, the NRC issued an NOV to Romeo RIM for an SL III problem involving four violations. The first violation involved the failure to transfer or dispose of a device containing byproduct material by transfer to another general licensee as authorized in 10 CFR 31.5(c)(9), or to a person authorized to receive the device by a specific license as required by 10 CFR 31.5(c)(8)(i). Specifically, on May 24, 2016, the licensee transferred a generally licensed fixed gauge to two companies, and neither company was authorized to receive the gauge. The second violation involved the failure to ensure that the generally licensed device is tested for leakage of radioactive material and proper operation of the on/off mechanism at no longer than 6-month intervals or at such other intervals as are specified in the label, as required by 10 CFR 31.5(c)(2). Specifically, between June 1998 and July 8, 2016, the licensee failed to test the gauge for leakage and proper operation of the on/off mechanism. This period is longer than the 36-month frequency specified in the label. The third violation involved the failure to appoint an individual responsible for knowing the appropriate regulations and requirements and the authority for taking required actions to comply with appropriate regulations and requirements, as required by 10 CFR 31.5(c)(12). The last known responsible individual retired in 1991, and the licensee did not appoint another such individual until June 23, 2016. The effective date of this requirement was February 16, 2001. The fourth violation involved the failure to register the gauge as required by 10 CFR 31.5(c)(13)(i).

**Notices of Violation Issued to Fuel Cycle Facility Licensees**

CB&I AREVA MOX Services  
Aiken, SC

EA-16-010

On September 28, 2016, the NRC issued an NOV to CB&I AREVA MOX Services for an SL III problem involving violations associated with the quality assurance plan of the mixed-oxide fuel fabrication facility. Specifically, the violations involved (1) the failure to verify that the certificates of conformance identified MOX Services' specific procurement requirements for the ledgers and that the purchased ledgers met the requirements and (2) AREVA MOX Services' failure to provide objective evidence of the adequacy of manual welding performed by a vendor before procurement of the ledger assemblies.

**Notices of Violation Issued to New Reactor Licensees**

None

## **Enforcement Program Annual Report**

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### **Civil Penalties Issued to Decommissioning and Low-Level Waste Licensees**

None

### **Notices of Violation Issued to Individuals**

Appendix D discusses NOVs issued to individuals.



## Appendix C—Summary of Orders\*

### Orders Issued to Operating Reactor Licensees

Entergy Operations, Inc.  
Waterford Steam Electric Station, Unit 3

EA-15-100

On April 6, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued a confirmatory order (CO) to Entergy Nuclear Operations, Inc., to formalize commitments made as a result of an alternative dispute resolution (ADR) mediation session held on February 19, 2016. Entergy made the commitments as part of a settlement agreement between Entergy and the NRC regarding the deliberate violations of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.9, “Completeness and Accuracy of Information,” 10 CFR 50.48, “Fire Protection,” and 10 CFR 73.56(f)(3). The violations involved seven individuals at Waterford Steam Electric Station, Unit 3, who deliberately failed to conduct compensatory hourly fire watch inspections and falsified their fire watch tour logs, a licensee supervisor who deliberately failed to identify and take corrective actions when informed of the suspected wrongdoing by fire watch individuals, and a licensee manager who deliberately provided incomplete and inaccurate information to an access authorization reviewing official regarding the trustworthiness and reliability of a contract fire watch individual. Entergy agreed to corrective actions including, but not limited to, (1) conducting an Entergy Nuclear Fleet common causes evaluation and, if general industry insights are identified, sharing them at an industry forum, (2) revising or issuing fleetwide procedures to enhance Entergy’s management and oversight of supplemental workers, (3) providing the common requirements for fire watch programs, and (4) providing a process to address requests for the reinstatement of unescorted access authorization for workers whose authorization has been temporarily suspended. In consideration of the commitments outlined in the CO, the NRC agreed to not issue a civil penalty or a notice of violation (NOV).

Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant

EA-15-039

On May 16, 2016, the NRC issued a CO to Palisades Nuclear Plant to formalize commitments made as a result of an ADR mediation session. The agreement resolves the apparent violations identified during an investigation into a Palisades leaking safety injection refueling water tank (SIRWT). Palisades agreed to a corrective actions including, but not limited to, (1) ensuring site personnel understand lessons learned from this matter, (2) sharing lessons learned from this matter with other reactor licensees, (3) reviewing the applicable procedures in light of the lessons learned from events associated with leakage of the SIRWT and revising these procedures as appropriate, and (4) modifying its current program of public outreach at Palisades. In consideration of these commitments, the NRC has agreed to refrain from issuing a civil penalty or an NOV.

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\* Cases involving security-related issues are not included.

## **Enforcement Program Annual Report**

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FirstEnergy Nuclear Operating Co.  
Davis-Besse Nuclear Power Station

EA-16-022

On September 1, 2016, the NRC issued a CO to Davis-Besse Nuclear Power Station to formalize commitments made as a result of an ADR mediation session. The agreement resolves the case of a licensed operator who deliberately failed to comply with a condition of his license and failed to provide Davis-Besse with information that was complete and accurate in all material respects for the submittal of required updates on the operator's medical condition. Davis-Besse agreed to corrective actions including (1) a management discussion with each licensed operator about this event, (2) revisions to operator requalification training materials to incorporate facts and lessons learned from this event, (3) management communications regarding expectations and requirements for complete and accurate medical reporting to operations personnel subject to those requirements, (4) training to address the provisions of 10 CFR 50.9, (5) revisions to existing fleet procedures for licensed operator medical reports, (6) a presentation on the facts of this case at the Nuclear Medical Resources Professionals User Group, and (7) submission of an article to a widespread trade publication based on the facts and lessons learned from this event. In consideration of these commitments, the NRC agreed to refrain from issuing an NOV and will consider this order as an escalated enforcement action for a period of 1 year from its effective date.

Southern Nuclear Operating Company, Inc.  
Edwin I. Hatch Nuclear Plant

EA-16-163

On October 3, 2016, the NRC issued a CO to Southern Nuclear Operating Company, Inc. (SNC), confirming SNC's commitment to submit a license amendment request to transition Edwin I. Hatch Nuclear Plant, Units 1 and 2, to the National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants." SNC had originally planned to submit its application on October 4, 2016. However, the company requested more time to complete its fire probabilistic risk assessment model and to allow appropriate coordination and implementation of design modifications at Hatch Nuclear Plant. The NRC reviewed SNC's request and its justification for the delay and accepted the proposed new submittal date of April 4, 2018.

### **Orders Issued to Materials Licensees**

CampCo, Inc.  
Los Angeles, CA

EA-14-080

On June 20, 2016, the NRC issued a CO to CampCo, Inc., confirming commitments reached as a result of an ADR mediation session. The CO addresses violations identified in an NOV and proposed imposition of civil penalty (CP) issued on December 10, 2015, with four severity level (SL) III violations identified. The violations identified in the NOV include (1) distributing watches containing tritium (hydrogen-3) without first either getting NRC approval by amendment to CampCo's existing license or by obtaining a separate NRC exempt distribution license for these watches, (2) failing to submit timely required annual reports to the NRC, (3) failing to provide required information in the annual reports provided upon NRC request, and (4) failing to provide certificates with each lot of watches as required by the

CampCo license. CampCo agreed to complete actions that include but are not limited to the following:

- restore full compliance for all currently identified noncompliances
- develop written procedures to provide reasonable assurance of continued compliance
- provide initial and continuing training for CampCo staff
- engage an independent third party to conduct a program review and annual compliance audits for 2 years
- provide communications to watch manufacturers/assemblers, distributors, and consumers to raise awareness of the requirements and the importance of compliance, including an article submitted to an industry publication

In consideration of the commitments from CampCo, the NRC agreed to refrain from imposing a CP.

Plus, LLC  
Stamford, CT

EA-13-190

On August 8, 2016, the NRC issued an order imposing civil monetary penalty to Plus, LLC, in the amount of \$21,000. On May 3, 2016, the NRC issued an NOV/CP in the amount of \$42,000 to Plus, LLC, for three willful SL III violations. The violations involved Plus's failure to have NRC licenses to distribute, possess, and import byproduct materials. Plus requested mitigation of the significance of the violations and a reduction in the proposed CP amount because of its classification as a small entity. After considering the licensee's response, the NRC decided to retain the significance of the violations as stated in the NOV/CP and reduce the CP to \$21,000.

Power Resources, Inc.  
Casper, WY

EA-16-051

On September 30, 2016, the NRC issued a CO to Power Resources, Inc., confirming commitments reached as a result of an ADR mediation session. The ADR had addressed apparent violations identified through an investigation. The investigation found (1) a failure to comply with 10 CFR 20.1501, "General," requirements when the licensee did not ensure that a member of the health physics department performed a free-release contamination survey of equipment and (2) a deliberate failure by the operations supervisor to maintain complete and accurate records of contamination exit surveys, contrary to the requirements in 10 CFR 40.9, "Completeness and Accuracy of Information." Specifically, the operations supervisor filled out monitoring logs indicating that personnel contamination surveys were performed on two contractors when the surveys were not performed.

The licensee has agreed to complete the following actions: (1) conduct an annual meeting with licensee management and the licensee's radiation safety office representatives, to discuss performance and compliance indicators, health physics issues, and operational safety and (2) revise its initial and annual employee refresher training for employees

## **Enforcement Program Annual Report**

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involved in NRC-regulated activities to emphasize the importance of providing complete and accurate information to the NRC, individual accountability, and the possibility of individual enforcement actions for willful failure to comply with NRC requirements. In consideration of these and other commitments from the licensee, the NRC agreed to not pursue further enforcement action based on the apparent violations.

Tetra Tech EC, Inc.  
Morris Plains, NJ

EA-15-230

On October 11, 2016, the NRC issued a CO to Tetra Tech EC, Inc., confirming commitments reached as part of an ADR mediation session. The session was associated with a violation identified during an investigation of Tetra Tech employees working at the Hunters Point Naval Shipyard site in San Francisco, CA. Specifically, from late 2011 through mid-2012, employees of Tetra Tech deliberately falsified soil sample records on several occasions by taking soil samples from areas not designated as part of the target area and by completing forms with inaccurate information. The licensee agreed to take, in addition to steps already taken, actions including but not limited to (1) discussing the facts and lessons learned from this event with its employees who are engaged in licensed activities to emphasize the importance of not engaging in willful activities in violation of the NRC's regulations, (2) for a period of 5 years, providing annual refresher training on NRC requirements to all employees engaged in licensed activities, (3) conducting an independent third-party assessment of all areas involving NRC-licensed activities to assess Tetra Tech's safety culture, evaluate the results, and take appropriate corrective actions, (4) using a third party to perform quality assurance reviews of work performed at Hunters Point for a period of 3 years, and (5) sending copies of the NOV and CO to the Navy and the State of California to ensure they are fully informed of the NRC's actions. In consideration of Tetra Tech's commitments outlined in the CO, the NRC agreed to withdraw the CP proposed on July 28, 2016.

International Cyclotron, Inc.  
San Juan, PR

EA-16-055

On November 17, 2016, the NRC issued an order imposing civil monetary penalty to International Cyclotron, Inc., in the amount of \$14,000. The order was necessary because International Cyclotron had not responded to an August 30, 2016, NOV/CP in the amount of \$14,000 for an SL III violation involving the licensee's failure to begin and complete decommissioning of its site in accordance with 10 CFR 30.36, "Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas." As of the date of the order, International Cyclotron had not paid the proposed CP of \$14,000 and had taken no actions towards site decommissioning as required by NRC regulations.

### **Orders Issued to Fuel Cycle Facility Licensees**

None

### **Orders Issued to New Reactor Licensees**

None

**Orders Issued to Decommissioning and Low-Level Waste Licensees**

None

**Orders Issued to Individuals**

Troy Morehead

IA-16-025

On July 11, 2016, the NRC issued a CO to Mr. Troy Morehead confirming commitments reached as a result of an ADR mediation session. The session was associated with Mr. Morehead's conduct of radiographic operations that resulted in violations to the licensee, Acuren USA, for requirements in 10 CFR 34.51, "Surveillance," and 10 CFR 34.53, "Posting," by failing to conspicuously post the area with radiation area signs and failing to maintain continuous, direct visual surveillance of the operation to protect against unauthorized entry into a high-radiation area. The agreement reached on June 3, 2016, included Mr. Morehead's completing such actions as training other radiographers, shadowing a radiation safety officer during inspections of actual radiographic operations, submitting a written document detailing the observations to the NRC, and submitting an article conveying personal lessons learned to an industry publication. In consideration of these commitments from Mr. Morehead, the NRC agreed to refrain from issuing him an NOV.

Kyle Dickerson

IA-16-026

On July 11, 2016, the NRC issued a CO to Mr. Kyle Dickerson confirming commitments reached as a result of an ADR mediation session. The session was associated with Mr. Dickerson's conduct of radiographic operations that resulted in violations to the licensee, Acuren USA, for requirements in 10 CFR 34.51 and 10 CFR 34.53 by failing to conspicuously post the area with radiation area signs and failing to maintain continuous, direct visual surveillance of the operation to protect against unauthorized entry into a high-radiation area. The agreement reached on June 3, 2016, included Mr. Dickerson's completing such actions as training other radiographers, shadowing a radiation safety officer during inspections of actual radiographic operations, submitting a written document detailing the observations to the NRC, and submitting an article conveying personal lessons learned to an industry publication. In consideration of these commitments from Mr. Dickerson, the NRC agreed to refrain from issuing him an NOV.

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## Appendix D—Summary of Escalated Enforcement Actions Against Individuals\*

### Orders

Appendix C discusses orders issued to individuals during 2016.

### Notices of Violation

Stephen Mick

IA-15-079

On May 13, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued a notice of violation (NOV) to Mr. Stephen Mick for a Severity Level (SL) III violation of Title 10 of the *Code of Federal Regulations* (10 CFR) 30.10(a)(1), involving deliberate misconduct that caused his employer, Novelis Corporation, to be in violation of a condition of its license. Specifically, on September 12 and 13, 2014, Mr. Mick directed a technician to repair nuclear gauge components that were related to the radiological safety of the device. Conditions of Novelis Corporation's NRC license specifically prohibited these repairs.

Terry LaBue

IA-15-053

On May 25, 2016, the NRC issued an NOV to Mr. Terry LaBue, a former supervisor at the Waterford Steam Electric Station (the licensee), for an SL III violation of 10 CFR 50.48, "Fire Protection." Specifically, on December 17, 2013, Mr. LaBue deliberately provided inaccurate and incomplete information regarding the extent of the problem associated with missed fire watch tours and falsified fire watch logs when he initiated a condition report. In the condition report, Mr. LaBue identified only one individual, despite having information indicating that several individuals had not performed fire watch tours, although they had indicated so on the associated fire watch logs. Condition reports associated with missed fire watches are material to the NRC because they provide evidence of compliance with licensee procedures and NRC requirements.

Kristen Smith

IA-15-052

On May 31, 2016, the NRC issued an NOV to Ms. Kristen Smith, a former contractor manager employee of Waterford Steam Electric Station (the licensee), for an SL III violation of 10 CFR 50.5, "Deliberate Misconduct." Specifically, on January 13, 2014, Ms. Smith deliberately provided incomplete and inaccurate information to the licensee's reviewing official for access authorization regarding the trustworthiness and reliability of an individual applying for reinstatement of unescorted access. The individual's unescorted access was subsequently reinstated, when access would not have been reinstated because prior activities had adversely reflected on the individual's trustworthiness and reliability. Information associated with an individual's trustworthiness and reliability is material to the NRC because it is used to reassess an individual's unescorted access as required by regulations in 10 CFR 73.56(f)(3).

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\* Cases involving security-related issues are not included.

## Enforcement Program Annual Report

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Curtis Hofer

IA-16-018

On June 24, 2016, the NRC issued an NOV to Mr. Curtis Hofer for an SL III violation of 10 CFR 30.10(a) involving deliberate misconduct that caused his employer, Montana State University, to be in violation of a rule or regulation and deliberate submission to the licensee of information that he knew to be incomplete or inaccurate in some respect material to the NRC. Specifically, Mr. Hofer caused the licensee to be in violation of 10 CFR 30.9, "Completeness and Accuracy of Information," and License Condition 14.F by documenting leak test results for two nickel-63 sealed sources that were not leak tested. This information was material to the NRC because maintaining accurate records associated with the performance of leak tests establishes the licensee's control of licensed material and validates that none of the sources were leaking.

Justin Hubbard

IA-15-081

On July 28, 2016, the NRC issued an NOV to Mr. Justin Hubbard for an SL III violation of 10 CFR 30.10(a) involving deliberate misconduct that caused his employer, Tetra Tech EC Inc., to be in violation of 10 CFR 20.1501(a) by deliberately submitting to Tetra Tech information that he knew to be incomplete or inaccurate in some respect material to the NRC. Specifically, on several occasions between November 18, 2011, and June 4, 2012, Mr. Hubbard, working as a Radiation Task Supervisor for Tetra Tech at the U.S. Navy's Hunters Point Naval Shipyard in San Francisco, CA, directed his staff to take soil samples from other areas that were suspected to be less contaminated. As a result, it could have appeared that residual radioactivity within the specific locations in Parcel C was lower than it actually was. Mr. Hubbard also documented on related chain-of-custody forms that the samples had been obtained from the specified locations.

Martin Ferenc

IA-16-040

On July 28, 2016, the NRC issued an NOV to Mr. Martin Ferenc for an SL III violation of 10 CFR 30.10(a)(1) involving deliberate misconduct that caused his employer, Applied Technical Services, Inc., to be in violation of NRC requirements. Specifically, on October 20, 2015, while conducting industrial radiography at the National Aeronautics Space Administration Langley Research Center in Hampton, VA, Mr. Ferenc did not conspicuously post the area where industrial radiography was being performed with radiation area or high-radiation area signs to establish a radiological boundary as required by 10 CFR 34.53, "Posting," and 10 CFR 20.1902, "Posting Requirements."

Kevin Brainard

IA-16-043

On September 30, 2016, the NRC issued an NOV to Mr. Kevin Brainard for an SL III violation of 10 CFR 40.10(a)(1) involving deliberate misconduct that caused his employer, Power Resources, Inc., to be in violation of NRC requirements. Specifically, between September 12, 2013, and February 6, 2014, Mr. Brainard documented contamination control exit surveys of contract personnel exiting the licensee's facility when, in fact, the exit surveys were not performed.



## Appendix E—Summary of Escalated Enforcement Actions Against Nonlicensees (Vendors, Contractors, and Certificate Holders)\*

### Orders Issued to Nonlicensees

C&D Technologies, Inc.  
Blue Bell, PA

EA-15-212

On April 20, 2016, the NRC issued a confirmatory order (CO) to C&D Technologies, Inc., to formalize commitments made as a result of an alternative dispute mediation (ADR) session. C&D made these commitments as part of a settlement agreement between the vendor and the NRC regarding apparent violations of NRC requirements. The agreement resolves the apparent failure to perform adequate technical evaluations of defects, and the associated periodic reporting of ongoing deviation evaluations and final determinations, contrary to the requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) 21.21, “Notification of Failure to Comply or Existence of a Defect and Its Evaluation.” C&D agreed to corrective actions including (1) restoration of full compliance for all currently identified noncompliances, (2) revision of policies and procedures to provide reasonable assurance of continued compliance, (3) provision of initial and continuing training for C&D staff and supervisors, (4) an annual independent third-party program review, and (5) periodic communication with staff and managers regarding senior management’s expectations and commitment to complying with NRC requirements. In consideration of these commitments, the NRC agreed not to issue a civil penalty and a notice of violation.

AREVA, Inc.  
Lynchburg, VA

EA-16-016

On August 4, 2016, the NRC issued a CO to AREVA, Inc., to confirm commitments reached as part of an ADR settlement agreement to address apparent violations identified through an NRC staff records review conducted by the Office of International Programs. The apparent violations involved AREVA’s failure to submit quarterly reports required by 10 CFR Part 110, “Export and Import of Nuclear Equipment and Material,” and the Protocol Additional to the Agreement between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America. Furthermore, the records review discovered that, in July 2014, AREVA exported a reactor coolant pump to France that was not authorized by a general or specific license. AREVA agreed to corrective actions including but not limited to (1) revising policies and procedures to provide reasonable assurance of continued compliance, (2) providing initial and continuing training for AREVA staff and supervisors, (3) communicating NRC requirements for import/export licensing and reporting to other nuclear equipment exporters through a variety of industry forums, and (4) instituting periodic independent audits of exporting activities.

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\* Cases involving security-related issues are not included.

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