

August 20, 2008

EA-07-325; EA-08-196

Mr. Peter A. Millar, President
Alaska Industrial X-Ray, Inc.
4047 Kingston Drive
Anchorage, AK 99504

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$20,800 AND ORDER MODIFYING LICENSE
(NRC INSPECTION REPORT No. 030-10346/07-01 AND INVESTIGATION
REPORT No. 4-2007-036)

Dear Mr. Millar:

This refers to the Nuclear Regulatory Commission (NRC) inspection and investigation, which concluded on April 23, 2008, at Alaska Industrial X-Ray, Inc. (AIX) located in Anchorage, Alaska. The purpose of the investigation was, in part, to determine if AIX radiographers engaged in deliberate misconduct when performing radiography with only one radiographer present at the Arctic Slope Regional Corporation Energy Services (ASRC) site, a temporary jobsite, in violation of 10 CFR 34.41(a) (also known as the two-person rule). Violations were identified during an unannounced inspection conducted on June 4, 2007, and during a subsequent investigation conducted by the NRC's Office of Investigations (OI) of AIX's radiography activities at the ASRC and AIX Golovin sites.

Based on the preliminary information from the investigation, the NRC issued an Order Suspending Licensed Activities (EA-07-261) on October 19, 2007, which, among other conditions, required that AIX suspend its radiography activities until adequate assurance could be provided by independent means that AIX would comply with NRC requirements when conducting licensed activities. On November 8, 2007, the NRC relaxed the Order based on several actions taken and commitments made by your company to the NRC. The Order was a temporary measure while the NRC completed its investigation and reviewed the results. Once completed, the results of the inspection and investigation were discussed with you and members of your staff during a telephonic exit briefing on April 23, 2008, and were documented in an inspection report dated May 20, 2008.

On June 5, 2008, a predecisional enforcement conference (PEC) was conducted with AIX in Anchorage, Alaska, to discuss the apparent violations, their significance, their root causes, and your corrective actions. The conference included discussions with AIX employees regarding their actions. The individuals of concern included two full-time radiographers, a part-time radiographer, and the former radiation safety officer (RSO) who, at the time of the PEC, was employed at AIX as a full-time radiographer. During the June 5th PEC, the four individuals admitted to committing deliberate violations of 10 CFR 34.41(a) at the ASRC site on multiple occasions over a period of several years. Based on the investigation, the NRC concluded that this violation had occurred on multiple occasions from about 2004 until the investigation in June 2007. In addition, the NRC staff discussed with you, the president of AIX, that during your first interview you denied that violations of the two-person rule had occurred at the ASRC site. Later, when confronted with information that showed that your radiographers had indeed deliberately violated the two-person rule at the ASRC site, you stated that you suspected

violations of the two-person rule had occurred at the ASRC site, but you took no action to investigate your suspicions or discuss this with your personnel. As a result, the NRC has concluded that you, with careless disregard, provided the NRC with information that was incomplete or inaccurate, in violation of 10 CFR 30.9(a).

The NRC noted at the PEC that in 2001 it had issued a Severity Level III violation of 10 CFR 34.41(a) to AIX for deliberate failures to follow the two-person rule at the ASRC site.¹ The fact that a prior enforcement action had been taken for the same violation at the same location was a significant concern to the NRC because it raised questions about the effectiveness of AIX management oversight to prevent recurrence of violations. The reason the violations occurred in 2001 were very similar to the reasons the violations reoccurred between about 2004-2007: the radiographers felt that one-person radiography was safe at the ASRC site, and following the two-person rule was unnecessary because radiographic exposures were performed inside a structure that AIX had built prior to 2001, intended to meet NRC specifications for a permanent radiographic installation.

In 2001-2002, AIX had requested that the NRC approve the structure it had built at the ASRC site as a permanent radiographic installation. However, the structure required extensive modifications in order to meet NRC requirements. AIX did not make the modifications and, as a result, the NRC never approved it. If the structure had been approved, then AIX would have been authorized to conduct radiography with only one qualified individual instead of two. As part of the corrective actions for the 2001 violation involving deliberate failures to follow the two-person rule at the ASRC site, you had all of your radiographers and assistant radiographers sign a memorandum, in February 2001, acknowledging that the two-person rule was to be followed at the ASRC site. A copy of the memorandum was presented to the NRC in March 2001. Despite the signed memorandum and the lack of acceptable modifications to the structure, a few years later, beginning around 2004, the former AIX RSO, along with almost all of AIX's radiographers and assistant radiographers who worked at the ASRC site, began deliberately failing to follow the two-person rule at the ASRC site. During the June 2008 conference, you stated that you could understand why they failed to follow the two-person rule and that you might have done it yourself if you were conducting radiography. One of the reasons for this was the general belief that the structure provided a similar level of protection as a permanent radiographic installation. You also stated that you "probably suspected" that your radiographers were not abiding by the two-person rule, but that you "never went [to the ASRC site] and tried to catch anybody at it." Thus, NRC representatives also questioned AIX regarding the lack of management oversight from both the former AIX RSO and you, the company president.

In addition to the deliberate violations, the NRC representatives noted three additional concerns during the June 2008 predecisional enforcement conference. First, during a tour of the ASRC site, the day prior to the June 5th conference, the two trailers that formed the sides of the structure were found to be unlocked and open. This was of concern to the NRC staff because of the potential that individuals might access the trailers during radiography or remove contents with the potential to reduce the level of shielding. In addition, AIX had not met its commitment in its letter dated November 1, 2007, to keep the trailers locked and to control access to the trailers. This commitment was made to the NRC as a consideration for lifting the Order Suspending License dated October 19, 2007. The NRC staff requested that AIX review the issue and provide additional assurance it would meet its commitments to the NRC. Second, the

¹ On April 25, 2001, the NRC issued a Notice of Violation for a Severity Level III violation involving a failure to meet the requirements of 10 CFR 34.41(a) (EA-01-015).

NRC staff was concerned that radiation streaming could occur through the back of the structure because there was an opening in between the two trailers which formed the back of the structure. The staff questioned whether radiation surveys were conducted to establish that the radiation rope boundaries were adequate. This was important because of the possibility that ASRC personnel (considered members of the public for purposes of the regulations) might at times be present behind the structure. And third, the NRC staff noted that although the focus of the June 5th PEC was deliberate violations associated with radiography at the ASRC site, other examples of failures to comply with 10 CFR 34.41(a) were identified at AIX's Golovin site. Although the NRC did not find any deliberate misconduct associated with the violations at the AIX Golovin site, corrective actions were needed to correct the violations at that site.

AIX's corrective actions presented at the June 5th conference included: (1) continuing to contract with an independent contractor to conduct inspections of AIX radiographers, as AIX committed in response to the NRC's Order Suspending Licensed Activities (EA-07-261) dated October 19, 2007; (2) changing the RSO in November 2007; (3) reducing the number of radiographic exposures taken at the Golovin site with NRC-licensed material; (4) modifying contractual agreements with ASRC to reduce schedule pressures and to ensure compliance with 10 CFR 34.41(a); and (5) instituting a disciplinary policy to terminate any radiographer who did not follow the two-person rule. The NRC representatives also discussed concerns about whether the independent oversight was as effective as it could or should be.

These corrective actions did not address the NRC's concerns about your lack of management oversight in AIX's radiography activities including your failure to ensure that your employees, including the company RSO, were following NRC requirements, despite your suspicions that violations were occurring, as well as the fact that corrective actions for the 2001 enforcement action were not effective. As a result, the NRC representatives provided AIX with more time to provide any additional corrective actions. By letter dated June 9, 2008, AIX provided additional corrective actions which included: (1) conducting monthly safety meetings, (2) a commitment from you, the company president, to independently review (audit) each crew on a quarterly basis at a minimum; (3) performing surveys around the ASRC radiation exposure area, where instantaneous dose rates were found to exceed 20 millirem/hour in several areas, and AIX applying additional dirt (shielding) to the perimeter of the structure; and (4) locking and rebolting the doors to the trailers at the ASRC site which AIX uses as shielding around the area where radiographic exposures are performed.

In summary, based on the information developed during the inspection, the investigation, and the PEC, the NRC has determined that two violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) (Enclosure 1) and the circumstances surrounding them are described in detail in the subject inspection report and this letter. The violations involve: (1) performing radiography at a location other than a permanent radiographic installation without the presence of two qualified individuals, in violation of 10 CFR 34.41(a), and (2) failing to provide the NRC with information that was complete and accurate in all material respects, in violation of 10 CFR 30.9(a). The NRC has determined that willfulness was associated with both violations.

In assessing the safety significance of the violations, the NRC notes that, absent deliberate misconduct, performing radiography in violation of the two-person rule is significant because the use of two qualified persons during radiographic operations not only provides for a high level of assurance that members of the public will be prevented from entering the restricted area during those operations, but also provides additional protection for the radiographers should one of

them become incapacitated while the source is unshielded. The second violation, providing the NRC with incomplete or inaccurate information, impacts the NRC's ability to perform its regulatory function. The violations were more significant given the pervasive deliberate misconduct on the part of the AIX radiographers and assistant radiographers, as well as a senior company official, the RSO at the time; and the careless disregard on your part, as president of the company, in providing the NRC with information that was incomplete or inaccurate. Therefore, these violations have been categorized in accordance with the NRC Enforcement Policy at Severity Level II. The NRC Enforcement Policy may be found on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$10,400 is considered for a Severity Level II problem. Because these violations were willful and categorized at SL II, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. Given the circumstances, the NRC has determined that AIX is not deserving of identification credit. Further, given the former AIX RSO's involvement in the deliberate misconduct, lack of management oversight, including your lack of follow-up on your suspicions, the pervasiveness of the deliberate misconduct, and the length of time the deliberate violations occurred, AIX's corrective actions were neither timely nor comprehensive to provide the NRC with reasonable assurance that the violations would not recur. Your corrective actions did not address your failure, as the company president, to investigate suspicions that your employees were not following NRC requirements, despite the commitments you made to the NRC to correct the 2001 violation. Further, the corrective actions did not present any institutional controls to prevent future RSOs from engaging in deliberate misconduct and would ensure that they meet their RSO duties. In addition, your failure to ensure that commitments you made to the NRC for lifting the Order Suspending your Licensed Activities (by failing to maintain the trailers surrounding the ASRC structure locked and controlling access to the trailers) also undermined our confidence in your ability to follow-through with commitments you make to us.

Therefore, to emphasize the importance of not engaging in deliberate misconduct, not identifying its own violations, and not taking prompt and comprehensive corrective actions, I am authorizing the issuance of the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) at twice the base for the Severity Level II problem in the total amount of \$20,800. In addition, issuance of this Notice constitutes escalated enforcement action that may subject you to increased inspection effort.

The NRC has determined that additional actions are needed to provide reasonable assurance that the public health and safety, as well as the health and safety of your employees, will be maintained. The circumstances in this case raise serious concerns about AIX company management's ability or desire to ensure licensed activities are conducted without undue risk to the public's health and safety, and that commitments made to the NRC are honored. Therefore, the NRC is issuing an Order to require (1) continued independent oversight with additional specific conditions to ensure AIX's radiographers follow NRC requirements, (2) that the trailers be locked and that AIX maintain control over the key, (3) that AIX contract with an independent consultant to evaluate the AIX radiation safety procedures for effectiveness, and to provide training to AIX radiographers and assistant radiographers, and (4) that you, the president of AIX, perform quarterly audits of your radiographers.

Pursuant to Section 223 of the Atomic Energy Act of 1954, as amended, any person who willfully violates, attempts to violate, or conspires to violate, any provision of the enclosed Order shall be subject to criminal prosecution as set forth in that section. Violation of the Order may also subject the person to civil monetary penalty.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice and Order when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its Web site at www.nrc.gov/reading-rm/doc-collections/enforcement/actions/.

Instead of providing a response to these escalated actions (Notice and Order), you may request alternative dispute resolution (ADR) with the NRC in an attempt to resolve this issue. ADR is a general term encompassing various techniques for resolving conflict outside of court using a neutral third party. The technique that the NRC has decided to employ is mediation. Additional information concerning the NRC's program is described in the enclosed brochure (NUREG/BR-0317) and can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC's program as an intake neutral. Please contact ICR at (877) 733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR. A request for ADR shall not stay the immediate effectiveness of this Order.

Questions concerning these actions should be addressed to Mr. Michael Vasquez, who can be reached at (817) 860-8121.

Sincerely,

/RA/

Cynthia A. Carpenter, Director
Office of Enforcement

Docket No.: 030-10346
License No.: 50-16084-01

Enclosures:

1. Notice of Violation and Proposed Imposition of Civil Penalty
2. Order Modifying License
3. NUREG/BR-0254 Payment Methods
4. NUREG/BR-0317 Alternative Dispute Resolution

P. A. Millar

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cc (w/Enclosures 1 and 2):
State of Alaska Radiation Control Program Director

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GMVasquez	VHCampbell	ATHowell	KDFuller	CACasto
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07/31/08	08/5 /08	08/ 6/08	07/10/08	07/11/08
FSME	OGC	OE	OE	
MLBurgess	CMarco - E	NLHilton	CCarpenter	
/RA/	By K Sexton	/RA/	/RA/	
08/14 /08	08/13 /08	08/20/08	08/20/08	

OFFICIAL RECORD COPY

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Alaska Industrial X-Ray, Inc.
Anchorage, Alaska

Docket No.: 030-10346
License No.: 50-16084-01
EA-07-325

During an NRC investigation and inspection, which concluded on April 23, 2008, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- A. 10 CFR 34.41(a) states, in part, that whenever radiography is performed at a location other than a permanent radiographic installation, the radiographer must be accompanied by at least one other qualified radiographer or an individual who has at a minimum met the requirements of § 34.43(c).

Contrary to the above, on multiple occasions from about 2004 through May 2007, Alaska Industrial X-Ray, Inc. (AIX) performed radiography at a location other than a permanent radiographic installation, with a radiographer who was not accompanied by at least one other qualified radiographer or individual who has met the minimum requirements of § 34.43(c). Specifically, during sworn statements to the NRC's Office of Investigations in July 2007, and confirmed during a June 5, 2008, predecisional enforcement conference, almost all AIX radiographers and assistant radiographers at the time stated that they performed radiography at a temporary jobsite owned by Arctic Slope Regional Corporation Energy Services (ASRC) with only one radiographer present. In addition, two AIX radiographers stated there were times when they performed radiography at the licensee's Golovin site with only one qualified individual present, in violation of 10 CFR 34.41(a).

- B. 10 CFR 30.9(a) requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, on July 24, 2007, an NRC licensee, Alaska Industrial X-Ray, Inc., provided information to the Commission that was not complete and accurate in all material respects. Specifically, during his first sworn statement given to the NRC Office of Investigations on July 24, 2007, the licensee's president denied that AIX personnel had violated 10 CFR 34.41(a), also known as the two-person rule, at a temporary jobsite known as the ASRC site. This was inaccurate because during the investigation, the NRC found that pervasive violations of the two-person rule had been occurring at the ASRC site from about 2004-2007 by almost all AIX radiographers and assistant radiographers. During the investigation, four AIX radiographers and two assistant radiographers admitted that violations of the two-person rule occurred. The company president did not reveal to the NRC during his first interview that he suspected violations were occurring and that he did not investigate his suspicions; instead, he revealed this the following day in a second interview, on July 25, 2007, and again during a June 5, 2008 predecisional enforcement conference, only after being confronted with information

that AIX employees had violated 10 CFR 34.41(a). This is important considering the NRC issued a prior enforcement action for a deliberate violation of 10 CFR 34.41(a) at the ASRC site in 2001. The information was material because it related to whether the licensee had complied with NRC requirements.

These violations are associated with a Severity Level II problem (Supplements VI & VII).

Civil Penalty - \$20,800.

Pursuant to the provisions of 10 CFR 2.201, Alaska Industrial X-Ray, Inc. (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation: (EA-07-325)" and should include for each violation: (1) admission or denial of the alleged violation; (2) the reasons for the violation if admitted, and if denied, the basis for denying the validity of the violation; (3) the corrective steps that have been taken and the results achieved; (4) the corrective steps that will be taken to avoid further violations; and (5) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, the NRC may issue an order or a Demand for Information requiring you to explain why your license should not be modified, suspended, or revoked or why the NRC should not take other action as may be proper. Consideration may be given to extending the response time for good cause shown.

Within the same time provided for the response required under 10 CFR 2.201, the licensee may pay the civil penalty proposed above in accordance with NUREG/BR-0254 and by submitting to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, a statement indicating when and by what method payment was made, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within 30 days of the date of this Notice, the NRC will issue an order imposing the civil penalty. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part; (2) demonstrate extenuating circumstances; (3) show error in this Notice; or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the response should address the factors addressed in Section VI.C.2, "Civil Penalty Assessment," of the Enforcement Policy. Any written answer addressing these factors pursuant to 10 CFR 2.205, should be set forth separately from the statement or explanation provided pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205 to be due, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The responses noted above, i.e., Reply to Notice of Violation, Statement as to payment of civil penalty, and Answer to a Notice of Violation, should be addressed to: Cynthia Carpenter, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), to the extent possible, it should not include any personal privacy or proprietary information. ADAMS is accessible from the NRC Web site at www.nrc.gov/reading-rm/adams.html. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you are required to post this Notice within two working days.

Dated this 20th day of August 2008

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)

Alaska Industrial X-Ray, Inc.)
Anchorage, AK)

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)
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Docket No.: 030-10346
License No.: 50-16084-01
EA-08-196

ORDER MODIFYING LICENSE
(EFFECTIVE IMMEDIATELY)

I

Alaska Industrial X-Ray, Inc. (AIX or Licensee) is the holder of Materials License No. 50-16084-01 issued by the Nuclear Regulatory Commission (NRC or Commission) pursuant to 10 CFR Parts 30-36, 39, 40, and 70 and last amended on November 2, 2007, and due to expire on March 31, 2011. The license authorizes AIX to possess and use sealed radioactive sources in conducting industrial radiography activities in accordance with the conditions specified therein.

II

In June 2007, the NRC conducted an onsite inspection and began an investigation into AIX activities to determine whether deliberate violations of NRC requirements occurred. During the investigation, the NRC discovered that AIX radiographers had conducted radiography activities in violation of 10 CFR 34.41(a) on multiple occasions at the Arctic Slope Regional Corporation Energy Services (ASRC) site and the Golovin site, both temporary jobsites. Of concern is that

Enclosure 2

the NRC previously had issued an identical violation of 10 CFR 34.41(a) involving deliberate misconduct at the ASRC site on April 25, 2001 (EA-01-015). Based on the preliminary information from the investigation, the NRC issued an Order Suspending Licensed Activities (EA-07-261) on October 19, 2007, which, among other conditions, required that AIX suspend its radiography activities until adequate assurance could be provided by independent means that AIX would comply with NRC requirements when conducting licensed activities. On November 8, 2007, the NRC relaxed the Order based on several actions taken and commitments made by AIX to the NRC. The Order was a temporary measure while the NRC completed its investigation and reviewed the results. Once completed, the results of the inspection and investigation were discussed with AIX during a telephonic exit briefing on April 23, 2008, and were documented in NRC Inspection Report No. 030-10346/07-01 dated May 20, 2008.

On June 5, 2008, a predecisional enforcement conference (PEC) was conducted with AIX in Anchorage, Alaska, to discuss with the company and its employees the apparent violations, their significance, their root causes, and any corrective actions. The individuals of concern included two full-time radiographers, a part-time radiographer, and the former radiation safety officer (RSO) who, at the time of the PEC, was employed by AIX as a full-time radiographer. During the PEC, the four individuals admitted to committing deliberate violations of 10 CFR 34.41(a) at the ASRC site on multiple occasions over a period of several years. This information was substantively consistent with their sworn statements provided to the NRC Office of Investigations. Based on the investigation, the NRC concluded that this violation had occurred on multiple occasions from about 2004 until the investigation in June 2007.

In addition, during the PEC, the NRC staff discussed with the president of AIX that during his first interview on July 24, 2007, he denied that violations of the two-person rule had occurred at the ASRC site. Later, on July 25, 2007, when confronted with information that showed that his

radiographers had indeed deliberately violated the two-person rule at the ASRC site, the company president stated that he suspected violations of the two-person rule had occurred at the ASRC site, but took no action to investigate his suspicions or discuss this with his personnel. As a result, the NRC has concluded that the AIX president, with careless disregard, provided the NRC with information about the company that was incomplete or inaccurate, in violation of 10 CFR 30.9(a).

During the PEC, the NRC noted that in 2001 it had issued a Severity Level III violation of 10 CFR 34.41(a) to AIX for deliberate failures to follow the two-person rule at the ASRC site.¹ The fact that a prior enforcement action had been issued for the same violation at the same location was a significant concern to the NRC because it raised questions about the effectiveness of AIX management oversight to prevent recurrence of violations.² In fact, a few years later in about 2004, the former AIX RSO, and almost all of AIX's radiographers and assistant radiographers who worked at the ASRC site, began deliberately failing to follow the two-person rule at the ASRC site. Further, the reason the violations reoccurred in 2004-2007 were very similar to the reasons the violations occurred in 2001: the radiographers felt that one-person radiography was safe at the ASRC site, and following the two-person rule was unnecessary because radiographic exposures were performed inside a structure that AIX had

¹ On April 25, 2001, the NRC issued a Notice of Violation for a Severity Level III violation involving a failure to meet the requirements of 10 CFR 34.41(a) (EA-01-015).

² As part of the corrective actions for the 2001 violation involving deliberate failures to follow the two-person rule at the ASRC site, the AIX company president, its former RSO, and all radiographers and assistant radiographers signed a memorandum, in February 2001, acknowledging that the two-person rule was to be followed at the ASRC site. A copy of the memorandum was presented to the NRC in March 2001.

built prior to 2001, intended to meet NRC specifications for a permanent radiographic installation.³

During the PEC, the company president stated that he could understand why AIX personnel failed to follow the two-person rule and that he (the company president) might have done it himself if he were conducting radiography. One of the reasons for this was the general belief that the structure provided a similar level of protection as a permanent radiographic installation. The company president stated that he “probably suspected” that AIX radiographers were not abiding by the two-person rule, but that he “never went [to the ASRC site] and tried to catch anybody at it.” Thus, NRC representatives also questioned AIX regarding the lack of management oversight from both the former AIX RSO and the company president.

In addition to the deliberate violations of 10 CFR 34.41(a) and the willful violation of 10 CFR 30.9(a), the NRC representatives noted three additional concerns during the June 2008 PEC. First, during a tour of the ASRC site, the day prior to the June 5th conference, the two trailers which formed the sides of the structure were found to be unlocked and open. This was of concern to the NRC staff because of the potential that ASRC personnel (considered members of the public for purposes of the regulations) might access the trailers during radiography and be exposed to radiation or remove some of the trailer contents, which could reduce the level of shielding. In addition, this undermined NRC’s confidence in AIX to meet its commitments because in its letter dated November 1, 2007, AIX committed to keep the trailers locked and to control access to the trailers. This commitment was made to the NRC as a consideration for lifting the Order Suspending License dated October 19, 2007. On June 4, 2008, the NRC staff

³ In 2001-2002, AIX had requested that the NRC approve the structure it had built at the ASRC site as a permanent radiographic installation. However, the structure required extensive modifications in order to meet NRC requirements. AIX did not make the modifications and, as a result, the NRC never approved it. If the structure had been approved, then AIX would have been authorized to conduct radiography with only one individual instead of two.

requested that AIX review the issue and provide additional assurance it would meet its commitments to the NRC. Second, the NRC staff was concerned that radiation streaming could occur through the back of the structure because there was an opening in between the two trailers which formed the back of the structure. The staff questioned whether radiation surveys were conducted to establish that the radiation rope boundaries were adequate. This was important because of the possibility that ASRC personnel (considered members of the public) might at times be present behind the structure and could be exposed to radiation areas in excess of NRC limits. And third, the NRC staff noted that although the focus of the June 5th PEC was deliberate violations associated with radiography at the ASRC site, other examples of failures to comply with 10 CFR 34.41(a) were identified at AIX's Golovin site. Although the NRC did not find any deliberate misconduct associated with the 10 C.F.R. 34.41(a) violations at the AIX Golovin site, corrective actions were needed to correct the violations at that site.

AIX's corrective actions presented at the June 5th PEC included: (1) continuing to contract with an independent contractor to conduct inspections of AIX radiographers, as AIX committed in response to the NRC's Order Suspending Licensed Activities (EA-07-261) dated October 19, 2007; (2) changing the RSO in November 2007; (3) reducing the number of radiographic exposures at the Golovin site with NRC-licensed material; (4) modifying contractual agreements with ASRC to reduce schedule pressures and to ensure compliance with 10 CFR 34.41(a); and (5) instituting a disciplinary policy to terminate any radiographer who did not follow the two-person rule. The NRC representatives also discussed concerns about whether the independent oversight was as effective as it could or should be.

These corrective actions did not address the NRC's concerns about AIX's lack of management oversight in AIX's radiography activities including the failure to ensure that its employees, including the former AIX RSO, were following NRC requirements, despite the company

president's suspicions that violations were occurring, as well as the fact that corrective actions for the 2001 enforcement action were not effective. As a result, the NRC representatives provided AIX with more time to provide any additional corrective actions. By letter dated June 9, 2008, AIX provided additional corrective actions which included: (1) conducting monthly safety meetings; (2) a commitment from the company president to independently and personally review (audit) each crew on a quarterly basis at a minimum; (3) performing surveys around the ASRC radiation exposure area, where instantaneous dose rates were found to exceed 20 millirem/hour in several areas, and AIX applying additional dirt (shielding) to the perimeter of the structure; and (4) locking and rebolting the doors to the trailers at the ASRC site which AIX uses as shielding around the area where radiographic exposures are performed.

In summary, based on the information developed during the inspection, the investigation, and the PEC, the NRC has determined that two violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) dated the same day as this Order, and the circumstances surrounding them are described in detail in the subject inspection report and the cover letter accompanying this Order. The violations involve: (1) performing radiography at a location other than a permanent radiographic installation without the presence of two qualified individuals, in violation of 10 CFR 34.41(a), and (2) failing to provide the NRC with information that was complete and accurate in all material respects, in violation of 10 CFR 30.9(a). The NRC has determined that willfulness was associated with both violations.

In assessing the safety significance of the violations, the NRC notes that, absent deliberate misconduct, performing radiography in violation of the two-person rule is significant because the use of two qualified persons during radiographic operations not only provides for a high level of assurance that members of the public will be prevented from entering the restricted area during

those operations, but also provides additional protection for the radiographers should one of them become incapacitated while the source is unshielded. The second violation, providing the NRC with incomplete or inaccurate information, impacts the NRC's ability to perform its regulatory function. The violations were more significant given the pervasive deliberate misconduct on the part of the AIX radiographers and assistant radiographers, as well as a senior company official, the RSO at the time; and the careless disregard on the part of the president of the company, in providing the NRC with information that was incomplete or inaccurate. Therefore, these violations have been categorized in accordance with the NRC Enforcement Policy at Severity Level II.

The NRC has determined that additional actions⁴ are needed to provide reasonable assurance that the public health and safety, as well as the health and safety of AIX employees, will be maintained. The circumstances in this case raise serious concerns about AIX company management's ability or desire to ensure licensed activities are conducted without undue risk to the public's health and safety, and that commitments made to the NRC are honored. Therefore, the NRC is issuing an Order to require (1) continued independent oversight with additional specific conditions to ensure AIX's radiographers follow NRC requirements, (2) that the trailers be locked and that AIX maintain control over the key, (3) that AIX contract with an independent consultant to evaluate the AIX radiation safety procedures for effectiveness, and to provide training to AIX radiographers and assistant radiographers, and (4) that the president of AIX, perform quarterly audits of your radiographers.

⁴ These actions are in addition to, and separate from, the attached Notice, which imposes a civil penalty at twice the base for the Severity Level II problem in the total amount of \$20,800. As fully set out in the Notice, the civil penalty was issued to emphasize the importance of not engaging in deliberate misconduct, self-identifying violations, and taking prompt and comprehensive corrective actions.

III

Based on the above, the NRC has determined that AIX company management, including the company president, have not provided the level of oversight needed for the company to conduct its activities in compliance with NRC requirements and to meet all its commitments to the NRC. Consequently, I lack the requisite reasonable assurance that the Licensee's current operations can be conducted under License No. 50-16084-01 in compliance with the Commission's requirements and that the health and safety of the public, including the Licensee's employees, will be protected. Therefore, the public health and safety interest require that License No. 50-16084-01 be modified to require additional actions so as to provide reasonable assurance that the health and safety of the public will be protected. Furthermore, pursuant to 10 CFR 2.202, I find that the significance of the violations described above is such that the public health and safety interest require that this Order be immediately effective.

IV

Accordingly, pursuant to Sections 81, 161b, 161i, 161o, 182, and 186 of the Atomic Energy Act of 1954, as amended, the Commission's regulations in 10 CFR 2.202, 2.205, 10 CFR Parts 20, 34, and 10 CFR 150.20, IT IS HEREBY ORDERED, EFFECTIVE IMMEDIATELY, THAT LICENSE NO. 50-16084-01 IS MODIFIED AS FOLLOWS:

- 1) AIX shall continue use of an independent contractor to provide independent oversight of AIX operations.
 - a) AIX shall notify the NRC by fax and the contractor documented in AIX's letter dated November 1, 2007, by phone, fax or email, on a weekly basis, of the anticipated AIX work schedule for that week. AIX will immediately notify the contractor daily, by phone, fax and or email, as requested by the contractor, of any changes to AIX scheduled

activities. AIX must inform the contractor in writing that the provisions of 10 CFR 30.10 apply to the contractor.

- b) The contractor must conduct unannounced audits and observations of AIX radiography crews during radiographic exposures in a manner and location where he is undetected by the radiography crew. After observing the crews, the contractor may announce himself to the crew in order to complete his audits of the jobsite. The audits must verify that AIX personnel are conducting all operations in a safe manner and in compliance with NRC requirements. The contractor must, to the extent possible, prevent violations from occurring or continuing as he observes the radiography crews, even in situations where the crew has not detected his presence prior to the violation.

- c) The unannounced audits shall be conducted at least twice a month when work is being performed.

- d) At least 50 percent of the time, on average over a year, the contractor must conduct unannounced audits during the second half of work that is scheduled outside of normal business hours. Normal Business hours are 8 a.m. to 5 p.m.

- e) The contractor will provide AIX a monthly report of his audit activities. The information will be provided to NRC Region IV at the same time the contractor provides the results to AIX. At a minimum, the information provided shall include: the date and times of the audit; the hours (time of the day) in which the crew worked; the names of the radiographers and assistant radiographers involved in the work; whether the contractor was detected by the crew prior to the contractor announcing his presence; and whether or not radiographic operations were performed safely and in compliance with NRC requirements. The monthly reports will be sent to the Director, Division of Nuclear Materials Safety, US NRC Region IV.

- f) Individuals with whom AIX contracts to meet this requirement, must be approved in

advance. AIX currently contracts with an individual who has received prior approval and further approval for this individual is not needed. In order to receive prior approval for another individual to perform these independent audits, AIX must provide the NRC with information regarding the individual's qualifications and information concerning any prior working relationships the individual has had with AIX. This information should be sent to the Director, Division of Nuclear Materials Safety, U.S. NRC Region IV.

- 2) The trailers that surround the radiographic site at ASRC will be locked during the conduct of radiography. AIX must maintain control over the key such that ASRC personnel cannot obtain the key without the AIX company management's approval.
- 3) AIX will contract with an independent consultant to evaluate the effectiveness of its radiation safety and compliance programs.
 - a) Within 60 days of the date of this Order, AIX will submit to the NRC for approval, the name(s) and qualifications of an independent consultant to review and evaluate AIX's radiation safety program and compliance program;
 - b) Within 30 days of NRC approval of the consultant, the consultant will commence an assessment of AIX's radiation safety program;
 - c) The consultant's assessment will review AIX's training program as follows:
 - i) Physical observation of each of AIX's radiographers and assistant radiographers, on multiple occasions, during the conduct of radiographic operations, verifying their actions ensure radiation safety and compliance with NRC requirements. At least 25 percent of the observations will be conducted at the ASRC site. The purpose of the observation is to evaluate compliance with NRC requirements and to provide recommendations to AIX management about improving the work practices of AIX radiographers to comply with NRC requirements. The consultant should consider

- providing recommendations to AIX for complying with NRC requirements during inclement weather (e.g., winter conditions) during radiographic operations.
- ii) Perform independent radiation measurements around AIX's structure used at the ASRC site, taking into account changes in the shielding characteristics as material inside the trailers that form the walls of the structure vary. The purpose of the measurements will be to demonstrate compliance with 10 CFR Part 20 limits.
 - iii) Evaluate AIX's Operating and Emergency Procedures.
 - iv) Evaluate the effectiveness of the current AIX RSO to oversee the AIX radiation safety program and to ensure compliance with NRC requirements;
 - v) Within 30 days following completion of its reviews, the consultant will provide AIX a report discussing its findings and recommendations for program improvements. At the same time the consultant provides its report to AIX, the consultant will send a copy to the Director, Division of Nuclear Material Safety, US NRC Region IV.
- d) Within 30 days of receiving the consultant's report, AIX will provide the NRC, in writing, its position on how it will address the consultant's findings. In its correspondence to the NRC, AIX will identify which of the consultant's recommendations it will implement and the time frame in which it will implement the recommendations. For those recommendations AIX does not accept, AIX will provide the NRC with its justification.
- e) The consultant will provide training to all AIX employees, managers, and officials. The training will include:
- i) A review of the radiation mishaps involving radiography devices or gauges;
 - ii) A review of the potential actions that NRC may take against an individual;
 - iii) A review of NRC requirements, AIX's license conditions; and
 - iv) A review of AIX's Operating and Emergency Procedures.

- 4) The president of AIX shall perform quarterly audits of his radiographers as they conduct radiography. The audits shall include observations of his crew during radiographic exposures and, to the extent possible, must include observations such that the crew cannot detect his presence. At least 25 percent of the observations will be conducted at the ASRC site during the second half of work that is scheduled outside of the normal business hours of 8 a.m. to 5 p.m. The president of AIX must, to the extent possible, prevent violations from occurring or continuing as he observes the radiography crews, even in situations where the crew has not detected his presence prior to the violation. These audits must be separate and apart from any required audits performed for compliance with 10 CFR 34.43(e). Records shall be maintained documenting these audits and the results of his observations.

- 5) Information that is required to be sent to the NRC in Conditions 1 - 4 above shall be addressed to: Director, Division of Nuclear Materials Safety, US NRC Region IV; 612 East Lamar Blvd., Suite 400; Arlington, TX 76011.

The Regional Administrator, Region IV, may, in writing, relax or rescind any of the above conditions upon demonstration by the Licensee of good cause.

V

In accordance with 10 C.F.R. 2.202, the Licensee must, and any other person adversely affected by this Order may, submit an answer to this Order within 20 days of its issuance. In addition, the Licensee and any other person adversely affected by this Order may request a hearing on this Order within 20 days of its issuance. Where good cause is shown, consideration will be given to extending the time to answer or request a hearing. A request for extension of

time must be directed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, and include a statement of good cause for the extension.

A request for a hearing must be filed in accordance with the NRC E-Filing rule, which the NRC promulgated in August, 2007, 72 Fed. Reg. 49,139 (Aug. 28, 2007). The E-Filing process requires participants to submit and serve documents over the internet or, in some cases, to mail copies on electronic optical storage media. Participants may not submit paper copies of their filings unless they seek a waiver in accordance with the procedures described below.

To comply with the procedural requirements associated with E-Filing, at least five (5) days prior to the filing deadline the requestor must contact the Office of the Secretary by e-mail at HEARINGDOCKET@NRC.GOV, or by calling (301) 415-1677, to request (1) a digital ID certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any NRC proceeding in which it is participating; and/or (2) creation of an electronic docket for the proceeding (even in instances when the requestor (or its counsel or representative) already holds an NRC-issued digital ID certificate). Each requestor will need to download the Workplace Forms Viewer™ to access the Electronic Information Exchange (EIE), a component of the E-Filing system. The Workplace Forms Viewer™ is free and is available at <http://www.nrc.gov/site-help/e-submittals/install-viewer.html>. Information about applying for a digital ID certificate also is available on NRC's public website at <http://www.nrc.gov/site-help/e-submittals/apply-certificates.html>.

Once a requestor has obtained a digital ID certificate, had a docket created, and downloaded the EIE viewer, it can then submit a request for a hearing through EIE. Submissions should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC public website at <http://www.nrc.gov/site-help/e-submittals.html>. A filing is considered complete

at the time the filer submits its document through EIE. To be timely, electronic filings must be submitted to the EIE system no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The EIE system also distributes an e-mail notice that provides access to the document to the NRC Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the document on those participants separately. Therefore, any others who wish to participate in the proceeding (or their counsel or representative) must apply for and receive a digital ID certificate before a hearing request is filed so that they may obtain access to the document via the E-Filing system.

A person filing electronically may seek assistance through the "Contact Us" link located on the NRC website at <http://www.nrc.gov/site-help/e-submittals.html> or by calling the NRC technical help line, which is available between 8:30 a.m. and 4:15 p.m., Eastern Time, Monday through Friday. The help line number is (800) 397-4209 or locally, (301) 415-4737.

Participants who believe that they have good cause for not submitting documents electronically must file a motion, in accordance with 10 C.F.R. 2.302(g), with their initial paper filing requesting authorization to continue to submit documents in paper format. Such filings must be submitted by (1) first class mail addressed to the Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemaking and Adjudications Staff; or (2) courier, express mail, or expedited delivery service to the Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville, Pike, Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff. Participants filing a document in this

manner are responsible for serving the document on all other participants. Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service.

Documents submitted in adjudicatory proceedings will appear in NRC's electronic hearing docket which is available to the public at http://ehd.nrc.gov/EHD_Proceeding/home.asp, unless excluded pursuant to an order of the Commission, an Atomic Safety and Licensing Board, or a Presiding Officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in their filings. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, Participants are requested not to include copyrighted materials in their works.

If a person other than the Licensee requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 C.F.R. 2.309(d).

If a hearing is requested by a Licensee or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearings. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained. Pursuant to 10 CFR 2.202(c)(2)(i), the Licensee, or any other person adversely affected by this Order, may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error. In the absence of any request for hearing, or written approval of an extension of time in which to request a

hearing, the provisions specified in Section IV above shall be final 20 days from the date of this Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section IV shall be final when the extension expires if a hearing request has not been received.

AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Cynthia A. Carpenter, Director
Office of Enforcement

Dated this 20th day of August 2008