

Arkansas Nuclear 1

2Q/2010 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Natural Emergencies Procedure to Control Site Missile Hazards During Severe Weather Warnings and Watches

The inspectors identified a noncited violation of Technical Specification of 5.4.1.a for failure to follow Procedure OP-1203.025, "Natural Emergencies," Revision 30. Specifically, on April 23, 2010, the licensee entered the before mentioned procedure due to a tornado watch/warning and failed to identify and control potential missile hazards in and around the Unit 1 transformer yard. The licensee entered this issue into the corrective action program as Condition Report CR-ANO-C-2010-1003.

Failure of the licensee to assess and control potential missile hazards on site, in and around transformer yards was a performance deficiency. Specifically, the licensee failed to follow Procedure OP 1203.025, "Natural Emergencies," Revision 30 and adequately secure missile hazards on site. The performance deficiency was determined to be more than minor because it was associated with the external hazards attribute and directly affected the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability while in shutdown or at power conditions, and is therefore a finding. Specifically, the failure of the licensee to secure missile hazards on site, especially around the safety related transformers increased the likelihood of a loss of power event that could result in upsetting plant stability. The inspectors evaluated the significance of the finding using Manual Chapter 0609, "Significance Determination Process," Appendix G, Checklist 3, and determined the finding to be of a very low safety significance, Green, because the finding did not cause the loss of mitigating capability of core heat removal, inventory control, power availability, containment control, or reactivity control. The finding was determined to have a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program, P.1(d), in that the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Specifically, the licensee failed to take effective corrective action from a previous NRC-identified issue, in that the corrective actions did not ensure that the control room operators had adequate guidance to assess and control potential missile hazards on site prior to the onset of severe weather.

Inspection Report# : [2010003](#) (*pdf*)

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Recognize Critical Dimension Results in Reactor Coolant Pump Seal Failure

The inspectors documented a self-revealing finding associated with the third stage seal failure of reactor coolant pump P-32C on April 18, 2010. Specifically, during reassembly of reactor coolant pump P-32C, the licensee failed to recognize and maintain the gap between the pumps slinger ring and splash shield as a critical dimension which was required for successful operation of the seal assembly. Following the seal replacement, this lack of recognition resulted in the failure of the pumps third stage seal, and a slight increase in reactor coolant system leak rate. This issue was entered into the licensee's corrective action program as condition report ANO-1-2010-1896.

The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the initiating events cornerstone, and affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as at power operations, and is therefore a finding. Specifically, the failure to recognize and maintain the gap between the reactor coolant pumps slinger ring and splash shield as a critical dimension resulted in the failure of the pumps third stage seal. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, Initiating Events Cornerstone, the finding was determined to have very low safety significance because assuming worst case

degradation, the finding would not result in exceeding the technical specification limit for any RCS leakage; nor could the finding have likely affected other mitigation systems resulting in a total loss of their safety function. The inspectors determined that since the licensee had not recently re-evaluated what dimensions were critical to the seals operation, and vendor documents were not specific to this dimension; this finding did not represent current plant performance and therefore did not have a cross-cutting aspect associated with it.

Inspection Report# : [2010003](#) (pdf)

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Troubleshooting in Switchyard Causes Loss of Power to Unit 1 and Unit 2 Startup Transformers

The inspectors documented a self-revealing finding for failure to implement Procedure OP-1015.033, “ANO Switchyard Controls,” Revision 12. Specifically, On March 26, 2010, while performing 161 kV Breaker B1205 post-installation testing, several issues developed and testing activities morphed into troubleshooting activities. Per the above mentioned procedure, a new component and plant impact statement should have been performed. The impact statement should have described the new work activities, objectives and potential for plant impacts so that a proper assessment could be made by operations as to allow the work or not. These troubleshooting activities ultimately resulted in a lockout of the auto-transformer, which resulted in the lockout of startup Transformers 1 and 3 (offsite power source) for Units 1 and 2, respectively. The licensee entered the issue into the corrective action program as Condition Report CR-ANO-C-2010-0726.

The failure to properly implement Procedure OP-1015.033, ANO Switchyard Controls,” Revision 12, was a performance deficiency. Specifically, the licensee did not stop and obtain a component and plant impact statement when test activities transitioned into troubleshooting activities in the Arkansas Nuclear One switchyard. The troubleshooting activities led an auto lockout of the auto transformer and resulted in the loss of offsite power to startup transformers 1 and 3. The performance deficiency was determined to be more than minor because it is associated with the human performance attribute and directly affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown conditions, and is therefore a finding. The significance of the finding was determined using Manual Chapter 0609, “Significance Determination Process,” Appendix G, Checklist 4, and determined to be of very low safety significance, because it did not cause the loss of mitigating capability of core heat removal, inventory control, power availability, containment control, or reactivity control. The finding was determined to have a crosscutting aspect in the area of human performance associated with work practices, H.4(c), in that the licensee failed to ensure supervisory and management oversight of work activities in the switchyard such that nuclear safety is support. Specifically, the licensee became too involved helping solve the issue discovered in the switchyard and failed to recognize that Procedure OP-1015.033 need to be implemented.

Inspection Report# : [2010003](#) (pdf)

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Nuclear Instrumentation Procedure Results in an Automatic Reactor Trip

The inspectors documented a self-revealing noncited violation of Technical Specification 5.4.1.a, for failure to follow Procedure OP-1304.032, “Unit 1 Power Range Linear Amp Calibration at Power (NI Cal),” Revision 32, which resulted in a Unit 1 automatic reactor trip. Specifically, while at 20 percent reactor power, the licensee failed to place the reactor demand station, and the diamond rod control stations, of the B&W integrated control system, in manual during nuclear instrumentation calibrations, which resulted in automatic control rod withdrawal and reactor trip on high power. The licensee entered this issue into the corrective action program as Condition Report ANO-1-2010-2056.

The inspectors determined that the licensee failure to follow the nuclear instrumentation calibration procedure as written was a performance deficiency. Specifically, the licensee failed to properly implement Procedure OP-1304.032, “Unit 1 Power Range Linear Amp Calibration at Power (NI Cal),” Revision 32, and failed to place the integrated

control system into manual while calibrating nuclear instrumentation detectors. The performance deficiency was determined to be more than minor because it was associated with the human performance attribute and directly affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical plant safety function during power operations, and is therefore a finding. Specifically, the failure to follow the nuclear instrumentation calibration procedure resulted in an actual reactor trip. The inspectors evaluated the significance of the finding using Manual Chapter 0609, "significance Determination process," Appendix A, Exhibit 1, and determined that the finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding was determined to have a crosscutting aspect in the area of human performance, associated with work practices, H.4(c), in that the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. Specifically, the control room supervisor and the shift manager failed to provide adequate supervision for the nuclear instrumentation calibration activity which resulted in a reactor trip.

Inspection Report# : [2010003](#) (pdf)

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Consider Failure Modes Results in Main Feedwater Pump Over Speed Trip

The inspectors documented a self-revealing finding for the failure of the licensee to perform a thorough design change evaluation which did not recognize and address all design failure modes. Specifically, the licensee failed to address the water intrusion into the electronic modules of the main feedwater pump control system from a possible failure of the condensate drain system of the control cabinet air conditioning units. On May 1, 2010, water emanating from the air conditioning units above the Lovejoy control cabinets, dripped into the electronic modules and caused oscillations in main feedwater Pump A speed before tripping on an actual over speed condition. Unit 1 automatically ran back from 100 percent power to 40 percent power as designed. The licensee entered this issue into the corrective action program as Condition Report CR-ANO-1-2010-2150.

The failure to adequately consider the potential failure modes of the air conditioning cooling to the local Lovejoy control cabinets for the main feedwater pumps was a performance deficiency. Specifically, the licensee did not consider the condensate drain pan and piping failure that could, and in this case did, introduce water into the control cabinet electronics and implement and actions to monitor or preventative measures to prevent this from occurring. The performance deficiency was determined to be more than minor because is associated with the design control attribute and directly affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations, and is therefore a finding. The inspectors evaluated the significance of the finding using Manual Chapter 0609, "Significance Determination Process," Appendix A, and determined the finding to be of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood mitigation equipment or functions would not be available. The inspectors determined that there was no crosscutting aspects associated with this finding because the performance deficiency is not indicative of current plant performance and is a latent issue.

Inspection Report# : [2010003](#) (pdf)

Significance:  Aug 14, 2009

Identified By: NRC

Item Type: FIN Finding

Failure to Follow Procedure to Obtain OSRC Review Prior to Restart

A Green NRC identified finding was identified for failure of operations personnel to follow procedures to obtain an Operational Safety Review Committee review and approval prior to restart of the unit where the cause of the trip had not been positively identified. Specifically, on December 13, 2008, and again on December 23, 2008, Unit 1 was restarted without an Operational Safety Review Committee review and approval as required by the Post Transient Review procedure (OP-1015.037), Attachment B. In both cases, the cause of the trip was identified as probable. The issue was not a violation of NRC requirements because the affected activities were not safety related. The licensee entered this issue into their corrective action program as condition report CR-ANO-C-2009-01217.

The performance deficiency was greater than minor because it could be reasonably viewed as a precursor to a significant event, as evidenced by the December 20, 2008 manual reactor trip. Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," this finding affects the initiating events cornerstone and is determined to have very low safety significance by NRC management review because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding was determined to have a crosscutting aspect in the area of Human Performance associated with Decision-Making [H.1(b)], in that the licensee made non-conservative assumptions in the decisions to restart the unit after each trip. The licensee failed to conduct sufficient effectiveness reviews to verify the validity of the underlying assumptions.

Inspection Report# : [2009008](#) (pdf)

Mitigating Systems

Significance:  Jun 30, 2010

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Correctly Translate Design Requirements Into Installed Plant Configuration

The inspectors documented a self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," associated with the licensee's failure to assure that the applicable design basis for applicable structures, systems, and components were correctly translated into specifications, procedures, and instructions. Specifically, during initial plant construction the licensee failed to correctly translate the design requirements for the Unit 1 core flood tanks manway covers into the installed plant equipment. This resulted in excessive nitrogen leakage from the covers which required the licensee to implement actions to mitigate the leakage until a permanent repair could be performed. This issue was entered into the licensee's corrective action program as condition report ANO-1-2010-1057.

The performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Specifically, the failure to correctly translate the manway design requirement into the installed plant configuration resulted in excessive nitrogen leakage which required the licensee to implement actions to mitigate the leakage until a permanent repair could be performed. Using NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, Mitigating Systems Cornerstone, the finding was determined to have very low safety significance because it did not represent an actual loss of safety function and did not screen as potentially risk significant due to a seismic initiating event. The inspectors determined that since the licensee had not recently re-evaluated the design of the core flood tank manway covers; this finding did not represent current plant performance, and therefore did not have a crosscutting aspect associated with it.

Inspection Report# : [2010003](#) (pdf)

Significance:  Sep 23, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

FAILURE TO ADEQUATELY MONITOR THE PERFORMANCE OF STATION HIGH ENERGY LINE BREAK DOOR LATCHES

Green. The inspectors documented a self-revealing noncited violation of 10 CFR 50.65(a)(2) associated with the licensee's failure to appropriately monitor station high energy line break doors, which are scoped into their Maintenance Rule Program, in a manner that provided reasonable assurance that these doors were capable of fulfilling their safety function. Specifically, the licensee had no maintenance task or inspection activity to check for degradation of the latching mechanism of station high energy line break doors. The failure of these doors would result in the removal of a hazard barrier that could have an adverse impact on equipment necessary to mitigate the consequences of a high energy line break event. The licensee entered this issue into their corrective action program as Condition

The performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and directly affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, this finding was determined to have a very low safety significance because the finding (1) is a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding did not have a crosscutting aspect because the cause of the performance deficiency is not indicative of current plant performance as high energy line break doors were scoped into the Maintenance Rule Program in the 1990s.

Inspection Report# : [2009004](#) (pdf)

Significance:  Sep 23, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE MAINTENANCE PROCEDURE GOVERNING REPAIRS TO UNIT 1 HIGH ENERGY LINE BREAK DOOR

Green. The inspectors identified a noncited violation of Technical Specification 5.4.1.a, "Procedures," for an inadequate maintenance procedure governing repairs to a Unit 1 high energy line break door. This resulted in a condition where the door was not able to perform its function of isolating the emergency feedwater pumps from a harsh environment that would result from a main feedwater critical crack high energy line break event. The pumps would have experienced a harsh environment during this event and been rendered inoperable. This issue was entered into the licensee's corrective action program as Condition Report ANO 1 2009 1421.

The performance deficiency was more than minor because it affected the protection against external events attribute of the Mitigating Systems Cornerstone and directly affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Inspection Manual Chapter 0609, "Significance Determination Process," and with the assistance of three regional senior reactor analysts, a Phase 3 evaluation was completed. The calculated change in core damage frequency was $8.8E 8$, which is less than $1E-6$, therefore, the finding was determined to be of very low safety significance. This finding did not have a crosscutting aspect because the performance deficiency was not associated with any of the crosscutting aspects listed in Manual Chapter 0305, "Operating Reactor Assessment Program," dated August 11, 2009.

Inspection Report# : [2009004](#) (pdf)

Significance:  Sep 23, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ENSURE THAT CONDITIONS ADVERSE TO QUALITY ARE APPROPRIATELY ENTERED INTO THE CORRECTION ACTION PROGRAM

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to have adequate measures established to assure that, when a condition adverse to quality was identified, it was appropriately entered into the stations corrective action program. Specifically, the licensee's staff has repeatedly failed to enter conditions adverse to quality, identified during investigation of issues, into the corrective action program. The licensee entered this issue into their corrective action program as Condition Reports ANO C 2009 1544.

The performance deficiency was determined to be more than minor because, if left uncorrected, station personnel's failure to enter conditions adverse to quality into the station corrective action program would result in the licensee's failure to recognize that risk-significant equipment is in a degraded condition and, as such, may not be able to perform its specified safety function, and is therefore a finding. Using Inspection Manual Chapter 0609, "Significance

Determination Process," Phase 1 Worksheets, this finding was determined to have a very low safety significance because the finding (1) was a qualification deficiency confirmed not to result in loss of operability; (2) did not lead to an actual loss of system safety function; (3) did not result in the loss of safety function of a single train for greater than its technical specification allowed outage time; (4) did not represent an actual loss of safety function of one or more nontechnical specification trains of equipment designated as risk-significant per 10 CFR 50.65, for greater than 24 hours; and (5) it did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program [P.1(a)], in that licensee personnel failed to implement a corrective action program with a low threshold for identifying issues. This also includes identifying such issues completely, accurately, and in a timely manner commensurate with their safety significance.

Inspection Report# : [2009004](#) (pdf)

Significance:  Jul 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Design Control for Class 1E Batteries and Battery Racks

Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which states, in part, that design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design. Contrary to the above, the licensee failed to adequately perform a seismic evaluation for a modification to the Unit 2 safety related 125 Vdc battery racks. Specifically, on June 17, 1986, a design change was made to the battery racks to add hand hold and step on rails for ease of maintenance and inspection of the battery cells. The seismic evaluation for these rails addressed the impact to the battery rack seismic rating, and determined that the bolts for the rails must not be tightened to a specified torque value, but installed "hand tight only." However, the seismic evaluation failed to address the potential for the rails to fall because the bolts were only hand tight. The licensee has entered this into their corrective action program as Condition Report CR ANO 2009 01573.

The failure to perform a seismic evaluation for a modification to the Class 1E battery racks was a performance deficiency. The finding is more than minor because it is similar to Example 3.a of Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," Appendix B, Section 1-3, "Screen for More than Minor – ROP," and it also affected the Mitigating Systems cornerstone attribute of design control to ensure the availability, reliability, and capability of safety systems that respond to initiating events to prevent undesirable consequences, and adversely affected the cornerstone objective because actions were required to be taken to ensure the hand tight bolts and rail met seismic qualifications. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding was determined to have very low safety significance (Green) because it was a design issue that did not result in loss of operability or function. The inspectors reviewed the finding for cross cutting aspects and none were identified because the finding was not indicative of current performance.

Inspection Report# : [2009007](#) (pdf)

Barrier Integrity

Significance:  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Implement Foreign Material Exclusion Controls

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to adequately implement Procedure EN-MA-118, "Foreign Material Exclusion," Revision 5. Specifically, between March 21, 2010, and April 22, 2010, multiple occasions were identified where licensee personnel failed to implement appropriate foreign material exclusion controls in areas designated as Zone 1 foreign material exclusion areas. This issue was entered into the licensee's corrective action

program as Condition Reports ANO-2-2010-0262, ANO-2-2010-269, ANO-1-2010-0469, ANO-1-2010-0564, ANO-1-2010-0874, ANO-1-2010-0903, ANO-1-2010-0750, ANO-1-2010-1338, ANO-1-2010-1526, ANO-1-2010-1958, and ANO-C-2010-688.

The performance deficiency was more than minor because it affected the human performance attribute of the barrier integrity cornerstone and directly affected the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events, and is therefore a finding. Specifically, station personnel's continued failure to implement appropriate foreign material exclusion controls would result in the introduction of foreign material into critical areas, such as the spent fuel pool or the reactor cavity, which in turn would result in degradation and adverse impacts on materials and systems associated with these areas. Using the Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 guidance, the finding is determined to have very low safety significance because the finding did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal. This finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program, P.1(d), in that the licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

Inspection Report# : [2010003](#) (pdf)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Significance: SL-IV Jul 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Provide Accurate Information in Response to Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients"

SL-IV. The team identified a noncited violation of 10 CFR 50.9, "Completeness and Accuracy of Information," which states in part that information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects. Contrary to the above, the licensee's May 7, 2007, response to Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients," did not accurately describe the licensee's programs, procedures, or practices for inspection, testing, and monitoring programs to detect the

degradation of inaccessible or underground power cables that support emergency diesel generators, offsite power, essential service water, service water, component cooling water, and other systems that are in the scope of 10 CFR 50.65, "The Maintenance Rule." The licensee asserted in their response to Generic Letter 2007-01, Question 2, that "ANO inspection, testing, and monitoring practices presently include visual cable inspection during routine operations, periodic meggering of cables and connected equipment associated with maintenance activities, and periodic inspection of manholes for dewatering." In fact, there was no evidence that these manholes or cables had ever been periodically or routinely inspected for Unit-1, and none of the cables for either of the units were being routinely inspected as the licensee had asserted.

The finding was more than minor because the information was material to the NRC's decision making processes. In accordance with Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," the violation was subject to the traditional enforcement process because 10 CFR 50.9 violations impact the NRC's ability to perform its regulatory function. Using the Enforcement Policy, Supplement VII, "Miscellaneous Matters," the inspectors characterized the violation as a Severity Level IV violation because it did not meet the Severity Level I, II or III criteria. NRC management reviewed the finding and determined that it was of very low safety significance. Because the violation was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR ANO C-2009-1415, this violation is being treated as a noncited violation, consistent with the NRC Enforcement Policy, Section VI.A. The inspectors determined that the finding has a crosscutting aspect in the area of problem identification and resolution in that the licensee failed to implement operating experience directly communicated with a generic letter through changes to station processes, procedures, and equipment [P.2(b)].

Inspection Report# : [2009007](#) (*pdf*)

Last modified : September 02, 2010