

Oyster Creek

Initiating Events



Significance: Feb 10, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Equipment Alignment

The inspectors identified a Non-cited violation (Technical Specification 6.8.1) for failure to follow Procedure 322, "Service Water System," Attachment 1, requiring a service water vent valve be open. The service water pump failed to develop discharge pressure because the normally open pump casing vent valve was found closed. The inspector identified that the licensee failed to, promptly identify this issue in a corrective action document, verify positive configuration control of that specific valve and ensure that the appropriate configuration control had been maintained on that system. In response, the licensee documented the issue in their corrective action system (CAP 2001-0011) and performed an extent of condition review on all service water pumps in the intake area. This service water pump is used to provide cooling water for the turbine building and reactor building closed cooling systems. Loss of service water is modeled as a reactor trip initiating event if the circulating water system is not available. The failure of the service water pump to develop discharge pressure was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for initiating event because the alternate service water pump and the circulating water pumps were available. (Section 1R04) This NCV was closed in IR 2000-010.

Inspection Report# : [2000010\(pdf\)](#)

Significance: N/A Nov 18, 2000

Identified By: NRC

Item Type: FIN Finding

Personnel Performance During Non-routine Plant Evolutions and Events

NO COLOR Human performance errors were identified in the initiating event and barrier integrity cornerstone areas. Operations personnel exhibited a lack of system knowledge, poor self checking and inadequate shift oversight while performing a reactor start up (Section 1R14 and 4OA3). This led to an automatic reactor scram and subsequent excessive reactor vessel cooldown rate. Also, the inspectors noted poor procedural adherence and self checking issues while implementing the licensee's welding and fire protection procedures (Sections 1R05 and 1R08). The safety significance of these individual events was very low.

Inspection Report# : [2000008\(pdf\)](#)



Significance: Nov 18, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Fire Protection

The amount of combustible materials stored in the turbine building was not evaluated per procedure 120.5, "Control of Combustibles." The inspector reviewed this issue in accordance with NRC manual chapter 609 and determined that amount of transient combustibles loaded in the turbine building and the smoking area located near the piles of debris could have contributed to a fire in the area. This issue was considered to have very low safety significance (Green). This issue was considered to have very low safety significance (Green). The failure to follow procedure 120.5, "Control of Combustibles," is a violation of Technical Specification 6.8.1, "Procedures and Programs," and 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings." However, this violation is being treated as a non-cited violation, consistent with Section VI.A.1 of the Enforcement Policy. The licensee documented this issue in CAP 2000-1920. (NCV 05000219/2000-008-01) This NCV was closed in IR 2000-008.

Inspection Report# : [2000008\(pdf\)](#)



Significance: Nov 18, 2000

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Event Follow-up

The failure to implement a critical step in procedure 315.1, "Main Turbine Operation," because of operator knowledge deficiencies and inadequate control room oversight led to an automatic reactor scram. However, the issue is considered to be substantive with respect to the crosscutting issue of human performance. This is a violation of Technical Specification Section 6.8.1, "Procedures and Programs," and 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Therefore, in accordance with the Section VI.A.1 of the NRC Enforcement Policy and the NRC Significance Determination Process, this issue is considered to be a Non-Cited Violation (Green). This issue has been entered into the licensee's corrective action program as CAP 2000-1919. (NCV 05000219/2000-008-04) This NCV was closed in IR 2000-008.

Inspection Report# : [2000008\(pdf\)](#)

Mitigating Systems

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Significance: Jun 30, 2001

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Emergent Relay Replacement for the Isolation Condenser Actuation Logic

Operators failed to adequately assess the risk prior to closing both of the isolation condenser motor operated valves inside containment to line the system up for a maintenance activity. This condition would have rendered the isolation condensers unavailable under station black out conditions and resulted in an entry to an unacceptable risk level according to the licensee's procedure. This violation of 10 CFR 50.65 (a)(4) is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy. This issue was entered into the corrective action program as CAP 2001-1024 The finding was of very low significance because the isolation condenser valves were closed for a short duration.

Inspection Report# : [2001006\(pdf\)](#)

G

Significance: Apr 27, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

DC Voltage Drop Calculations

The team's review of the adequacy of the 125 Volts dc supplied to the 4160 Volt switchgear control circuits determined that the voltage drop calculation used non-conservative battery voltage inputs. The failure to use the correct inputs was determined to be of very low safety significance (Green) by the significance determination process screening process. This conclusion was based on the fact the battery was new and had sufficient margin. (Section 1R21.2, DC Voltage Drop Calculation) This NCV was closed in IR 2001-005

Inspection Report# : [2001005\(pdf\)](#)

G

Significance: Apr 27, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Material Condition

The team's review of the material condition of the emergency diesel generators (EDGs) and their supporting systems determined that the apparent corrosion the licensee had identified on a fuel oil piping support had spread to the pipe itself and resulted in a pipe leak immediately following this onsite inspection. The failure to properly identify the degraded pipe and take adequate corrective action was determined to be of very low safety significance (Green) by the significance determination process screening process. This conclusion was based on the availability of the redundant EDG and the availability of the blackout gas turbines. (Section 1R21.3, Material Condition)

Inspection Report# : [2001005\(pdf\)](#)

G

Significance: Mar 16, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Identification and Resolution of Problems

The inspectors identified a Non-Cited Violation for failure to follow procedures (Technical Specification 6.8.1) regarding three job orders (JO), classified as nuclear safety related work, which did not include documentation of the lubrication applied to electrical equipment. JO#00547049 and JO#00547116 involved reactor building recirculation fan motor control center breaker contactors. JO#00541019 involved the racking mechanism for a containment spray pump motor 480 volt breaker. The issue affects the mitigating cornerstone since the reliability of nuclear safety related electrical equipment could be affected. However the failure to document the lubrication used in these job orders was considered to have very low safety significance using the SDP since the post maintenance testing was successfully completed, and there were no indications that the incorrect lubrication was applied in these instances. This NCV was closed in IR 2001-003

Inspection Report# : [2001003\(pdf\)](#)

G

Significance: Mar 16, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Prioritization and Evaluation of Issues

The inspectors identified two examples of a Non-Cited Violation of 10CFR50 Appendix B, Criterion XVI for failure to promptly identify and correct a

condition adverse to quality. The first example was in regard to a containment spray (CS) pipe support clamp that periodically rotated out of alignment. While this condition had been identified in numerous corrective action program documents since 1985, effective corrective action had not been implemented. Additionally, the evaluation did not identify the cause, which was determined to be a water hammer condition, or assess the affect on containment spray piping. The second example was in regard to a potential non-conservative assumption in the main steam line break (MSLB) analysis. While the issue was identified in 1996 and again in 1998, the evaluation had not been completed to support prompt corrective actions. These issues were considered to have very low safety significance because the licensee subsequently evaluated both issues and determined the CS piping remained operable and the plant remained within its design basis for the MSLB analysis. This NCV was closed in IR 2001-003.

Inspection Report# : [2001003\(pdf\)](#)



Significance: Mar 16, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Fire Protection

The inspectors identified a Non-Cited Violation for failure to maintain in effect all provisions of the of the approved fire protection program as described in the Updated Final Safety Analysis Report (SAR) as required by Oyster Creek Facility Operating License Condition 2.C.3. On February 26 through February 28, 2001, the licensee opened and mechanically blocked the two large roll-up fire doors separating the common A and B non-vital switchgear fire area from the individual C and D vital switchgear fire areas. Opening these doors created an expanded fire area enveloping all 4160 volt switchgear. The capability of the carbon dioxide system to achieve and maintain the gas concentration required to suppress a smoldering fire could not be confirmed as described in the SAR and Fire Hazards Analysis Report referenced in the SAR. Although the licensee instituted a continuous fire watch for this area, this compensatory measure was not adequate to maintain prompt manual fire suppression capability to the vital switchgear since the fire watch was not prepared with adequate instruction, specific training, or staged tools to unblock and close both roll-up doors with a reasonable probability of success in the event of a switchgear fire. Additionally compensatory back up suppression capability was not provided, and the fire brigade response was not preplanned to ensure responders would have the tools required to unblock and close the roll-up doors in the event of a fire. This issue was assessed using the SDP phase two evaluation and determined to have very low safety significance, in part, due to mitigating equipment not dependant on power from the 4160 volt switchgear or station batteries. This NCV was closed in IR 2001-003.

Inspection Report# : [2001003\(pdf\)](#)



Significance: Dec 30, 2000

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Adverse Weather Protection

The inspectors evaluated the licensee's failure to properly implement adequate procedures and controls during cold weather conditions. The frozen CST level instrument was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for mitigating systems because the normal source of water for the core spray system from the suppression pool was available. Additionally, an alternate source of water was available from the fire protection system. The failure of the reactor building differential pressure transmitter was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for mitigating systems because the licensee was able to take compensatory readings from other instrumentation. The inspectors identified this as a Non-cited violation for failure to assure that maintenance procedures adequately control equipment and take cold weather conditions into consideration. This resulted in the condensate storage tank (CST) local level instrument becoming frozen because the power supply for the heat trace equipment was inadvertently de-energized for maintenance on an unrelated system (Technical Specification 6.8.1). (NCV 50-219/2000-009-01) This NCV was closed in IR 2000-009.

Inspection Report# : [2000009\(pdf\)](#)



Significance: Nov 18, 2000

Identified By: NRC

Item Type: FIN Finding

Refueling and Outage Activities

The drywell to torus downcomer foreign material exclusion (FME) covers were installed in a manner that was ineffective in preventing foreign material from entering the torus ring header. During a routine walkdown, the inspectors observed foreign material (i.e. hard hat) lodged in the downcomer region. This issue was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for mitigating systems because there was not an actual loss of safety function, the debris was removed from the drywell and torus areas, and an inspection of these areas was performed prior to reactor start-up.

Inspection Report# : [2000008\(pdf\)](#)



Significance: Sep 30, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Operability Evaluations

In March 2000, three acoustic monitors were replaced during a forced outage without assembling the connectors per the system engineer's recommendation. In July 2000, the 'A' EMRV acoustic monitor failed requiring the licensee to request a notice of enforcement discretion from the NRC (IR 5000219/2000-06). This violation of 10 CFR 50 Appendix B, Criterion XVI is being treated as a Non-Cited Violation, consistent with Section VI.A.1 of the Enforcement Policy. This NCV was closed in 2000-007.

Inspection Report# : [2000007\(pdf\)](#)



Significance: Aug 12, 2000

Identified By: Self Disclosing

Item Type: FIN Finding

'C' Emergency Service Water Pump Failure

GREEN. The inspectors evaluated the failure of the 'C' emergency service water (ESW) pump. The licensee has experienced similar failures of ESW pumps and has not yet demonstrated a reliable permanent corrective action to resolve this problem. This issue was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation, because alternate ESW pumps were available to perform its safety function. There was no violation of NRC requirements because the licensee complied with the Technical Specifications limiting conditions for operations and action statements.

Inspection Report# : [2000006\(pdf\)](#)



Significance: Jul 01, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Maintenance Risk Assessment and Emergent Work Evaluation

GREEN. The licensee identified that the charcoal absorption efficiency in standby gas treatment system (SGTS) 1 did not meet the requirements of ASTM D3803-1989. This issue was considered to be Green (very low safety significance) using the significance determination process (SDP) phase 1 evaluation, because the system was still capable of performing the safety function using the alternate train (SGTS 2). The failure to properly revise and implement a surveillance procedure was determined to be a non-cited violation. (NCV 50-219/2000-005-01) Mitigating Systems This NCV was closed in IR 2000-005.

Inspection Report# : [2000005\(pdf\)](#)



Significance: Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Control Rod Drive Partial Equipment Condition and Alignment Verification

The inspectors identified a Non-Cited Violation for failure to assure that design control measures were in place regarding deviation from original design replacement parts on the Control Rod Drive system (10 CFR 50 Appendix B, Criterion III). The inspectors identified two hydraulic control units that had water accumulator belly band clamps which were not of the original design and had not been evaluated by engineering for use on the system. However, the failure to evaluate the adequacy of the replacement part was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 assessment since the band clamps in question were replaced within 24 hours of initial notification of the issue and a subsequent engineering evaluation determined the replacement part to be equivalent. This violation is being treated as a Non-Cited Violation (NCV) consistent with section VI.A.1 of the NRC Enforcement Policy. (NCV 50-219/01-13-01) This NCV was closed in IR2001013.

Inspection Report# : [2001013\(pdf\)](#)



Significance: Feb 09, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Event Follow-up

The inspectors identified a Non-Cited Violation for failure to correct a significant condition adverse to quality identified in 1999, 2000, and again in 2001 (10 CFR 50 Appendix B, Criterion XVI). This condition, associated with degraded control circuit components within 480 volt breakers, is more than minor since multiple failures of a safety related breaker could have a credible impact on safety. The issue affects mitigating systems including containment spray, core spray and control rod drive pumps. The finding was evaluated using an NRC SDP phase 2 assessment and determined to have very low safety significance (Green). This violation is being treated as a Non-Cited Violation (NCV) consistent with section VI.A.1 of the NRC Enforcement Policy. The licensee entered this issue into the CAP (02002-0157). (NCV 50-219/01-13-02) This NCV was closed in IR2001013

Inspection Report# : [2001013\(pdf\)](#)

G

Significance: Dec 29, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Licensee Identified Violations

Violation of Technical Specification 6.8.1 for failure to follow procedures for clearance and tagging of the ESW Heat Trace System. This NCV was closed in report 2001010.

Inspection Report# : [2001010\(pdf\)](#)

G

Significance: Dec 29, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Maintenance Risk Assessment and Emergent Work Evaluation

The inspectors identified a Non-Cited Violation for failure to follow procedures (Technical Specification 6.8.1). The inspectors observed multiple examples of failure to follow a maintenance work order during an emergent 4160 volt safety related electrical cable replacement. Additionally, quality verification witness points were established but not verified by qualified inspectors. However, this failure was considered to have very low safety significance using the SDP phase 1 assessment since the post maintenance testing was successfully completed which indicated the cable in-service performance was satisfactory. This NCV was closed in IR 2001010.

Inspection Report# : [2001010\(pdf\)](#)

G

Significance: Nov 10, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

Licensee Identified Violation, Surveillance Test

On October 18, 2001, following a surveillance test, operations failed to properly implement the procedure and declared SBGTS 2 operable even though the control switch for exhaust fan EF-1-9 was left in the "OFF" position during system restoration. The issue was not corrected until noticed 8.8 hours later by an oncoming operations shift. Section IR 4OA7. This NCV was closed in IROC0109.

Inspection Report# : [2001009\(pdf\)](#)

G

Significance: Aug 11, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Routine Fire Protection Walkdowns

The inspectors identified a Non-Cited Violation for failure to maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report (UFSAR) as required by Oyster Creek Facility Operating License Condition 2.C.3. For approximately 15 days, AmerGen personnel failed to take appropriate compensatory measure for an impaired fire barrier in the reactor building. This finding was determined to have very low safety significance due to the low combustible loading, fire detection capability, and fire suppression system availability in the area of concern. (Section 1R05)

Inspection Report# : [2001007\(pdf\)](#)

Barrier Integrity

G

Significance: Feb 10, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Post Maintenance Testing

The inspectors identified a Non-cited violation for failure to follow procedures (Technical Specification 6.8.1) to remove a foreign material exclusion plug from the reactor building differential pressure transmitter as required by the job order. This differential pressure transmitter is used by operators for entry into abnormal or emergency operating procedures to mitigate the release of fission products from the reactor building to the atmosphere. The failure of the reactor building differential pressure transmitter would be considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for barrier integrity because the licensee was able to take compensatory readings from other instrumentation. (NCV 0500219/2000-010-02) (Section 1R19) This NCV was closed in IR 2000-010.

Inspection Report# : [2000010\(pdf\)](#)

G

Significance: Feb 10, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

Temporary Plant Modifications

The inspectors identified a Non-cited violation for procedure 108.8, "Temporary Modification Control," which was inadequate to implement and control a temporary heater that was used during periods of freezing weather to maintain the reactor building differential pressure transmitter operable. This differential pressure transmitter is used by operators for entry into abnormal or emergency operating procedures to mitigate the release of fission products from the reactor building to the atmosphere. The failure of the reactor building differential pressure transmitter was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for barrier integrity because the licensee was able to take compensatory readings from other instrumentation. (NCV 0500219/2000-010-03) (Section 1R23) This NCV was closed in IR 2000-010.

Inspection Report# : [2000010\(pdf\)](#)

G

Significance: Nov 18, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Inservice Inspection Activities

The licensee had not adhered to procedure requirements governing the control of special processes (welding) for work performed on the core spray and isolation condenser systems during the 18R refueling outage. Replacement and repair activities were conducted using alternate weld filler metals not specified in the weld procedures. This procedural adherence issue is a violation of Technical Specification, Section 6.8.1, "Procedures and Programs," and 10 CFR 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawings." These issues are being treated as a non-cited violation in accordance with the Section VI.A.1 of the NRC Enforcement Policy and the NRC Significance Determination Process. (NCV 05000219/2000-008-02) This NCV was closed in IR 2000-008.

Inspection Report# : [2000008\(pdf\)](#)

G

Significance: Nov 18, 2000

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Personnel Performance During Non-routine Plant Evolutions and Events

The failure to maintain the reactor coolant system cooldown rate within the technical specifications limit of 100 degrees per hour, is a violation of NRC requirements. However, the technical specification bases considers 10 cooldowns exceeding 300 F/hr to be allowable during the lifetime of the facility, and the licensee has not exceeded this. In addition, because this was a depressurization event, the pressure within the reactor vessel followed the saturation curve and the licensee stayed within the pressure/temperature limitations of the reactor vessel. This issue was determined to be of very low safety significance, which resulted in a Green finding. (NCV 05000219/2000-008-03) This NCV was closed in IR 2000-008.

Inspection Report# : [2000008\(pdf\)](#)

G

Significance: Sep 30, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

Event Follow-up

Several examples of poor procedural adherence and inadequate supervision culminated in a personnel error during new fuel receipt and processing. This issue was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation. This violation of Technical Specification 6.8.1 is being treated as a Non-Cited Violation, consistent with Section VI.A.1 of the Enforcement Policy. This NCV was closed in 2000-007.

Inspection Report# : [2000007\(pdf\)](#)

Emergency Preparedness

Occupational Radiation Safety

Significance: N/A Mar 31, 2001

Identified By: Licensee
Item Type: NCV NonCited Violation

Licensee Identified Violations

A violation of very low significance was identified by the licensee and were reviewed by the inspector. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in Section 4OA7. This NCV was closed in IR 2001-002.

Inspection Report# : [2001002\(pdf\)](#)

Significance: N/A Aug 11, 2001

Identified By: Licensee
Item Type: NCV NonCited Violation

Licensee-Identified Violations, Radiation Practice

Technical Specification 6.11, the Oyster Creek Safety and Health Guide, and Site procedure 6630-ADM-4000.11, Rev. 3 require that personnel are to immediately exit the area upon an alarm of their electronic self-reading dosimetry (ESRD) and notify Radiation Protection. Contrary to this requirement, on February 28, 2001 (CAP O2001-0307) and on July 18, 2001 (CAP O2001-1155), personnel experienced ESRD dose-rate alarms and did not exit the area and report to radiation protection. These repetitive events were more than minor in that worker safety could be impacted if they failed to properly respond to alarming dosimeters in situations with the potential for unplanned radiation dose. However, the issues were determined to be of very low significance (GREEN) because the issues did not result in an over exposure, did not create a substantial potential for an over exposure and did not compromise the licensee's ability to assess dose to workers.

Inspection Report# : [2001007\(pdf\)](#)

Public Radiation Safety

Physical Protection



Significance: May 10, 2001

Identified By: NRC
Item Type: FIN Finding

Physical Protection

During the conduct of a force-on-force exercise, the licensee's security response strategy was insufficient to successfully interdict an adversary force. Consequently, there was a presumed loss of a complete target set that was necessary to prevent or mitigate core damage. Accordingly, the physical protection response strategy for this specific circumstance was considered inadequate. This finding was considered to be of low to moderate safety significance because the demonstrated failure to protect a complete target set in a force-on-force exercise may have a credible impact on safety and may be a reasonable precursor to a significant event. The finding involved a required safeguards contingency response in a force-on-force exercise in which there was the loss of at least one complete target set; and the loss was not the result of a broad programmatic problem with the physical protection system. In accordance with Enforcement Guidance Memorandum (EGM) 01-001, no enforcement action is being considered in this matter since the finding was revealed through the conduct of a force-on-force exercise. The licensee took appropriate compensatory action for the identified deficiencies. By letter dated August 28, 2001, the NRC issued the Final Significance Determination for a White Finding. The licensee has submitted an appeal to the NRC.

Inspection Report# : [2001011\(pdf\)](#)

Miscellaneous

Significance: N/A Feb 10, 2001

Identified By: NRC
Item Type: FIN Finding

Problem Identification and Human Performance

Problem identification and human performance errors were identified in the initiating event and barrier integrity cornerstone areas. Operations and maintenance personnel exhibited inadequate procedural adherence with respect to service water system configuration control and reactor building differential pressure transmitter operability. In addition, the licensee identified these issues in the operators shift logs but did not promptly enter them into their corrective action program. (Sections 1R04, 1R19 and 1R23) The safety significance of these individual events was very low.

Inspection Report# : [2000010\(pdf\)](#)

Significance: N/A Jul 01, 2000

Identified By: NRC

Item Type: FIN Finding

Cross-cutting Issues

NO COLOR. Poor communications, procedural adherence and work control practices resulted in significant personnel errors during maintenance activities on safety related equipment. These errors include, one instance of a failure to properly remove an installed temporary jumper on a hydraulic control unit prior to returning the unit to service and one instance of performing electrical troubleshooting activities on an inservice pump breaker that can receive an automatic start signal. While the risk of these individual events was low, the number of maintenance related events this inspection period indicated a problem with work control practices, communications and the quality of review regarding completed work activities.

Inspection Report# : [2000005\(pdf\)](#)

Last modified : March 27, 2002