



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 5, 2012

Vice President, Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NOS. 1 AND 2 - ISSUANCE OF
AMENDMENT RE: REVISE THE SCOPE OF CYBER SECURITY PLAN
IMPLEMENTATION SCHEDULE MILESTONE #6 (TAC NOS. ME8909 AND
ME8910)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 247 to Renewed Facility Operating License No. DPR-51 for Arkansas Nuclear One, Unit No. 1 (ANO-1), and Amendment No. 295 to Renewed Facility Operating License No. NPF-6 for Arkansas Nuclear One, Unit No. 2 (ANO-2), in response to your application dated June 18, 2012.

The amendments revise the scope of the Cyber Security Plan (CSP) Implementation Schedule Milestone #6 and the physical protection license conditions in the facility operating licenses. The amendments modify the scope of Milestone #6 to apply to the technical cyber security controls only. The operational and management controls, as described in Nuclear Energy Institute (NEI) 08-09, Revision 6, would be implemented concurrent with the full implementation of the cyber security program (Milestone #8). Thus, all CSP activities would be fully implemented by the completion date, currently identified in Milestone #8 of the licensee's CSP implementation schedule.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Kalyanam", with a horizontal line underneath the name.

N. Kalyanam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-313 and 50-368

Enclosures:

1. Amendment No. 247 to DPR-51
2. Amendment No. 295 to NPF-6
3. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 247
Renewed License No. DPR-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee), dated June 18, 2012, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 1

2. Accordingly, the license is amended as indicated in the attachment to this license amendment and Paragraph 2.C.(4) of Renewed Facility Operating License No. DPR-51 is hereby amended to read as follows:

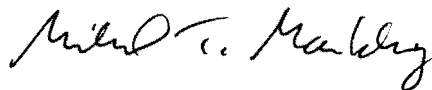
- (4) Physical Protection

EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Arkansas Nuclear One Physical Security Plan, Training and Qualifications Plan, and Safeguards Contingency Plan," as submitted on May 4, 2006.

EOI shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 244 as supplemented by a change approved by License Amendment No. 247.

3. The license amendment is effective as of its date of issuance and shall be implemented by December 31, 2012.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. DPR-51

Date of Issuance: December 5, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 247

RENEWED FACILITY OPERATING LICENSE NO. DPR-51

DOCKET NO. 50-313

Replace the following page of the Renewed Facility Operating License No. DPR-51 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Operating License

REMOVE

-4-

INSERT

-4-

EOI shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 244 as supplemented by a change approved by License Amendment No. 247.

(5) Implementation of the Improved Technical Specifications (ITS)

The licensee is authorized to relocate certain Technical Specification requirements previously included in Appendix A to licensee controlled documents, as described in Table R, Relocated Specifications, and Table LA, Removal of Details, attached to the Safety Evaluation for Amendment No. 215. These requirements shall be relocated to the appropriate documents as part of the implementation of the ITS.

The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 215 shall be as follows:

1. For SRs that are new in this amendment, the first performance shall be due at the end of the first surveillance interval, which begins on the date of implementation of this amendment.
2. For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval shall begin upon completion of the first surveillance performed after implementation of this amendment.
3. For SRs that existed prior to this amendment that contained modified acceptance criteria, the performance shall be due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.
4. For SRs that existed prior to this amendment whose interval of performance are being extended, the first extended surveillance interval shall begin upon completion of the last surveillance performed prior to the implementation of this amendment.

(6) Deleted

(7) Deleted



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

ENERGY OPERATIONS, INC.

DOCKET NO. 50-368

ARKANSAS NUCLEAR ONE, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 295
Renewed License No. NPF-6

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee), dated June 18, 2012, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 2

2. Accordingly, the license is amended as indicated in the attachment to this license amendment and Paragraph 2.D of Renewed Facility Operating License No. NPF-6 is hereby amended to read as follows:

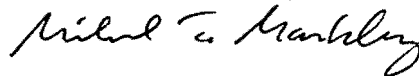
D. Physical Protection

EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Arkansas Nuclear One Physical Security Plan, Training and Qualifications Plan, and Safeguards Contingency Plan," as submitted on May 4, 2006.

EOI shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 294 as supplemented by a change approved by License Amendment No. 295.

3. The license amendment is effective as of its date of issuance and shall be implemented by December 31, 2012.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. NPF-6

Date of Issuance: December 5, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 295

RENEWED FACILITY OPERATING LICENSE NO. NPF-6

DOCKET NO. 50-368

Replace the following page of the Renewed Facility Operating License No. NPF-6 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Operating License

REMOVE

-8-

INSERT

-8-

D. Physical Protection

EOI shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans, including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Arkansas Nuclear One Physical Security, Safeguards Contingency and Training & Qualification Plan," as submitted on May 4, 2006.

EOI shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 294 as supplemented by a change approved by License Amendment No. 295.

E. This renewed license is subject to the following additional condition for the protection of the environment:

Before engaging in additional construction or operational activities which may result in an environmental impact that was not evaluated by the Commission, EOI will prepare and record an environmental evaluation for such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated, or that is significantly greater than that evaluated, in the Final Environmental Statement (NUREG-0254) or any addendum thereto, and other NRC environmental impact assessments, EOI shall provide a written evaluation of such activities and obtain prior approval from the Director, Office of Nuclear Reactor Regulation.

F. Updated Final Safety Analysis Report Supplement

The Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, ANO-2 may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ANO-2 evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements of that section.

The ANO-2 Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. ANO-2 shall complete these activities no later than July 17, 2018, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 247 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-51

ARKANSAS NUCLEAR ONE, UNIT NO. 1

AND AMENDMENT NO. 295 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS NUCLEAR ONE, UNIT NO. 2

DOCKET NOS. 50-313 AND 50-368

1.0 INTRODUCTION

By application dated June 18, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12192A102), Entergy Operations, Inc. (Entergy, the licensee), requested changes to the Renewed Facility Operating Licenses (FOLs) for Arkansas Nuclear One, Unit Nos. 1 and 2 (ANO-1 and ANO-2). The proposed changes would revise the scope of Cyber Security Plan (CSP) Implementation Schedule Milestone #6 and the existing license conditions in the Renewed FOLs. Milestone #6 of the CSP implementation schedule concerns the identification, documentation, and implementation of cyber security controls (technical, operational, and management) for critical digital assets (CDAs) related to target set equipment. Entergy is requesting to modify the scope of Milestone #6 to apply to the technical cyber security controls only. The operational and management controls, as described in Nuclear Energy Institute (NEI) 08-09, Revision 6, would be implemented concurrent with the full implementation of the cyber security program (Milestone #8). Thus, all CSP activities would be fully implemented by the completion date, identified in Milestone #8 of the licensee's CSP implementation schedules.

Portions of the letter dated June 18, 2012, contain sensitive unclassified non-safeguards information and, accordingly, those portions are withheld from public disclosure.

2.0 REGULATORY EVALUATION

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed and approved the licensee's existing CSP implementation schedule by License Amendment Nos. 244 and 294 dated July 27, 2011 (ADAMS Accession No. ML111861394), concurrent with the incorporation of the CSP into

the facility current licensing basis. The NRC staff considered the following regulatory requirements and guidance in its review of the current license amendment request to modify the existing CSP implementation schedule:

- Title 10 of the *Code of Federal Regulations* (10 CFR) 73.54 states: "Each [CSP] submittal must include a proposed implementation schedule. Implementation of the licensee's cyber security program must be consistent with the approved schedule."
- The licensee's renewed FOLs include a license condition that requires the licensee to fully implement and maintain in effect all provisions of the Commission-approved CSP.
- Amendment Nos. 244 and 294, dated July 27, 2011, which approved the licensee's CSP and implementation schedule, included the following statement: "The implementation of the CSP, including the key intermediate milestone dates and the full implementation date, shall be in accordance with the implementation schedule submitted by the licensee on April 1, 2011, and approved by the NRC staff with this license amendment. All subsequent changes to the NRC-approved CSP implementation schedule will require prior NRC approval pursuant to 10 CFR 50.90."
- In a letter to the Nuclear Energy Institute (NEI), dated March 1, 2011 (ADAMS Accession No. ML110070348), the NRC staff acknowledged that the cyber security implementation schedule template was "written generically and licensees that use the template to develop their proposed implementation schedules may need to make changes to ensure the submitted schedule accurately accounts for site-specific activities."

3.0 TECHNICAL EVALUATION

3.1 Background

Amendment Nos. 244 and 294 to Renewed Facility Operating License Nos. DPR-51 and NPF-6 for ANO-1 and ANO-2, respectively, were issued on July 27, 2011. The NRC staff also approved the licensee's CSP implementation schedule, as discussed in the safety evaluation issued with the amendments. The implementation schedule had been submitted by the licensee based on a template prepared by NEI, which the NRC staff found acceptable for licensees to use to develop their CSP implementation schedules (ADAMS Accession No. ML110600218). The licensee's proposed implementation schedule for the Cyber Security Program identified completion dates and bases for the following eight milestones:

- 1) Establish the Cyber Security Assessment Team (CSAT);
- 2) Identify Critical Systems and CDAs;
- 3) Install a deterministic one-way device between lower level devices and higher level devices;

- 4) Implement the security control "Access Control For Portable And Mobile Devices;"
- 5) Implement observation and identification of obvious cyber related tampering to existing insider mitigation rounds by incorporating the appropriate elements;
- 6) Identify, document, and implement cyber security controls as per "Mitigation of Vulnerabilities and Application of Cyber Security Controls" for CDAs that could adversely impact the design function of physical security target set equipment;
- 7) Commence ongoing monitoring and assessment activities for those target set CDAs whose security controls have been implemented; and
- 8) Fully implement the CSP.

3.2 Licensee's Proposed Changes

Currently, Milestone #6 of the Arkansas Nuclear One (ANO) CSP requires Entergy to identify, document, and implement cyber security controls for CDAs that could adversely impact the design function of physical security target set equipment by December 31, 2012. These cyber security controls consist of technical, operational and management security controls. In its application dated June 18, 2012, Entergy proposed to modify Milestone #6 to change the scope of the cyber security controls due to be implemented on December 31, 2012, to include only the NEI 08-09, Revision 6, Appendix D technical security controls. Entergy proposes to amend the ANO CSP to provide that operational and management security controls, identified in Milestone #6, will be fully implemented by a later date, which is the completion date identified in Milestone #8 of the CSP implementation schedule. The licensee stated that implementing the technical cyber security controls for target set CDAs provides a high degree of protection against cyber-related attacks that could lead to radiological sabotage. The licensee further stated that many of its existing programs are primarily procedure-based programs and must be implemented in coordination with the comprehensive Cyber Security Program. The licensee also stated that the existing programs currently in place at ANO (e.g., physical protection, maintenance, configuration management, and operating experience) provide sufficient operational and management cyber security protection during the interim period until the Cyber Security Program is fully implemented.

3.3 Detailed Description of FOL Changes

Current ANO-1 Renewed FOL paragraph 2.c.(4) states, in part, that:

EOI shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 244.

Revised ANO-1 Renewed FOL paragraph 2.c.(4) would state, in part, that:

EOI shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the

authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 244 as supplemented by a change approved by License Amendment No. 247.

Current ANO-2 Renewed FOL paragraph 2.D states, in part, that:

EOI shall fully implement and maintain in effect all provisions of the Commission approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 294.

Revised ANO-2 Renewed FOL paragraph 2.D would state, in part, that:

EOI shall fully implement and maintain in effect all provisions of the Commission approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The EOI CSP was approved by License Amendment No. 294 as supplemented by a change approved by License Amendment No. 295.

3.4 NRC Staff Evaluation

The intent of the cyber security implementation schedule was for licensees to demonstrate ongoing implementation of their cyber security program prior to full implementation, which is set for the date specified in Milestone #8. In addition to Milestone #6 and its associated activities, licensees will be completing six other milestones (Milestones #1 through #5 and Milestone #7) by December 31, 2012. Activities include establishing a Cyber Security Assessment Team, identifying critical systems and CDAs, installing deterministic one-way devices between defensive levels, implementing access control for portable and mobile devices, implementing methods to observe and identify obvious cyber-related tampering, and conducting ongoing monitoring and assessment activities for target set CDAs. In the aggregate, the interim milestones demonstrate ongoing implementation of the cyber security program at ANO.

The NRC staff has reviewed the licensee's evaluation of the proposed change in its submittal dated June 18, 2012, and concludes that by completing Milestones #1 through #5, Milestone #6 with implementation of technical controls to target set CDAs, and Milestone #7, ANO will have an acceptable level of cyber security protection until full program implementation is achieved. Technical cyber security controls include access controls, audit and accountability, CDA and communications protection, identification and authentication, and system hardening. These controls are executed by computer systems, as opposed to people, and consist of hardware and software controls that provide automated protection to a system or application. Implementation of technical cyber security controls promotes standardization, trust, interoperability, connectivity, automation, and increased efficiency. For these reasons, the NRC staff concludes that the licensee's approach is acceptable.

The NRC staff also recognizes that full implementation of operational and management cyber security controls in accordance with requirements of the ANO CSP will be achieved with full implementation of the ANO Cyber Security Program by the date set in Milestone #8. That is, all required elements for the operational and management cyber security controls in accordance

with the ANO CSP will be implemented in their entirety at the time of full implementation of the CSP.

The licensee made a regulatory commitment in its application dated June 18, 2012. However, the NRC staff does not regard the CSP milestone implementation dates as regulatory commitments that can be changed unilaterally by the licensee, particularly in light of the regulatory requirement at 10 CFR 73.54, that "[i]mplementation of the licensee's cyber security program must be consistent with the approved schedule." As the NRC staff explained in its letter to all operating reactor licensees dated May 9, 2011 (ADAMS Accession No. ML110980538), the implementation of the plan, including the key intermediate milestone dates and the full implementation date, shall be in accordance with the implementation schedule submitted by the licensee and approved by the NRC. All subsequent changes to the NRC-approved CSP implementation schedule, thus, will require prior NRC approval pursuant to 10 CFR 50.90.

3.5 Summary

Based on its review of the licensee's submissions, the NRC staff concludes that the proposed changes to Milestone #6 of the licensee's CSP implementation schedule are acceptable. The NRC staff also concludes that, upon full implementation of the licensee's cyber security program, the requirements of the licensee's CSP and 10 CFR 73.54 will be met. Therefore, the NRC staff concludes that the proposed changes are acceptable.

4.0 REGULATORY COMMITMENT

In its letter dated June 18, 2012, Entergy made the following regulatory commitment:

Entergy will implement milestones 1, 2, 3, 4, 5, and 7 described in Attachment 4 of letter dated April 1, 2011 (OCAN041101), and the revised Milestone 6 in Attachment 4 of this submittal.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

These amendments relate solely to safeguards matters and do not involve any significant construction impacts. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on September 11, 2012 (77 FR 55871). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(12). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

7.0 CONCLUSION

The NRC Staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Harris, M. Coffin

Date: December 5, 2012

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

N. Kalyanam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-313 and 50-368

Enclosures:

1. Amendment No. 247 to DPR-51
2. Amendment No. 295 to NPF-6
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JPoole, NRR/DORL

ADAMS Accession No. ML12254A852

*SE memo dated

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NSIR/DSP/CSIRB/BC	OGC NLO	NRR/LPL4/BC	NRR/LPL4/PM
NAME	NKalyanam	JBurkhardt	CErlanger	BMizuno	MMarkley	NKalyanam
DATE	11/18/12	11/8/12	9/4/12	11/30/12	12/5/12	12/5/12

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