Nuclear Innovation
North America LLC
122 West Way, Suite 405
Lake Jackson, Texas 77566
979-316-3000

October 1, 2014
U7-C-NINA-NRC-140033

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Revised Response to Request for Additional Information

Attached is the Nuclear Innovation North America, LLC (NINA) revised response to an NRC staff question in Request for Additional Information (RAI) letter 449 related to SRP Chapter 1. The attachment to this letter contains the revised response to the following RAI question which replaces the previous response in its entirety:

01-26

This submittal supersedes U7-C-NINA-NRC-110062 (ML110980614) which withdrew requests for 10 CFR Part 30 and 40 licenses.

The COLA markups in this submittal will be made in the first routine COLA update following NRC acceptance of the RAI response.

There are no commitments in this submittal.

If you have any questions, please contact me at (979) 316-3011 or Bill Mookhoek at (979) 316-3014.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 10/1/14

Scott Head
Manager, Regulatory Affairs
NINA STP Units 3&4

Attachment: RAI 01-26, Revision 1

D091
NRO

Cc: w/o attachment except*
(paper copy)

Director, Office of New Reactors
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
1600 E. Lamar Blvd.
Arlington, Texas 76011-8064

Kathy C. Perkins, RN, MBA
Assistant Commissioner
Division for Regulatory Services
Texas Department of State Health Services
P. O. Box 149347
Austin, Texas 78714-9347

Robert Free
Radiation Inspections Branch Manager
Texas Department of State Health Services
P. O. Box 149347
Austin, Texas 78714-9347

*Steven P. Frantz, Esquire
A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP
1111 Pennsylvania Ave. NW
Washington D.C. 20004

*Tom Tai
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852

(electronic copy)

*Tom Tai
Fred Brown
U. S. Nuclear Regulatory Commission

Denise Wilson
Nuclear Innovation North America

Peter G. Nemeth
Crain, Caton and James, P.C.

Richard Peña
Kevin Pollo
L. D. Blaylock
CPS Energy

QUESTION

Chapter 1 of the *Standard Review Plan for the Review of Safety Analysis Reports for NuclearPower Plants LWR Edition* (SRP), NUREG-0800 indicates that the application should include information on the type of license being requested. In Part 1, Section 1.1 of the Final Safety Analysis Report (FSAR), Nuclear Innovation North America LLC requests Class 103 combined licenses under 10 CFR Part 52 to construct, possess, and use South Texas Project (STP) Units 3 and 4 at the designated location in Matagorda County, Texas. STP Nuclear Operating Company requests Class 103 combined licenses under 10 CFR Part 52 to possess, use, and operate STP Units 3 and 4. These requests initially included a request for licenses to receive, possess, and use byproduct, source, and special nuclear material (SNM), pursuant to 10 CFR Parts 30, 40, and 70.

However, in a letter dated April 6, 2011 (ML110980614), the applicant proposed a revision to FSAR Section 1.1, removing the request to receive, possess, and use material under 10 CFR Parts 30 and 40, but retaining a request for licenses under 10 CFR Part 70 to receive, possess, and use at any time such quantities of source, byproduct, and special nuclear material as needed to construct and operate the facility. The changes to FSAR Section 1.1 were incorporated in FSAR Revision 6, and remain in the current version of the FSAR, Revision 10. The applicant stated that as it identified the need to procure radioactive materials for STP, it would then apply for the appropriate licenses to possess this material.

As a general matter, to the extent that the application discusses the applicant's proposed receipt, possession, and/or use of radioactive materials, the COL review of this information must include the licenses for the proposed activities. Separate and apart from this consideration, since a combined license is defined under 10 CFR Part 52 as a license to construct and operate a reactor, a Part 52 COL application must contain all of the information necessary to allow the NRC to find at the time of COL issuance that both construction and operation will be in accordance with all applicable requirements, including NRC regulations. Therefore, at COL issuance, a licensee must be licensed to conduct all activities required of them in order to construct and operate a reactor, such as receipt, possession, and use of sources for reactor startup, reactor instrumentation, and radiation monitoring equipment calibration, and the possession of SNM and byproduct material produced by the operation of the facility. The licensee need not be licensed for activities that can be performed by a licensed contractor or other licensed entity, such as work performed by a licensed radiographer during plant construction.

As an example, STP FSAR Subsection 12.2.1.2.9.6 discusses several sealed sources of radioactive material. These include sources for installed radiation monitoring system detectors and portable radiation detector calibration activities that are expected to be less than 100 millicuries. It further states that large sources used for radiography at STP will be under a license granted to (sic, should be 'by') the State of Texas. In addition, ABWR DCD Section 12.2 provides a description of the key component sources of radioactivity present in the ABWR. Included in this description is a reactor startup source. In order to receive, possess, or use this material, as appropriate, a license is required under 10 CFR 30.3 or 10 CFR 40.3. Since these sources are intrinsic to the operation of the reactor, the licensee must be licensed to receive, possess, and use Part 30 or Part 40 material, as appropriate, at the time of COL issuance.

Therefore, the applicant is requested to update FSAR Section 1.1 to include a request for the materials licenses necessary to construct and operate the reactor. The applicant is also requested to correct the editorial error in FSAR subsection 12.2.1.2.9.6 (described above), and to correct the discussion in FSAR Section 1.1 regarding the parts under which licenses are requested (10 CFR Part 70 is for SNM, not for source or byproduct material). Although the applicant did not withdraw the application for Part 70, staff recommends that the applicant update, as necessary, that application when requesting the Part 30 and Part 40 licenses. When updating the license action requests in Part 1, Section 1.1, the applicant should ensure that the request in terms of Part 30 or Part 40 is consistent with the description of the byproduct and source material to be obtained as described elsewhere in the COLA.

To assist STP with providing the requested information, NRC staff has prepared the table below. Use of this table to supply the information will expedite the NRC staff review and ensure that all the required information is provided. Much of the requested information is already provided in the FSAR or other referenced documents and the NRC staff has identified the pertinent sections in the COLA where it believes the requested information may already exist. The applicant should confirm the location of this information and ensure that the information provided in those sections of the application is sufficient. The highlighted rows in the table below indicate information that has not been provided. Some of this information listed in the table may not be relevant for the STP application and therefore may not need to be included in STP's application.

The column titled "Regulatory Guidance" provides references to the primary guidance for an application to possess radioactive material under Parts 30, 40, or 70. NUREG-1556, *Consolidated Guidance About Materials Licenses*, is a multi-volume guidance series. It is intended for use by applicants, licensees, and NRC staff for materials license applications and the review of those applications. This NUREG series is available on the NRC public web site. Separate guidance for Parts 30, 40, or 70 material licensed for use in reactor facilities in conjunction with a Part 50 or Part 52 license has not been created. The applicant should utilize this guidance in preparing the request for the materials licenses. These requests may be modified as necessary to fit the planned use of the materials at the applicant's facility.

In addition, NRC staff will follow the policy and guidance memorandum issued on September 16, 1983 (ML063410482) regarding NRC/Agreement State jurisdiction over materials licenses connected with reactor construction and operation. This memorandum discusses the possession and use of radioactive materials at a reactor facility when the materials are directly connected with reactor construction and operation. The applicant should also review State Agreements (SA) Series procedure SA-500 (ML072610457), available on the NRC public web site under the 'National Materials Program' section and 'FSME Procedures.' SA-500 describes the process for resolving questions of jurisdiction between the NRC and Agreement States over the use of byproduct, source, and SNM.

CROSS-REFERENCE OF REGULATIONS AND REGULATORY GUIDANCE IN SUPPORT OF REVIEW OF PART 30/40/70 LICENSE APPLICATION VS. PART 52 COLA CONTENT

	Review Area	Regulations	Regulatory Guidance	COLA Chapter
1	License Action Type	10 CFR Parts 30, 40, and/or 70	NUREG-1556, Volume 7, Section 8.1 and Appendix D.1, Item No. 1 **OR** Section 8.1 of Volume 17 (SNM	Part 1, section 1.1
2	Legal Identity	10 CFR 30.32, 40.31, and 70.22	NUREG-1556, Volume 7, Section 8.2 and Appendix D.2, Item No. 2 **OR** Section 8.3 of Volume 17 (SNM)	Part 1, sections 1.0 & 1.2
3	Address	10 CFR 30.32, 40.31, and 70.22	NUREG-1556, Volume 7, Section 8.3 and Appendix D.3 Item Nos. 2 and 3 **OR** Section 8.3 of Volume 17 (SNM)	Part 1, section 1.2 (mailing address) Part 2, FSAR, section 1.1.7 (physical location)
4	Person to be Contacted About this Application	10 CFR 30.32, 40.31, and 70.22	NUREG-1556, Volume 7, Section 8.4 and Appendix D.4, Item No. 4 **OR** Section 8.4 of Volume 17 (SNM)	Part 1, section 1.2
5	Materials to be Possessed and Proposed Uses	10 CFR 30.4, 30.14, 30.15, 30.18, 30.19, 30.21, 30.32(g), 30.32(i), 30.33, 31.5, 31.8, 40.1, 40.3, 40.4, 40.32, 40.34, 40.35, 70.22, and 70.24	NUREG-1556, Volume 7, Sections 8.5.1, 8.6, Appendix C, and Appendix D.5, Item Nos. 5 and 6 **OR** Sections 8.5.1, 8.6, and Appendix C of Volume 17 (SNM)	Applicant must provide this information. Following the examples of other applications is recommended.
6	Financial Assurance and Recordkeeping for Decommissioning (if applicable)	10 CFR 30.35, 30.32(h), 40.31(i), 40.36, and 70.25	NUREG-1556, Volume 7, Section 8.5.2, Appendix C, and Appendix G **OR** Section 8.5.2, Appendix C of Volume 17 (SNM) **AND** NUREG-1757, Volume 3, Chapter 4 and Appendix A	Part 1, section 1.4 for the COLA addresses 10 CFR 50.75(c), but may not address the requirements for Parts 30/40/70 if any of the requested material exceeds the applicable thresholds
7	Individual(s) Responsible for Radiation Safety Program and Their Training and Experience and Authorized User	10 CFR 20.110130.33(a)(3), 40.32(b), and 70.23(a)(2)	NUREG-1556, Volume 7, Sections 8.7.1, 8.7.2, Appendix C, and Appendix D.6, Item No. 7 **OR** Sections 8.7.1, 8.7.2, and Appendix C of Volume 17 (SNM)	Part 2, FSAR, Chapter 12
8	Training for Individuals Working in or Frequenting Restricted Areas (Occupationally Exposed Individuals and Ancillary Personnel)	10 CFR 19.11, 19.12, 19.13, 20.1801, 20.1802, 30.7, 30.9, 30.10, 30.33(a)(3), 40.32(b), 70.22(a)(6), and 70.23(a)(2)	NUREG-1556, Volume 7, Section 8.8, Appendix C, and Appendix D.6, Item No. 8 **OR** Section 8.8 and Appendix C of Volume 17 (SNM)	Part 2, FSAR, Chapter 12
9	Facilities and Equipment	10 CFR 20.1101(b),	NUREG-1556, Volume 7, Section 8.9, Appendix C, and Appendix	Part 2, FSAR, Chapter 1

		20.1406, 30.33(a)(2), 30.35(g), 40.32(c), 70.22(a)(7), and 70.23(a)(3)	D.6, Item No. 9 **OR** Section 8.9, Appendix C, and Appendix F of Volume 17 (SNM)	
10	Radiation Safety Program	10. CFR 20.1101, 20.2102, 21.21(a), 40.32(c), 70.22(a)(8), and 70.23(a)(4)	NUREG-1556, Volume 7, Section 8.10, Appendix C, and Appendix D.6, Item No. 10 **OR** Section 8.10 and Appendix C of Volume 17 (SNM)	Part 2, FSAR, Chapter 12
11	Waste Management	10 CFR 20.1904, 20.2001, 20.2002, 20.2003, 20.2004, 20.2005, 20.2006, 20.2007, 20.2108, 30.51, 61.52, and 70.51	NUREG-1556, Volume 7, Section 8.11, Appendix C, and Appendix D.6, Item No. 11 **OR** Section 8.11 and Appendix C of Volume 17 (SNM)	Part 2, FSAR, Chapter 11
12	Certification	10 CFR 30.32(c), 40.31(b), and 70.22(d)	Section 8.13 and Appendix B of NUREG-1556, Volume 7 **OR** Volume 17 (SNM)	October 29, 2013 letter for FSAR Revision 10 (ML13310A599)
13	Applications for Exemptions	10 CFR 19.31, 20.2301, 30.11, 40.14, and 70.17	Section 10 of NUREG- 1556, Volume 7 OR Volume 17 (SNM)	Applicant to complete if there are any related exemption requests (none are currently specified in the COLA)
14	Material Control and Accounting (MC&A) SNM only	10 CFR 74, Subpart B 10 CFR 70.22(b) includes an exemption from a 10 CFR 74.31 FNMCP for SNM used at a Part 50 (but not Part 52) reactor site.	Section 8.10.3 of NUREG-1556, Volume 17	Applicant to complete if necessary (dependent on SNM sources requested)
15	Physical Security	10 CFR 70.22 (k), 73.55, and 73.67	Section 13.6.1 of NUREG-0800	May be covered by Part 2, FSAR, Chapter 13 (if SNM sources are requested)

RESPONSE

1) Update COLA Part 1, Subsection 1.1,"License Actions Requested"

COLA Part 1, Subsection 1.1 will be revised in the next revision of the COLA as shown below in shaded text to include a request for 10CFR Part 30 and Part 40 licenses.

1.1 License Actions Requested

The purpose of this COLA is to obtain NRC approval to construct and operate two nuclear powered generating plants. The plants will be located at the existing South Texas Project Electric Generating Station in Matagorda County, Texas. In support of this objective, NINA requests the following license actions:

- License NINA, pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 52 to construct, possess, and use South Texas Project Unit 3 at the designated location in Matagorda County, Texas. It is requested that the license contains ~~a~~ provisions that includes the applicable licenses under 10 CFR Parts 30, 40, and 70 (including Reporting Criteria of 10 CFR 70) to receive, possess, and use at any time such quantities of source, byproduct and special nuclear material as needed to construct the utilization facility and transition the utilization facility to STPNOC for operation on the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103(c).

- License STPNOC pursuant to Section 103 of the Act and 10 CFR Part 52 to possess, use, and operate South Texas Project Unit 3 at the designated location in Matagorda County, Texas, beginning on the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103 (c). It is requested that the term of the license be for a period of 40 years from the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103(c), and contains ~~a~~ provisions that includes the applicable licenses under 10 CFR Parts 30, 40, and 70 (including Reporting Criteria of 10 CFR 70) to receive, possess, and use at any time such quantities of source, byproduct, and special nuclear material as needed to operate the utilization facility.

- License NINA 3 and CPS Energy pursuant to Section 103 of the Act and 10 CFR Part 52 to possess South Texas Project Unit 3 and own a 92.375% and a 7.625% undivided interest, respectively, therein, at the designated location in Matagorda County, Texas. It is requested that the term of the license be for a period of 40 years from the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103(c).

- License NINA pursuant to Section 103 of the Act and 10 CFR Part 52 to construct, possess, and use South Texas Project Unit 4 at the designated location in Matagorda County, Texas. It is requested that the license contains a provisions that includes the applicable licenses under 10 CFR Parts 30, 40, and 70 (including Reporting Criteria of 10 CFR 70) to receive, possess, and use at any time such quantities of source, byproduct, and special nuclear material as needed to construct the utilization facility and transition the utilization facility to STPNOC for operation on the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103 (c).

- License STPNOC pursuant to Section 103 of the Act and 10 CFR Part 52 to possess, use, and operate South Texas Project Unit 4 at the designated location in Matagorda County, Texas, beginning on the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103(c). It is requested that the term of the license be for a period of 40 years from the date on which the Commission makes a finding that acceptance criteria are met under 10 CFR 52.103(g) or allows operation during an interim period under the combined license under 10 CFR 52.103(c), and contains a provisions that includes the applicable licenses under 10 CFR Parts 30, 40, and 70 (including Reporting Criteria of 10 CFR 70) to receive, possess, and use at any time such quantities of source, byproduct, and special nuclear material as needed to operate the utilization facility.

This application is for the necessary licenses issued under 10 CFR Part 30, 10 CFR Part 40, and 10 CFR Part 70 to receive, possess, and use byproduct, source, and special nuclear material. Special nuclear material shall be in the form of reactor fuel and spent fuel, in accordance with limitations for storage and amounts required for reactor operation. Additionally, byproduct, source, and special nuclear material shall be in the form of sealed neutron sources for reactor startup and sealed sources for reactor instrumentation, radiation monitoring equipment, calibration, and fission detectors in amounts as required. In preparation for the initial fuel loading, limitations on byproduct material and Part 40 specifically licensed source material will be as described below. Pursuant to 10 CFR 52.8, this application also seeks licenses, which would be incorporated into the COL, to possess, but not separate, such byproduct, and special nuclear material, as may be produced by the operation of the facility. Following the 10 CFR 52.103(g) finding, byproduct, source, and special nuclear material in amounts as required, without restriction to chemical or physical form, shall be for sample analysis, instrument and equipment calibration, or associated with radioactive apparatus or components.

10 CFR Part 40 Material

No 10 CFR Part 40 specifically licensed material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used during the period between issuance of the COL and the 10 CFR 52.103(g) finding.

10 CFR Part 30 Material

The radioactive material identified below represents nominal values of projected materials that will be used for the Radiation Monitoring System, laboratory/portable monitoring instrumentation, and the startup source.

Radioactive Licensee Material (Element and Mass Number)[1]	**Chemical and/or Physical Form[1]**	**Maximum Quantity that Licensee May Possess at any one Time[1]**
Any byproduct material with atomic numbers 1 through 95	Sealed Sources[2]	No single source to exceed 100 millicuries 5 Curies total
Californium-252	Cf-Pd Wire Start-up source	0.749 mg per source (0.40 Ci) 5 sources Total = 3.745 mg (2.01 Ci)

Notes: 1. This information remains in effect between issuance of the COL and the 10 CFR 52.103(g) finding and will be designated historical information after that time.
2. Includes calibration and reference sources.

10 CFR Part 70 Non-Fuel Special Nuclear Material

The radioactive material identified below represents nominal values of known non-fuel special nuclear material specifically required.

Name	Chemical or Physical Form	Amount
Uranium 234 and 235 in Start-up Range Neutron Monitor (SRNM)	Uranium Oxide in SRNM detector-fission chamber	Approximately 5.6 mg of UO2 (U235:U234 = 1:4) per SRNM detector assembly 10 SRNM detectors – Total amount = 56 mg
Uranium 234 and 235 in the Local Power Range Monitor (LPRM)	Uranium oxide in LPRM Detector - fission chamber	Approximately 13 mg of UO2 (U235:U234 = 1:4) per LPRM detector assembly. 52 LPRM detector assemblies - Total amount = approximately 676 mg .
Uranium 235 in the Traversing In-core Probe (TIP) detector	Uranium oxide in TIP detector – fission chamber	Approximately 1 mg of the UO2 per TIP detector. 3 TIP detectors - Total amount = approximately 3 mg.

2. Review of Cross Reference Table

NINA has reviewed the Cross-Reference Table provided in this RAI and verified that the applicable COLA chapters referenced are correct.

Those items needing additional information are addressed below.

Item 5: Materials to be Possessed and Proposed Uses

The materials to be possessed and their proposed uses are discussed above.

Item 6: Financial Assurance and Recordkeeping for Decommissioning

Prior to the Commission making a 10 CFR 52.103(g) determination, byproduct material will not be possessed in quantities requiring financial assurance in accordance with 10 CFR 30.35.

Item 13: Applications for Exemptions

U7-C-NINA-NRC-1100133 (ML11307A239), requested an exemption from the requirements of 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51.

Item 14: Material Control and Accounting (MC&A) SNM only

FSAR Chapter 13, Table 13.4S-1, "Operational Programs Required by NRC Regulations and Program Implementation," Item 21 requires that the SNM Material and Accounting Program be implemented prior to receipt of SNM on site (License Condition). In addition, FSAR Subsection 13.5.3.4.1(1) requires the development of Material Control and Accounting procedures.

Item 15: Physical Security

FSAR Chapter 13, Table 13.4S-1, "Operational Programs Required by NRC Regulations and Program Implementation," Item 15 requires implementation of the Physical Security Plan prior to fuel receipt (License Condition).

FSAR Subsection 13.6 describes the Physical Security Program which meets all applicable regulatory requirements. The Physical Security Plan is included in Part 8 of the STP 3 & 4 COLA.

All source, byproduct, and special nuclear material possessed by STP 3 & 4 will be maintained within the site protected area.

3. Correction of Editorial Error

FSAR Subsection 12.2.1.2.9.6 will be revised in the next revision of the COLA as shown in shaded text to correct an editorial error.

12.2.1.2.9.6 Other Contained Sources

The following supplementary information is provided:

The radiation sources for installed radiation monitoring system detectors and portable radiation detector calibration activities are expected to be less than 100 millicuries. It is expected that large sources used for radiography at STP 3&4 will be under a license granted ~~to~~ by the State of Texas. Other operations that could be expected to utilize a source exceeding 100 millicuries are associated with general dosimetry calibration and the calibration of portable radiation monitoring equipment utilized by Health Physics personnel. These activities are expected to be performed by the Metrology Laboratory for STP Units 1 & 2.