



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

March 22, 2001

OFFICE OF
ACRS/ACNW

MEMORANDUM TO: Dr. John B. Garrick, Chairman
ACRS/ACNW Joint Subcommittee

Dr. Thomas S. Kress, Co-Chairman
ACRS/ACNW Joint Subcommittee

FROM: *Michael T. Markley*
Michael T. Markley, Senior Staff Engineer, ACRS

SUBJECT: MEETING SUMMARY: CONCERNING NMSS MEETINGS WITH
INDUSTRY REPRESENTATIVES AND BWXT ON ISA

The purpose of this memorandum is to provide a written summary for meetings between representatives of the NRC staff Office of Nuclear Material Safety and Safeguards (NMSS) and stakeholders concerning Integrated Safety Analysis (ISA). On February 8, 2001, the staff held a public meeting to discuss proposed NUREG-1520 Standard Review Plan (SRP) Chapter 3 and associated Appendix A for use by the staff in reviewing licensee ISA Summaries. On March 13, 2001, the staff met with representatives of Babcox and Wilcox Naval Fuels (BWXT) to discuss their plans and schedule for submitting their ISA Summary.

SRP Chapter 3

Mr. Thomas Cox, NMSS, led the discussions for the NRC staff. Messrs. Robert Pierson, Phillip Ting, Dennis Damon, Ed Flack, and Ms. Lidia Roche, NMSS, provided supporting discussion. Significant points raised during the discussion include:

- The staff stated that the ISA focus is to identify the accident sequences, the likelihood of certain events, and the consequences. The staff added that the key is to evaluate all the ways things can go wrong and all the associated items relied on for safety (IROFS). The staff stated that they envision an approach that is focused more on reliability engineering than PRA.
- The staff stated that some judgment will be needed in evaluating ISAs and offered to develop a template for use in the SRP to ensure consistency in NRC review of ISA Plans and Summaries.

Mr. Felix Killar of the Nuclear Energy Institute (NEI) led the discussions on behalf of the industry. Messrs. Clifton Ferrell, NEI, and Steven Schilthelm, BWXT, provided supporting discussion. Significant points raised during the presentation include:



- NEI representatives expressed concern regarding the absolute nature regarding the identification of "all" accident sequences. The NEI representative expressed objection to the fact that a lot of information is being requested that was not needed prior to the 10 CFR Part 70 rulemaking. He expressed objection to the amount of paper that will need to be generated without enhancing plant safety.
- The BWXT representative stated that their ISA is complete and expressed concern over potential regulatory creep toward PRA. They stated that their ISA is 95% criticality safety and expressed objection to the apparent NRC message being "probabilistic." The BWXT representative stated that they do see a benefit in over-analyzing a double contingency or two unlikely independent events using PRA methods.

At the conclusion of the meeting, the staff reiterated their support for reliability engineering methods and stated that the SRP was not dictating a probabilistic approach.

BWXT Meeting on ISA

Mr. Steven Schilthelm, BWXT, provided a brief presentation on the status on BWXT ISA Plan that is required to be submitted to the NRC by April 18, 2001. Significant points raised during the presentation include:

- BWXT believes that it is important to clearly distinguish the difference between the licensing process and ISA. He stated that many items in their facility's safety analysis are redundant to ISA. He expressed the view that the revised 10 CFR Part 70 is a criticality safety rule and not an IROFS rule. BWXT stated that they do not plan to modify their license to conform to the SRP.
- BWXT does not want to submit their accident scenario worksheets and questioned the NRC acceptance of BWXT submitting only a narrative portion of the ISA with enhanced text descriptions.
- BWXT representatives reiterated that their ISA is complete and do not plan to do further analysis. They stated that are willing to reformat their ISA to be enhance the NRC's review but informed the staff that they do not plan to assign probabilistic numbers to their likelihood evaluations.
- BWXT representatives stated that the ISA Plan is mostly process and not very technical. They noted that the ISA Summary will have more technical information but may not be very quantitative.

At the conclusion of the meeting, BWXT representatives offered to hold a meeting at the site in order to discuss their accident sequence development and likelihood evaluations.

Expected Committee/Subcommittee Action

The ACNW is scheduled to discuss the issues and outcomes from the January 19, 2001 ACRS/ACNW Joint Subcommittee meeting during the March 21-23, 2001 ACNW meeting.



From my view, it is not apparent that the staff has much objection to the industry's aversion to probabilistic-type analysis for fuel facilities. This may not be inappropriate; however, it seems reasonable that there should be some level of assurance that the staff is examining the licensee's ISA in a manner that assures a technically sound and scrutable risk analysis. It is not apparent that the ISAs will use event trees, fault trees, risk importance, or risk reduction tools commonly associated with PRA. It does appear that the licensee's ISA products will rely heavily on expert judgment, which also requires some discipline, for many of these types of analysis outcomes. From my view, it may be worthwhile to schedule another ACRS/ACNW Subcommittee meeting soon after the staff receives the April 18, 2001 ISA Plans and for the ACNW to prepare a letter/report in mid-year 2001 before too many decisions become solidified regarding the SRP.

Attachments: Meeting handouts

cc: ACRS/ACNW Members

cc w/o attach: J. Larkins
J. Lyons
S. Duraiswamy
J. Sorenson



Integrated Safety Analysis



PRESENTATION ON ISA METHOD
OF SRP CHAPTER 3 APPENDIX A
February 8, 2001

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Part 70 ISA Requirements

§70.66 Additional Requirements For Approval of a license application:

"An application ...will be approved if...

... *What Appendix A is adding*

(c)(2) The performance requirements in §70.61 (b), (c), and (d) are satisfied."

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§70.61 - performance requirements

- 'High Consequence' Events:
 - ▶ Worker: 100 rem or more, chemical-caused fatality
 - ▶ Person offsite: >25 rem, or >30 mg Uranium intake, or irreversible chemical injury
- ...must be 'highly unlikely'.
- 'Intermediate Consequence' Events:
 - ▶ worker: more than 25 rem but less than 100 rem, or irreversible chemical injury
 - ▶ Person offsite: >5 rem (but <25 rem), or chemically-induced transient illnesses, or contamination 5000 times environmental effluent standard
- ...must be 'unlikely'.

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SRP Chapter 3 Appendix A

To approve an application the staff should have reasonable assurance that the performance requirements in §70.61 (b), (c), and (d) are satisfied.

The purpose of Appendix A is to demonstrate one method of evaluating compliance with the likelihood aspect of the performance requirements.

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Characteristics of the Appendix A method

- 1) Shows all accident sequences with high or intermediate consequences.
- 2) Shows how IROFS function in controlling either the accident's likelihood or consequences.
- 3) Evaluates degree of effect of IROFS on likelihood.
- 4) Degree of effect is based on available information, qualitative and quantitative.
- 5) Considers all basic factors affecting likelihood
(From system failure rate equation)

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Accident Sequence Specification

- SRP ISA Chap. 3 Appendix A gives one example of a method for displaying accident sequences
- App. A method lists information on each accident sequence as a row in a table.
- Separate table for additional text describing accident - symbolic accident identifiers.
- Other methods are acceptable.
- Other good methods: fault trees or event trees

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App. A Likelihood Evaluation Method

- Uses integer indices representing logarithms of likelihood factors.
- Factors come from the equation for the frequency of the accident sequence.
- Indices assigned to factors come from tables of criteria (A-3,4,5)
- Multiple criteria, some quantitative, some qualitative, determine index value.
- Intent was that applicants develop such tables of criteria relatable to failure rates/probabilities.

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App. A Likelihood Evaluation Method

EXAMPLE: SYSTEM OF TWO CONTROLS (IROFS)

Two accident sequences:

- 1) Failure of IROFS 1, then IROFS 2
- 2) Failure of IROFS 2, then IROFS 1

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App. A Likelihood Evaluation Method

EVENTS IN ACCIDENT SEQUENCE

The App. A method, like the NEI method, lists two types of events in such a sequence:

- 1) the initiating event: failure of the first IROFS
- 2) the failure(s) of the remaining IROFS

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App. A Likelihood Evaluation Method

FACTORS IN TWO TYPES OF EVENTS

- 1) Factor for initiating event:

frequency = events/yr

- 2) Factor for failure of the second (or later)IROFS:
Probability of failure = unavailability

= downtime/(downtime+uptime)

Subfactors: 1) failure rate 2) down time

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App. A Likelihood Evaluation Method

3 FACTORS IN EXAMPLE ACCIDENT SEQUENCE

failure rate of control 1: see Table A-3

failure rate of control 2: see Table A-3

Down time of control 2: see Table A-5

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Example 1: Double toxic chemical line

The system is a line for adding an aqueous toxic chemical to a U process. The accident is a leak with potential for exposure of workers to the chemical. Protection against leaks in the line is provided by an outer containment pipe. Presence of chemical in the space between the two lines is checked by weekly surveillance of a sight glass. Outer line leak tightness is tested every 2 years.

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Example 1: Double toxic chemical line

IROFS 1 is inner line
IROFS 2 is outer containment line
Both are Passive Engineered Controls...
see Table A-3 for frequency index.
Down-time of inner: $\frac{1}{2}$ week = 10^{-2} year
Down-time of outer: 1 year
See Table A-5 for index

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App. A Likelihood Evaluation Method

In the Appendix A method, assignments of index values to failure rates and times are to be based on pre-defined tabulated qualitative and quantitative criteria. (See tables A-3,4,5)

The bases underlying these criteria should be explained in the documentation of the applicant's ISA methodology. Over-arching goals are objectivity, validity, and consistency.

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Summary of Appendix A Method

- A table of accident sequences, one event per column
- A set of factors for each event
- Indices assigned to factors using criteria from Tables
- Indices summed as a likelihood index

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App. A Likelihood Evaluation Method

The performance requirements, "unlikely" and "highly unlikely", are quantitative concepts.

The evaluation method of App. A provides a structure to relate quantitative and/or qualitative properties of controls to accident likelihood as a frequency (events per year).

App. A method demonstrates a calibration of general qualities to reasonable ranges of failure rates or probabilities.

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App. A Method and "Template"

Appendix A method is an example only.
Criteria form categories that are too broad.
Realistically, more refined criteria are needed in
Tables A-3, 4, and 5 if such a method were applied.

These refined criteria are what we refer to as a
"Template" .

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App. A Method and "Template"

Template would provide further guidance for
failure parameters of different types of controls and
sequences.

Template would establish feasible index values for
hardware failure rates and human error
probabilities.

Staff would be given guidance that these values are
a priori acceptable.

However, local licensee knowledge has priority.

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App. A Method and "Template"

Local licensee knowledge has priority:
1) failure rates become a goal;
2) higher failure rates may be assigned by team;
3) use of index values < template, need reasons.
(E.G. large safety margin, or requires peculiar
failure mode impeded by design)

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END OF PRESENTATION

Chemical Transfer Line Example, Table A-1: Tabular Summary of Accident Sequences

Process: UR, Uranium Recovery

Unit Process: X, process X Node: TC, transfer of toxic chemical to process

Accident Sequence	Initiating Event (a)	Preventive Control 1 (b)	Preventive Control 2 (c)	Mitigative Control (d)	Likelihood Index T (e)	Consequence Category (g)
UR-X-TC1: chemical line leaks, inner line first	inner line leaks first frq1= -2	outer line leaks before inner is corrected dur1=-2 frq2=-2			-2-2-2 = -6	2
UR-X-TC2: chemical line leaks, outer line first	outer line leaks first frq2=-2	inner line leaks before outer is corrected dur2= 0 frq1=-2			-2+0-1= -4	2

Table A-3: Failure Frequency Index Numbers

Frequency Index Number	Based on Evidence	Based on Type of Control**	Comments
-6	External event with freq. < 10 ⁻⁶ /yr		If initiating event, no controls needed
-4	No failures in 30 yrs for hundreds of similar controls in industry	Failure of an exceptionally robust passive engineered control (PEC), or an inherently safe process, or 2 independent AEC, PEC, or enhanced admin. controls	Rarely can be justified by evidence, since few systems are found in such large numbers. Further, most types of single control have been observed to fail.
-3	No failures in 30 years for tens of similar controls in industry	Failure of a single control with redundant parts, each a PEC or AEC	
-2	No failure of this type in this plant in 30 years	Failure of a single PEC	
-1	A few failures may occur during plant lifetime	Failure of a single AEC, an enhanced administrative control, an admin. control with large margin, or a redundant admin. control	
0	Failures occur every 1 - 3 years	Failure of a single administrative control	
1	Several occurrences per year	A normal event	Not for controls, just initiating events
2	Occurs every week or more often	Frequent event	Not for controls, just initiating events

** The index value assigned to a control of a given type in column 3 may be one value higher or lower than the value given in column 1. Criteria justifying assignment of the lower (more negative) value should be given in the narrative describing ISA methods. Exceptions require individual justification.

Table A-4: Failure Probability Index Numbers

Probability Index Number	Probability of Failure on Demand	Based on Type of Control	Comments
-6	10^{-6}		If initiating event, no controls needed
-4 or -5	$10^{-4} - 10^{-5}$	Exceptionally robust passive engineered control (PEC), or an inherently safe process, or 2 redundant controls better than simple admin controls (AEC, PEC, or enhanced admin)	Rarely can be justified by evidence, since few systems are found in such large numbers. Further, most types of single control have been observed to fail.
-3 or -4	$10^{-3} - 10^{-4}$	A single passive engineered ctrl. (PEC) or an active engineered control (AEC) with high availability	
-2 or -3	$10^{-2} - 10^{-3}$	A single active engineered control, or an enhanced admin control, or an admin control for routine planned operations	
-1 or -2	$10^{-1} - 10^{-2}$	An admin control that must be performed in response to a rare unplanned demand	

Table A-5: Failure Duration Index Numbers

Duration Index Number	Avg. Failure Duration	Duration in Years	Comments
1	More than 3 years	10	
0	1 year	1	
-1	1 month	0.1	Formal monitoring to justify indices less than "-1"
-2	A few days	0.01	
-3	8 hours	0.001	
-4	1 hour	10^{-4}	
-5	5 minutes	10^{-5}	



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February 8, 2001 meeting; Agenda Item 5

NRC comment on NEI's cover letter dtd Nov. 16, 2000 on Proposed Chapter 3

NEI ltr to M. Weber dtd Nov. 16, 2000	NRC response
<p>1. Page 1, second para.; "This chapter should provide guidance to the staff in evaluating the two applicant (or licensee) submissions that must be approved by the NRC."</p>	<p>NRC's Chapter 3 does include distinct and separate guidance for assessing the ISA Approach and ISA Summary submissions. The guidance appears in sections 3.1, "Purpose of Review", 3.3, "Areas of Review", 3.3.1, "ISA Programmatic Commitments", and 3.3.2, "ISA Results".</p>

<p>2. Page 2, first para.; "...the need to incorporate into Chapter 3 guidance similar to that provided in NUREG-1513...on the content of an ISA no longer exists."</p>	<p>The staff position is that Chapter 3 must contain guidance both found and not found in NUREG-1513 necessary to evaluating the approach, methods, and outcomes from an applicant's ISA. This position is supported by the fact that 70.62 has requirements regarding the approach to and outcomes from completing an ISA, and the staff is obligated to obtain reasonable assurance that those requirements are met. Therefore, consolidated guidance is provided within Chapter 3 for the reviewer to use in determining both that ISA programmatic commitments (for producing an ISA) are adequate, and that the ISA Summary itself provides reasonable assurance that (1) the ISA was produced in accordance with 70.62 requirements and that (2) the results presented on the public record (ISA Summary) demonstrate compliance with applicable Part 70 requirements. The staff will be evaluating the applicant's ISA through the mechanism of review and approval of the ISA Summary. For that reason it is obvious that the reviewer should be knowledgeable of the content and structure of an ISA. NUREG-1513 provides only a basic understanding of the fundamental elements of an ISA, and is suitable only for an applicant's introduction to how to perform an ISA and document the results. The limitations of NUREG-1513 are stated in section 1.3 "Purpose of Document", where, among other statements, it states that it does not address acceptance criteria for the ISA, and refers the reader to the NRC Standard Review Plan, NUREG-1520.</p>
<p>3. Page 2, first para.; "...the language in the staff's revision must be tightened up and clarified to state what must be approved (ISA Approach submission)."</p>	<p>See item 1 response</p>

<p>4. Page 2, second para. (Regarding NRC's Appendix A); "This appendix provides useful and informative guidance to a license applicant in the preparation of an ISA risk analysis and is appropriate for inclusion in NUREG-1513. However, as it provides little information specific to an ISA Summary, it should be removed from this chapter for simplicity and clarity."</p>	<p>Appendix A is the (simplified) definitive exposition, both in content and structure of what the staff would look for in an ISA Summary. Appendix A and its supporting tables provide a simple, "cook-book" presentation of what results should be reported from the ISA effort. Given Appendix A, Table 1 as the results reporting instrument, an applicant may utilize as much or as little of the preceding chapter 3 material (and the App. A supporting tables) as necessary to understand how to fill out Table 1 of Appendix A. To respond specifically to the second sentence of the comment at left, Appendix A provides <u>all</u> of the summary risk information specific to an ISA Summary, and is included in the chapter specifically <u>for simplicity and clarity</u>.</p>
<p>5. Page 2, second para.; (regarding the NEI guidance document on ISA preparation) "This document, which has benefited from several rounds of constructive reviews by the NRC staff, was written to provide a license applicant with clear guidance on the structure, format and content of an ISA Summary. We have incorporated the guidance provided by this document into the 'Areas of Review' and 'Acceptance Criteria' sections of Chapter 3."</p>	<p>The NRC has consistently commented that the NEI drafts are inadequate in several fundamental respects and have not provided adequate guidance as, e.g., on the fundamental definitions of "highly unlikely", "unlikely", and "credible". While improvements have been made in structure and format, the NEI guidance content has been and is inadequate and can not be substituted for the acceptance criteria in NRC's SRP Chapter 3. The fundamental inadequacies were discussed in a meeting of NEI senior executives with Mr. William Kane, NMSS Office Director, on January 4, 2001.</p>
<p>6. Page 2, third para., line 4; "In direct contrast to this requirement, Chapter 3 endorses estimation of an accident's <u>qualitative</u> likelihood by considering just the reliability and availability characteristics of items relied on for safety (IROFS) and sound engineering judgement."</p>	<p>The quoted material is not all that is considered - the <u>un</u>-mitigated likelihood of consequences due to an initiating event frequency is a fundamental quantitative consideration. Further, the reliability and availability characteristics of IROFS are inherently quantitative; if the applicant does not provide quantitative estimates, the staff will estimate quantitative values corresponding to applicant's qualitative descriptions</p>

<p>13. Page 3, third para., last sentence; "Removal of the appendix [<i>Appendix A in NRC's Chapter 3</i>] and its incorporation into NUREG-1513 further simplifies Chapter 3 and consolidates licensee guidance into one source document."</p>	<p>As discussed in Response 2 above, NUREG-1513 is not intended for use as the definitive, comprehensive guidance for constructing an ISA - the NUREG predates the revision of Part 70 that includes the requirement to define and achieve limiting values of likelihood as a function of consequences. NRC's Chapter 3 is the "consolidated licensee guidance" on construction of the ISA Summary pursuant to Part 70, and, by logical extension, construction of the ISA. NUREG-1513 is simply an introduction and first-level guidance on analytical methods utilized in the chemical industry for accident identification and consequence evaluation. Appendix A in NRC's Chapter 3 is the definitive, brief, direct exposition of the information needed and how to present that information in an ISA Summary to support an effective and efficient review by NRC staff. The information presented in NRC's Chapter 3 prior to the appendix is definition and explanation of the information that is presented in an Appendix A or its equivalent.</p>
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ISA PLAN

BWXT/NRC Meeting
March 13, 2001

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Topics

- ❖ Approach
- ❖ April 18 Letter
- ❖ Where We Need to Agree



Approach

- ❖ Complete ISA
- ❖ Submit ISA Summary
- ❖ Implement Part 70
- ❖ Consider License Renewal (2005)



Approach

- ❖ Fundamental Decision
 - Option 1: Implement 10 CFR 70 through ISA Summary
 - Option 2: Implement 10CFR70 through License
- ❖ BWXT Prefers Option 2



Why Option 2

- ❖ Avoids Management Measurement Redundancy
 - ❖ Separates Program Commitments from ISA Summary
 - ❖ Transforms 2-part License
 - ❖ Jumpstarts Renewal
- "Begin With the End in Mind"



April 18 Letter

- ❖ Cover Letter
- ❖ Enclosure 1, ISA Plan Summary
- ❖ Enclosure 2, Proposed Revision to Chapter 15 of SNM-42
- ❖ Enclosure 3, Reply to NRC Review of BWXT ISA Summary



Cover Letter

- ❖ Standard Cover Letter
- ❖ ISA Plan is Enclosure 1 & Enclosure 2:
 1. Item 8 of Enclosure 1, Proposed License Amendment and Schedule
 2. Proposed Revision to Chapter 15, ISA Methodology.
- ❖ Delete Part 2 Biennial Update Requirement



ISA Plan Summary

- ❖ Responds to Items 1 - 8 of NRC Guidance
- ❖ Roadmap to Chapter 15 for Items 1 - 7
- ❖ License Amendment & Schedule in Item 8



ISA Plan Summary (1-7)

1. ISA Team
2. Plans to Identify Hazards
3. Accidental Sequences
4. Consequence/Likelihood
5. IROFS
6. ISA Summary
7. Processes Analyzed

ISA 9



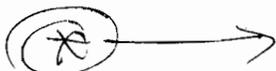
ISA Plan Summary (Item 8)

- ❖ Reformat/Upgrade License (Chapters 1-11)
- ❖ Delete Chapters 9-17
- ❖ Create ISA Summary
- ❖ Delete Biennial Update
- ❖ Schedule



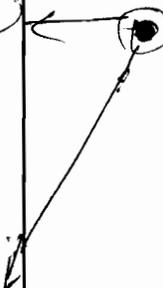
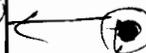
Reformat License

New Chapter	Action
Chapter 1, General Information	Use existing Chapter 1 of SNM-42 with <u>no</u> revision. No significant NRC Review.
Chapter 2, Organization & Administration	Use existing Chapter 2.1 - 2.4 with <u>no</u> revision. No significant NRC Review.
Chapter 3, Integrated Safety Analysis	Create from new rule and existing Chapters 15.1 - 15.3, NRC Review required.
Chapter 4, Radiation Safety	Use existing Chapter 3 with <u>no</u> revision. No significant NRC Review.
Chapter 5, Nuclear Criticality Safety	Use existing Chapter 4 with <u>no</u> revision. No significant NRC Review.
Chapter 6, Chemical Process Safety	Create from existing Chapter 17, new rule, and SRP. NRC Review required.



Reformat License

New Chapter	Action
Chapter 7, Fire Safety	Create from existing Chapter 17, new rule, and SRP. NRC Review required.
Chapter 8, Emergency Management	Use existing Chapter 8 with no revision. No significant NRC Review.
Chapter 9, Environmental Protection	Use existing Chapter 5 with no revision. No significant NRC Review.
Chapter 10, Decommissioning	Use existing Chapter 7 with no revision. No significant NRC Review.
Chapter 11, Management Measures	Use and upgrade existing Chapters 2.5 - 2.10. NRC Review required.





Delete Chapters 9-17

- ❖ Retain Necessary Parts
 - 15.1 - 15.3, ISA Methodology
 - Chapter 17, Fire/Chemical Safety
 - Chapter 16, Accident Analysts
- ❖ Remainder is Unnecessary/Redundant



Create ISA Summary

- ❖ General Information
 - External Events
 - Generic Accident Analysis
 - Criticality Monitoring
- ❖ Process Specific Information
 - SARs
- ❖ Value of Scenario Worksheets?



Delete Biennial Update

- ❖ Due October, 2001
- ❖ No Value Updating Chapters 9 - 17
- ❖ Updating SARs possible (15.4 - 15.40)



Schedule

NRC Feedback on Chapter 15 (Jan 31, 2001)	Compliance Plan to NRC (April 18, 2001)	Complete ISA (April 30, 2001)	D&D Update Chapter 7 Due Biennial update of Part 2 due. (October, 2001) (delay)	Submit Revised License & ISA Summary (December, 2002)
Jan 01	April 01	July 01	Oct. 01	Dec 01 Dec 02
Meet w/NRC to discuss this plan (March 13, 2001)				



Proposed revisions to Chapter 15.1 - 15.3

- ❖ ISA Team
- ❖ Include Natural Phenomenon
- ❖ Expand Process Safety Information
- ❖ Address Sole IROFS
- ❖ Reference to Management Measures Commitments
- ❖ Clarify Likelihood Determinations
- ❖ Describe ISA Summary Content
- ❖ List all SARs



NRC Review of BWXT SARs

- ❖ Most Issues Addressed
- ❖ Two Significant Concerns
 - Level of Detail in ISA Summary
 - Comments Regarding Likelihood
- ❖ Suggest Technical Meeting at BWXT



Where We Need to Agree

- ❖ Expeditious Review/Approval of Plan
- ❖ Reformatting vs. Rewriting License
- ❖ No Substantial Rewriting of License for Renewal (2005)
- ❖ Elimination of Biennial Update (October 2001)

Chapter 10-17

SCANNED

4-9-02

#031Z