

**From:** "Sisco, Carlos" <CSisco@winston.com>  
**To:** <tcj@nrc.gov>  
**Date:** 9/30/04 1:23PM  
**Subject:** Transmittal of Consultant Report -- Table 13.1 on Decommissioning

Mr. Johnson:

Per R. Krich, please find Table 13.1 from AIF-NESP-036, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates"

<<Table 13\_1 AIF-NESP-036 v1[1].pdf>>

Carlos Sisco  
Winston & Strawn LLC  
1400 L Street NW  
Washington, DC. 20005  
Tel: 202-371-5907  
Fax: 202-371-5950

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**CC:** "Curtiss, James" <JCurtiss@winston.com>

TABLE 13.1  
CONTINGENCY ESTIMATES

Category	Contingency	Reasons for Contingency
1 Engineering Project Management Demolition Management	15%	1 Difficulty in activity sequencing which affect schedule 2 Insufficient staffing necessitating increases 3 Changes in the project's original scope (e.g., regulatory changes requiring additional analyses/safety studies, or changes to disposition of site equipment or structures) 4 Doubleshift (with second shift pay) to make up for schedule slippages 5 Additional site engineering for program field changes 6 Regulatory reviews in excess of those anticipated, necessitating additional meetings (engineering hours) to resolve problems or issues 7 Revisions to activity specifications and procedures or additional documents required by regulatory reviews
2 Utility and DOC Staff Costs	15%	1 Changes to project's original schedule (e.g., accelerated schedules to clear the site for a replacement facility; additional equipment or structures to be removed within the original schedule) 2 Increase in project critical path affecting overall project schedule 3 Corporate/home office changes (e.g., insurance, taxes, etc.) affecting staff overhead rates
3 Decontamination	50%	1 Inability to achieve desired decontamination factor (DF) with original number of flushes - more required 2 Breakdown of flushing rig/radwaste treatment system 3 Accident resulting in localized spills or spread of contamination 4 Supplementary manual scrubbing to achieve desired DF 5 Additional chemicals required to achieve desired DF 6 Additional acid neutralizing agents needed to dispose of spent chemicals
4 Contaminated Component Removal, Contaminated Concrete Removal	25%	1 Breakdown of tools, special demolition equipment 2 Higher than anticipated contamination levels requiring several specialty crews and more consumables (plastic sheeting, absorbent materials, more frequent HEPA filter changes)

TABLE 13.1  
(Continued)

Category	Contingency	Reasons for Contingency
4 (Cont'd)		3 Labor agreement changes with respect to worker classification (composite crews; craftsmen substituted where laborers were assumed) 4 Labor agreement changes with respect to crew size required to perform an activity
5 Steam Generator, Pressurizer, PWR Reactor Cool. Pumps & Piping Removals ..... BWR Recirculation System Pumps and Piping Removals	25%	1 Delays in receipt of special lifting and transporting equipment 2 Accidents resulting in localized spills or spread of contamination 3 Higher than anticipated contamination levels and radiation dose rates necessitating "jumper" crews; more consumables (plastic sheeting, absorbent materials, frequent HEPA filter changes) 4 Adverse weather (rain, floods, snow, ice) affecting transport of heavy components on-site or at the burial facility 5 Labor agreement changes with respect to worker classification (composite crews; craftsmen substituted where laborers were assumed) 6 Labor agreement changes with respect to crew size required to perform an activity
6 Reactor Vessel and Internals Removal	75%	1 Breakdown of highly specialized cutting tools and segment handling equipment; insufficiency or unavailability of spare parts 2 Longer setup crew training required in tool operation 3 Higher than anticipated activation levels requiring additional segmentation to meet curie/dose rate shipping limits; more consumables required (cutting gases, power, etc.) 4 Delays in return of shipping cask from burial facility 5 Difficulties in temporary on-site storage of segments until cask(s) returns 6 Double handling of segments required - caused by cask delays 7 Unforeseen difficulties loading segments into cask liners at a depth of 30 or more feet under water 8 Delays waiting for reactor water visibility to improve 9 Delays caused by main crane usage for other activities 10 Difficulty decontaminating cask liner exterior before loading into cask

TABLE 13.1  
(Continued)

Category	Contingency	Reasons for Contingency	
6 (Cont'd.)		11	Difficulty draining/drying cask interior prior to shipment
		12	Difficulty decontaminating cask exterior prior to shipment
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7 Reactor Packaging	25%	1	Supplementary shielding required to meet transportation limits
		2	Additional cask leasing costs due to transport delays
		3	Delays caused by difficulties installing cask liner closure cover
		4	Delays caused by difficulties unloading and reloading cask liner to meet curie and weight limits
		5	Delays caused by difficulties loading liner into cask
		6	Unforeseen increases in liner costs or cask rental charges (e.g., additional segmentation of vessel internals to meet cask curie limits or weight limits, thereby requiring more liners and cask shipments; higher priority cask rental rates to assure cask availability)
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8 Reactor Shipping	25%	1	Adverse weather conditions restricting shipments to burial facility
		2	Additional overweight permits or escorted shipments required
		3	Shipment interrupted by state officials for inspection
		4	Delays enroute caused by road congestion/construction
		5	Delays caused by temporary road detours
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9 Reactor Burial	50%	1	Additional curie charges due to underestimation of curie load
		2	Additional weight charges due to additional shielding required
		3	Additional special handling charges for unusual handling required
		4	Shipment rejection or delay caused by inadequate shipping documents
		5	Congestion at burial facility caused by multiple shippers
		6	Delays unloading due to inclement weather
		7	Additional burial costs if additional segmentation was required; more liners to be buried with associated void volume

TABLE 13.1  
(Continued)

Category	Contingency	Reasons for Contingency
10 LSA Packaging	10%	<ol style="list-style-type: none"> <li>1 More containers needed to accommodate higher than estimated void fraction</li> <li>2 Rejection of containers caused by damage during loading</li> <li>3 Unloading and reloading to meet curie and/or weight limits</li> </ol>
11 LSA Shipping	15%	<ol style="list-style-type: none"> <li>1 Unforeseen increases in "special train" charges for heavy components (e.g., additional mobilization/setup equipment and crew; slower train speed due to adverse weather or steeper grades)</li> <li>2 Larger number of shipments required to meet weight restrictions in each state</li> <li>3 Longer routes required to avoid traffic problems, road construction or states/communities with adverse radioactive shipment rules</li> <li>4 Shipment rejection because of improper container documentation, container type, curie level</li> </ol>
12 LSA Burial	25%	<ol style="list-style-type: none"> <li>1 Higher burial costs because of higher curie level, weight surcharges, special site shutdown fees (package &gt;10 R/hr)</li> <li>2 More containers (and burial volumetric charges) to meet weight/curie per package limits</li> <li>3 Additional special handling fees for unusual "slit trench" equipment or manpower</li> </ol>
13 Clean Component and Concrete Removals, Clean Waste Disposal	15%	<ol style="list-style-type: none"> <li>1 Additional handling required to disassemble large components to fit through doors or to load onto trucks for disposal</li> <li>2 Greater trucking distances to dispose of wastes</li> </ol>
14 Supplies and Consumables	25%	<ol style="list-style-type: none"> <li>1 Additional quantities required (e.g., additional crew size requiring more protective clothing; higher than expected cutting blade wear rate or torch tip consumption)</li> <li>2 Replacement of spoiled or non-specification materials</li> </ol>