



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION V

SUITE 202, WALNUT CREEK PLAZA  
1990 N. CALIFORNIA BOULEVARD  
WALNUT CREEK, CALIFORNIA 94596

OFFICE LOCATION  
10602 NE 38th Place  
Kirkland, WA

INSPECTION REPORT NO. 7801  
Chim - Nuclear Systems, Inc  
P.O. Box 1866  
Bellevue, WA 98004  
Telephone No: (206) 827-0711

Attached  
 Appendix A  
 Appendix B  
 Appendix C  
 Memo

License No. 46-13536-01 Last amendment & date: #13, June 22, 1978

Category: D & Priority: II, as of last amendment.

Inspection date(s): July 19, 1978 Type of inspection: Routine - Unannounced

SUMMARY OF FINDINGS AND ACTION

- |   |  |
|---|--|
| <input type="checkbox"/> No noncompliance, clear 591          | <input type="checkbox"/> Noncompliance, 591 issued                                     |
| <input checked="" type="checkbox"/> Noncompliance, Appendix A | <input checked="" type="checkbox"/> Regional action <input type="checkbox"/> HQ action |
| <input type="checkbox"/> Action on previous n/c, App B        | <input type="checkbox"/> Supplemental info, App C                                      |

RECOMMENDATIONS

See basis in Appendix C or attached memo.

- Change Category to: \_\_\_\_\_  Change Priority to: \_\_\_\_\_  
 Next inspection date: July 1979

PERSONS CONTACTED

J. S. Corbett - Manager of Nuclear Safety  
L. Reynolds - Director, Plant Services  
B. Rogers - Manager of Decontamination Services  
L. J. Andrews - Executive Vice-President

Inspector: R. M. [Signature]  
Approved: A. E. Book

8/2/78  
8/7/78  
A-2.1

Plan approved:            Date:           

Licensee: Chun-Kuei Systems, Inc

License no: 46-13536-01

Inspection Items	Scheduled for inspection	Post-inspection status	Module no.	766 Time Info
Management meeting - Entrance and Exit Interviews [REQUIRED]			30703B	001
Initial Management Meeting				
Program requirements, MC 28 <u>40</u> [REQUIRED]			76710B	002
Licensee Event Followup			92700B	
Followup on Inspector-identified problems			92701B	
Followup on Noncompliance and Deviations			92702B	
IE Bulletin/Immediate Action Letter Followup			92703B	
Followup on Headquarters Requests			92704B	
Followup on Regional Requests			92705B	
Independent Inspection Effort [REQUIRED]			92706B	000
Inspector Dispatched to Site			93700B	
Followup on Significant Event Occurring During Inspection			93701B	

AREAS INSPECTED AND FINDINGS

Licensee: Chem-Nuclear Systems, Inc. License no: 46-13536-1 Amendment no: 13

INSPECTION ITEM	CRITERIA	FINDING
-----------------	----------	---------

1. Organization Ltc Cond      OK

Management organization. *Company Management remains the same as of the last inspection, except, F. Heffact is now Site Operations Manager at Barnwell Site. H. Oakley is now Corporate Director of Site Activities. Mr. F. Reynolds is Director of Plant Services at the Corporate Office location. Mr. J. S. Corbett is still the RSO.*

Radiation protection organization.

NOTES & REMARKS:

2. Licensee internal audits Ltc Cond      OK

Scope and frequency. *Unannounced audits are performed by the Management controls. Monitoring nuclear safety twice a year at the Barnwell Site & Site operations. Last audit was on May 4, 1978.*

NOTES & REMARKS:

*No corrective actions were required related to SNM issues.*

3. Training and instructions to employees Ltc Cond      OK

Training program, scope and frequency, retraining. *Mr. John Ott, Site RSO, conducts an annual training course at the Barnwell Site. Last course was on March 7, 1978. Approximately 21 people took the course. Grades ranged from 50-91. A diversion course was held on April 28, 1978 for 8 people.*

Required tests administered; scores satisfactory.

Instructions to workers.

NOTES & REMARKS:

4. Radiation protection procedures Ltc Cond      OK

Operating & emergency procedures implemented.

Security. 20.207

NOTES & REMARKS:

*There has been no change in the procedures since the last inspection. An upgrading of the procedures is in progress.*

AREAS INSPECTED AND FINDINGS

Licensee: Chim Nuclear Systems, Inc License no: 46-13556-1 Amendment no: 13

INSPECTION ITEM	CRITERIA	FINDING
* 5. <u>Materials, facilities and instruments</u> (See Appendix C)		<u>N/C</u>
Authorized uses and quantities. <u>N/C</u>	Lic Cond <u>12</u>	The license received
Restricted areas, posting requirements. <u>OK</u>	20.203	a package containing
Survey instruments & dosimeters; operable, properly calibrated. <u>OK</u>	Lic Cond	247 gm U-235 from Waste in excess of the 50 gms per package limitation and allowed. The work corrected by dated 10/10 to the issue. At time of inspection it was an issue of non-compliance.
<b>NOTES &amp; REMARKS:</b> A new Counting Laboratory has been added at Roswell Site for the processing of environmental samples.		
6. <u>Receipt and transfer of materials</u>		
Procedures implemented, adequate.	20.205, 71.51	<u>OK</u> The labeling of container and required groups were confirmed by an on site inspection by CE: II on June 2
Transfer of byproduct material.	30.41	
Labeling and packaging.	71.5, 49CFR 170-189	
Records of receipt, transfer, storage, survey, and monitoring.	30.51	
<b>NOTES &amp; REMARKS:</b> The quantities of U235 received for period were examined and the records indicated the following: Aug - Dec 1976, 51,448 gms; Jan - Dec 1977, 183,250 gms; Jan - June 1978, 139,870 gms		
7. <u>Personnel protection - external</u>		
Personnel monitoring control; minimize exposures, control of accumulated dose. <u>OK</u>	20.101, 20.102, 20.202	<u>OK</u>
Surveys conducted, adequate. <u>OK</u>	20.201	
Records of monitoring, surveys, disposals.	20.401; Lic Cond	
Levels in unrestricted areas. <u>OK</u>	20.1, 20.105	
<b>NOTES &amp; REMARKS:</b> All radiation exposure records and radiation survey data were reviewed during the on-site inspection on June 26, 1978 and were found to be acceptable.		
8. <u>Personnel protection - internal</u>		<u>OK</u>
Airborne concentrations in restricted areas. <u>OK</u>	20.103	Employees are given
Exposure of minors.	20.104	air and whole body
Posting of airborne radioactivity areas. <u>OK</u>	20.203(d)	counts and are
Survey, monitoring requirements; records. <u>OK</u>	20.201, 20.401	required to submit
Leak tests of sealed sources.	Lic Cond	quantity urine samples.
<b>NOTES &amp; REMARKS:</b> 26 employees received whole body counts on March 9, 10, 1978. Results of the counts and bioassay were acceptable.		

AREAS INSPECTED AND FINDINGS

Licensee: Cham Nuclear Systems, Inc License no: 46-13536-1 Amendment no: 13

INSPECTION ITEMS	CRITERIA	FINDING
9. Shipping, shipping incidents		<u>OK</u>
Procedures for pickup, receipt, monitoring of packages.	20.205(b) & (c)	<u>Specimen surveys</u>
Transportation of licensed material.	71.5	<u>all containers upon</u>
Incidents, reports, corrective actions.	49CFR 170-189	<u>receipt. All survey data are acceptable</u>

NOTES & REMARKS:

There has been no shipping incidents involving special nuclear materials (U-235).

10. Notifications and reports		<u>OK</u>
To individuals.	19.13	<u>None</u>
Overexposures, excessive levels & concentrations, incidents.	20.403, 20.405	<u>None</u>
Personnel exposures and monitoring, termination reports.	20.407, 20.408	<u>None</u>
Theft or loss of licensed material.	20.402	<u>None</u>

NOTES & REMARKS:

No reports required

* 11. Posting of notices	<u>The Corporate office has an NRC-3 posted with the sign notice</u>	<u>NK</u>
Part 20, license & documents, procedures notice of violations.	19.11(a)	<u>The district inspection at Barnwell Site indicates that requirements of 10 CFR 19.11(a) had not been fulfilled at the time of the inspection.</u>
NRC-3.	19.11(c)	<u>OK</u>

NOTES & REMARKS:

The 10 CFR 19.11(a) requirement was identified and listed as an item of noncompliance.

12. Environmental monitoring program	Lic Cond <u>    </u>	<u>OK</u>
Implementation of program, scope and frequency as required.		<u>A radiological is performed semi-annually on site wells, quarterly on trench wells, and monthly on liquid levels in trenches</u>
Records maintained, reviewed by management.		<u>Two continuous air samples are taken on site. Air gas samples are taken during unloading of tanks. TLD badges are on the perimeter fence. Annual vegetation samples and weekly soil samples. To date no significant activity levels have been observed.</u>

NOTES & REMARKS:

Two continuous air samples are taken on site. Air gas samples are taken during unloading of tanks. TLD badges are on the perimeter fence. Annual vegetation samples and weekly soil samples. To date no significant activity levels have been observed.

## AREAS INSPECTED AND FINDINGS

Licensee: Chem-Nuclear Systems, Inc. License no: 46-13536-1 Amendment no: 13

INSPECTION ITEMS	CRITERIA	FINDING
13. <u>Emergency preparedness</u>	Lic Cond _____	<u>OK</u>
Procedures available for incidents and accidents. Training for personnel; coordination with supporting groups and agencies.	The emergency procedures are contained in the truck driver's manual. A copy of the manual is carried by the driver.	
NOTES & REMARKS:	The emergency plan and procedures are contained in the radiation protection and procedures manual. Part III - Emergency Notification, and Radiological Assistance Section is currently being upgraded for names and phone numbers.	
14. <u>Confirmatory measurements</u>		<u>OK</u>
Licensee's surveys verified on sampling	20.105, 20.201	
bats. Suspension at Corporate Headquarters was a record check only.	None taken at the Barnwell site during the Region II assist-inspection.	
NOTES & REMARKS:		
15. <u>Other license conditions</u>	Lic _____	<u>OK</u>
License conditions 9, 10, & 11 authorize greater than 50 grams of U-235 per package for specific purposes.		
NOTES & REMARKS:	Reorganizations as stipulated in Amendment No. 11, 12, and 13. Amendment No. 13 was obtained to cover reorganizations.	
16. <u>Independent inspection effort</u>		
A discussion was held with the Manager of Nuclear Safety regarding the transport of 20 gallons of liquid waste from Hanford to the Trojan Nuclear Power Plant in the Chem-Nuclear Decon Truck. It was the intent to dump the		

APPENDIX A - DOCUMENTATION OF NONCOMPLIANCE

San Antonio, Inc

License no: 46-13536-1

License no: 46-13536-1

Basis for noncompliance

Violation to License Condition No. 1.C., Amendment 12, a package was received on June 7, 1978, containing 247 grams of U-235 which exceeded a 50 gram per package limitation as stipulated in the NRC license.

Violation to 10CFR19.11(a), current copies of forms and all of the signatures and a copy of the license were not posted, nor was the alternate posting of a notice permitted by 10CFR19.11(b) present.

Unresolved items

Inspector's comments

A number of new typists since the calibration and the vehicle has various services.

via into the iffy the waste 2 physics personnel responsibility for explanation for the procedure to the mixing unit. The the De Con unit with DOT was not placed in. Corrective action to prevent this. A-2.7

## APPENDIX C - SUPPLEMENTARY INFO

Licensee: Chem-Nuclear Systems, IncLicense no: 46-13536-1 Uncorrected/repeated noncompliance Unresolved items Unusual occurrence, conditions, etc Inspector's comments Basis for change of Category or Priority

Item No. 5 — The licensee stated that the number of new portable survey instruments had tripled since the last inspection. All instruments are calibrated and are within a new Electro-Con 1 1/2 ton vehicle has been obtained to perform decontamination services.

Item No. 16 (cont) —

30 gallons of phosphoric acid into the resin tank to help solidify the waste resin. The Trojan health physics personnel did not want to assume responsibility for the liquid waste. After an explanation by Chem-Nuclear personnel for the procedure the H.P. at Trojan agreed to the mixing of the liquid with the resin. The transportation of liquids in the De Con truck was not in compliance with DOT standards since the truck was not placarded with a Radioactive Material sign. Corrective action is being taken by Chem-Nuclear to prevent this from happening again. (A-2.8)