

PLAN FOR DECONTAMINATION OF THE
AUXILIARY AND FUEL HANDLING BUILDINGS

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SUMMARY

This document describes the decontamination plan for the Auxiliary and Fuel Handling Buildings of Three Mile Island Unit 2. The objective of this plan is to reduce radiation levels in order to: 1) reduce man-rem exposure; 2) elimination of the need for respiratory protection during access; and 3) elimination of anticontamination clothing during access. These objectives will be accomplished by a two phase approach. The first phase will reduce the smearable contamination levels to less than 100,000 DPM/100cm². This level of contamination may eliminate the need for respiratory protection if all airborne radioisotopes are below acceptable levels. The Health Physics Department will determine when respiratory protection is required. This information will appear on the radiation work permit (RWP). Subsequent phases will attempt to reduce smearable contamination levels to less than 1,000 DPM/100cm². This reduction in contamination will eliminate the need for anticontamination clothing in the Auxiliary and Fuel Handling Buildings. This document describes the basic surfaces encountered in the Buildings that need to be decontaminated as well as the decontamination techniques that may be employed. Interfaces with plant operations are also described.

INTRODUCTION

This document describes a general plan for the decontamination of the Auxiliary and Fuel Handling Buildings. This plan lists the responsibilities, interfaces, and general priority for the decontamination of these buildings. It also describes in general terms the type of surfaces that need to be decontaminated as well as the techniques that may be employed to decontaminate each surface. This document will not attempt to schedule the decontamination but only prioritize it.

This document was reviewed by all parties involved in the decontamination effort and will take effect when approved by the Waste Management Group.

OBJECTIVE

The objectives of the decontamination of the Auxiliary and Fuel Handling Building are fourfold:

- 1) The reduction of radiation exposure.
- 2) To control the spread of contamination.
- 3) The reduction of contamination so access to the Auxiliary and Fuel Handling Buildings can be obtained without respiratory protection.
- 4) To have access to the Auxiliary and Fuel Handling Buildings without the use of anti-contamination clothing.

The objectives will be accomplished by a multi-phase attack. The first phase will include the decontamination of all practical areas of the contaminated building to smearable levels below $100,000 \text{ DPM}/100\text{cm}^2$. This level of activity will allow access to the buildings without respiratory protection if all airborne radioisotopes are reduced below acceptable levels defined by the Health Physics Department. Subsequent phases of decontamination will attempt to further reduce the contamination in all practical areas of the Auxiliary and Fuel Handling Buildings to smearable levels less than $1,000 \text{ DPM}/100\text{cm}^2$. Reducing the contamination to this level will allow access to most areas of the buildings without anticontamination clothing. The general radiation levels in these buildings need to be reduced to levels less than 5 mr/hr in all areas where practical. If a general area has a normally higher radiation level due to normal plant operations and is less than $1,000 \text{ DPM}/100\text{cm}^2$ smearable, then every attempt will be made to reduce the radiation level to as low as is reasonably achievable values.

The Health Physics Department will determine when anticontamination clothing is not required. The elimination of respiratory protection and anticontamination clothing will allow most work to proceed in an expeditious manner.

EXISTING SITUATION

Three buildings outside of containment were contaminated with radioactive isotopes during the incident on March 28, 1979. These areas were the Auxiliary, Fuel Handling and Diesel Generating Buildings. Radiation levels in these buildings range from a few millirem/hour up to 1,000 rem/hr. The smearable contamination ranges from a few thousand DPM/100cm² to hundreds of thousands DPM/100cm². There are just a few areas with the extremely high values and are usually located near tanks and drains.

Some contamination on the 281 foot level of the Auxiliary Building was transported by water from the sump overflow as well as the Neutralizer Tank overflow. On the 328 foot level activity was transported by water from the Boric Acid Makeup Tank overflow. Pipe and seal leaks in various locations in these buildings also contributed to the contamination levels. All other contamination was transported in the gaseous phase. The source of the gaseous activity was the Waste Gas System leakage and liquid offgasing.

Since the initial incident the radiation and contamination levels have changed due to decontamination effort, radioactive decay, and water movements within the building.

Before any major decontamination is performed in any of these buildings the Health Physics Department must perform a detailed radiation survey. This survey will provide the station with a permanent record of the predecontamination levels. It will also be used by the Decontamination Team in planning for the decontamination.

DECONTAMINATION PRIORITIES

The decontamination priorities for the Auxiliary Building and Fuel Handling Buildings will be established by the Decontamination Group Leader or his designated representative. The priorities will attempt to accommodate all requests from operations, maintenance, and construction forces. The Decontamination Group must have control of the decontamination priorities if the decontamination is to proceed in a timely cost effective manner. Appendix C contains the area identification and priority schedule.

The priorities of the Decontamination Group are fourfold. The first priority is to eliminate or at least reduce all "hot" spots in the area being decontaminated. The second priority is to reduce the smearable contamination in these areas to less than 100,000 DPM/100cm² so that general entry into the decontaminated areas should not require respiratory protection except as the Health Physics Department may require. The third priority of the Group is to remove the smearable contamination to less than 10,000, 5,000 and 1,000 DPM/100cm². This level of contamination should allow access to all decontaminated areas of the buildings without the need for anticontamination clothing. The fourth priority is the decontamination of components that cannot be decontaminated in situ. These components will be removed to a decontamination facility for cleaning. During the transportation of the contaminated components to the decontamination facility stringent control will be kept on the packages to reduce the possibility of cross contamination to radiologically clean areas.

The plan should be initiated on the top levels of the Auxiliary and Fuel Handling Buildings and continue with the decontamination of the lower levels of the buildings.

During the decontamination of the buildings strict contamination control procedures will be initiated and enforced to minimize the possibility of cross contamination. The procedures may involve the use of temporary check points and step-off pads with access controlled by the decontamination team.

At all times during the decontamination, the Decontamination Group will respond on an as needed basis to decontaminate equipment for off-site shipment or for the radiation protection of operation, construction, or maintenance staff.

EXTENT OF DECONTAMINATION REQUIRED

There are several radiation milestones that will be attempted during the decontamination of the Auxiliary Building and Fuel Handling Building. The first milestone will be reached when all smearable contamination is reduced to a level less than 100,000 DPM/100cm². This level of smearable contamination may allow access to the Auxiliary Building and Fuel Handling Building without the need for respiratory breathing protection except as required by Health Physics if other radioactive airborne problems arise. The smearable level of 100,000 DPM/100cm² is borderline for the removal of respiratory breathing protection. Therefore the first pass will decontaminate the surface to levels as low as is reasonably achievable in a timely and cost effective manner.

The second milestone will be achieved when the smearable contamination is reduced to less than 10,000 DPM/100cm². The third milestone will be 5,000 DPM/100cm². The fourth milestone will be less than 1,000 DPM/100cm² and the general area radiation levels in accessible areas are reduced to less than 5 mr/hr. This level of smearable contamination and general radiation levels will normally allow access to the Auxiliary Building and Fuel Handling Building without the need for anticontamination clothing or protection and will significantly reduce subsequent man-rem exposure.

It must be noted that a smearable contamination levels of 100,000 DPM/100cm² does not solely govern the use of respiratory breathing protection. If the Health Physics Department determines that airborne radioactivity exists in the buildings the use of respiratory protection for individuals in the buildings may be required. The Health Physics Department may also require the use of respiratory protection for any job that has the potential of releasing airborne contamination. The need for respiratory protection will be identified by the radiation work permit (RWP).

IDENTIFICATION OF SURFACES TO BE DECONTAMINATED

A number of different surfaces exist in the Auxiliary and Fuel Handling Buildings that need to be decontaminated. Different surfaces may require different decontamination techniques. Some of the surfaces that need to be decontaminated are: painted or sealed concrete, untreated concrete, metal surfaces, insulation, and glass. The surface finish on these various materials may also effect the decontamination of the components. If the surface finish is rough, some contamination may tend to be trapped in the surfaces. Contamination may also find its way into cracks and crevices in the various surfaces. Untreated concrete acts as a type of sponge that tends to absorb waters with its associated contamination. In all of these surfaces described, the contamination is very difficult to remove. In some cases, to remove the contamination from untreated concrete, the concrete must be physically removed. In order to alleviate the need to remove components or concrete, the surface will be decontaminated to contamination levels as low as is reasonably achievable in a timely and cost effective manner and then sealed with a coating of paint or sealer to fix the contamination. This painted surface should then be painted with a different color paint or sealer to protect the first coat and be a visual indication to the Health Physics Department of the need for repainting the area as the top layer is worn away.

IDENTIFICATION DECONTAMINATION TECHNIQUES

As stated in the previous section there are a number of different surfaces in the Auxiliary and Fuel Handling Buildings that may require different decontamination techniques. When determining the proper decontamination techniques for a given surface a number of parameters must be considered. Including radwaste generated, material compatibility, and man-rem exposure. In all cases steps should be taken to reduce the amount of liquid and solid radwaste generated during the decontamination. Water will be employed as the first decontamination solvent. If the decontamination is not successful employing water the dilute chemical cleaning agents should be employed. The Decontamination Group with assistance from the Technical Functional Group, will develop a list of possible cleaning agents for approval for use in the contaminated buildings.

Having an approved list of decontamination chemicals may reduce the time needed for decontamination of rooms and areas. Personnel within the decontamination Group with assistance from the Technical Function Group will prepare an approval procedure for decontamination chemicals as well as getting the necessary approvals for the chemicals. A list of approved decontamination chemicals and a list of decontamination chemicals under consideration are shown in Appendix D.

A number of decontamination techniques are presently being planned for use in the Auxiliary and Fuel Handling Buildings. Floors may be decontaminated by employing floor buffers with abrasive pads for scrubbing. Radiac wash diluted to 15% full strength or other approved solvents will be employed as the decontamination solvent. Water has been found not to be effective on floors. The decontamination solution will then be removed from the concrete surface by wet-dry vacuums. Scrub brushes with long handles will be employed in areas of high radiation in order to reduce the man-rem exposure.

Decontamination of metal surfaces will be attempted with medium and high pressure hydrolasers. These lasers produce a water stream up to 10,000 psi. The water will be attempted to be filtered and then recycled back to the hydro-laser. This recycle will minimize the amount of liquid radwaste generated. Specially treated cloths may also be employed to remove the loosely adherent contamination. An approved foam cleaner such as Dow bathroom cleaner may also be employed to help remove this contamination.

Electrical components including motors, control panels, and cable trays may be decontaminated by wiping with a chemically treated cloth or by dry vacuum techniques. The electrical component may be decontaminated by compressed air. This technique will involve the construction of a plastic tent around the component to be decontaminated with an air filter on the discharge end of the tent. This technique is expected to reach areas untouched by other decontamination techniques.

Non-sealed concrete may be decontaminated by one of two techniques. Untreated concrete has the tendency to absorb contamination into the surface, thus to decontaminate the area the surface may need to be removed. Indications are that the activity may have diffused into the concrete as much as one inch. Thus vac-u-blasters (sand blast) or scarifiers must be employed. These techniques actually remove a portion of the surface.

Internal portions of pipes may be decontaminated by water flushes. Some pipes have already been decontaminated by this technique and decontamination factors of up to ten have been achieved with minimum use of water. Another method which may be employed to decontaminate pipes is a hydrolaser coupled to a self traveling probe.

A miscellaneous decontamination technique that may be employed on site is a steam jenny. This technique combines pressure, water, steam, cleaning agents and heat to remove the contamination.

All decontamination procedures will have the approval of the Decontamination Group Leader within the Waste Management Group or his designated representative before they are employed in the buildings.

HEALTH PHYSICS SUPPORT

Radiation levels in the Auxiliary Building may vary due to radioactive decay water movements, leaks or other conditions within the plant. Thus, Health Physics must provide an updated survey of the area specifically detailing high radiation areas prior to decontamination of a given area of the Auxiliary Building. This updated survey should be available so the decontamination team can be briefed prior to the start of their shift. This briefing will allow the team to be aware of the high radiation areas so that they can keep their radiation exposure as low as is reasonably achievable. The radiation survey will also serve as the final documentation of the existing situation before decontamination. If possible the isotopic distribution of all radioactive isotopes should be determined. This information could be obtained by employing a portable GeLi detector in the area to be decontaminated or by counting smears. This information will allow the decontamination supervisors to better plan future decontamination in other areas of the Auxiliary and Fuel Handling Buildings. As surfaces are determined to contain similar radioactive isotopes experience in the various techniques obtained in decontaminated areas will be used in planning for the future areas.

During the decontamination process one or two health physics technicians should provide health physics support to the decontamination effort. The station health physics technicians should monitor general radiation levels in the area where the decontamination is being performed. The technicians will notify the supervisor of the decontamination team of any changes in the radiation levels that will shorten the stay time of the decontamination team. This procedure will allow the decontamination team to evacuate the area in time to prevent radiation overexposure of individuals. Since other activities will be occurring in the Auxiliary and Fuel Handling buildings this monitoring must take place for the protection of the decontamination team.

The decontamination team will provide process control monitoring of smearable contamination on areas which they are decontaminating. This will be used by the decontamination supervisors to determine the success of contamination removal. This monitoring will not eliminate the need for station monitoring of smearable contamination and radiation levels of general areas and other items as identified by the decontamination team.

After the decontamination team is finished decontaminating a certain area the health physics technicians will survey the room to determine the post decontamination radiation and contamination levels. These radiation and contamination levels will be the official plant records and will determine to what levels the radiation and contamination have been reduced. These results will also be used to determine what steps are necessary to reduce the radiation and contamination in a given area to releasable limits.

The station Health Physics Department will then determine appropriate reductions in anticontamination clothing and respiratory protection as levels are reduced. Stepoff pads and controlled areas will be reestablished as areas of the buildings are released for access with less restrictive protective clothing. These controlled areas will reduce the occurrence of cross contamination of previously decontaminated areas.

ALARA

The primary goal in ALARA implementation is the balancing of costs, total personnel exposure, and time. This cost/benefit analysis will determine whether the decontamination should be accomplished in segments, integrated with the overall plant recovery effort or whether the decontamination should be a series of major efforts, somewhat independent of other plant operations.

One of the first goals of the decontamination effort should be the reduction of wall and floor contamination levels to a low enough value that respirator protection requirements can be minimized. This will greatly improve job efficiency and facilitate all work efforts in the Auxiliary and Fuel Handling Buildings. This level of contamination is generally accepted as 100,000 dpm/cm². However, a lower level may be selected based on specific needs and requirements.

Target low contamination levels should also be set for high traffic areas. This will not only decrease radiation fields in these areas but, also, will reduce problems of contamination spreading and recontamination. The actual contamination level may be in the range of 1,000 dpm/cm² or higher depending on specific situations. The cross contamination problem can be alleviated by the establishment and proper use of step off pads. Strippable coatings could also be applied in high traffic areas in order to control the spread of contamination and reduce the effort needed for cleanup should cross contamination occur.

All sections of the decontamination effort should keep in perspective the long range plans - area recovery with minimal time, expense and occupational exposure. Efforts should be planned to minimize duplication (recontamination). Conscientiousness on the part of all workers should be promoted to minimize waste volumes and the number of times the waste is handled. Shielding (shadow or specific blanket) should be used for localized high level dose reduction programs.

A material and personnel flow path should be laid out to minimize exposure and contamination spreading. Careful monitoring of personnel exposure should be made so that deviations from the expected can be rapidly identified and corrected. To facilitate this, exposures should be organized by individual, geographical area, plant systems, and job type. The above information should be contained on radiation work permits.

During the decontamination planning, the building HVAC system should be examined by Met-Ed operations to determine flow patterns and flow rates through the working area. If this system is not examined cross contamination could occur due to transport of airborne activity to decontaminated areas.

Finally, other plant operations will impact heavily on the decontamination plan and above program. Integration of the decontamination with other plant operations is required to minimize: 1) recontamination; 2) consequences of spills; 3) and unnecessary radiation exposure to the decontamination team.

RADIOACTIVE WASTE

An important goal of the decontamination effort is to minimize the volume of radioactive waste that must be disposed. All materials carried into the contaminated areas will become radioactive waste if not protected. Thus all equipment brought into these areas should be required or needless waste will be generated. All waste processing will be in accordance with the directives of the Processing Group. Disposal practices will be defined by the Disposal Group. Estimate of waste generation from the decontamination tasks (as of June 15, 1979) are as follows:

Compactible Waste from Decontamination

Approximately twelve 55 gallon drums of compacted waste will be produced per week.

Non-Compactible Waste from Decontamination

Non-compactible waste is estimated to be produced at a rate of two LSA boxes per week and twenty-eight 55 gallon drums (filters) for the decontamination campaign. (Note that the 28 drums will require two high level cask shipments).

Solidified Waste from Decontamination

About 27,000 gallons of sludge and high level hydrolaser water from the Auxiliary Building Sump, sump tank, miscellaneous waste holdup tank, floor drain cleaning, etc. will need to be solidified. This is estimated to produce approximately 5,000 ft.³ of solidified high level waste.

Two thousand gallons of miscellaneous waste will be produced. This will result in about 400 ft.³ of low level waste.

Every effort should be made to reduce generating additional contaminated waste. One way to accomplish this would be to carefully consider taking any material or equipment into contamination areas only. Equipment needed to do a particular job should be taken into the contamination areas. Non contaminated material should not be stock piled in contaminated areas. However, equipment and supplies should be employed as needed to reduce the possibility of cross contamination to decontaminated areas.

DECONTAMINATION ORGANIZATION

All decontamination performed at Three Mile Island II is under the direct control of the Decontamination Group Leader within the Waste Management Group or his designated representative. Chem Nuclear, which has the general contract for the decontamination of the contaminated buildings, reports directly to the Decontamination Group Leader. Vikem is a subcontractor to Chem Nuclear and will supervise the actual decontamination tasks. The Vikem Project Manager reports to the Chem Nuclear Project Manager. Complete organization charts appear in Appendix A.

All interfaces from the Chem Nuclear - Vikem decontamination team to the Waste Management Group will be made through the Chem Nuclear Project Manager or Project Coordinator or the Vikem Project Manager, or their designated representatives. Communications made to the Waste Management Group from either the Chem Nuclear Project Coordinator or the Vikem Project Manager must also be communicated to the Chem Nuclear Project Manager.

All interfaces between Chem Nuclear and Vikem with operation, supply, or service groups on the Island will be communicated through the Decontamination Group Leader. All interfaces between the Chem Nuclear/Vikem Team and the ALARA Task Force will be made directly by the Chem Nuclear Project Coordinator or his designated representative. All such communications should be reported to the Decontamination Group Leader.

Approval for all decontamination procedures, use of techniques, and chemicals will be the responsibility of the Decontamination Group Leader or his delegated representative.

INTERFACES WITH OPERATION, CONSTRUCTION AND MAINTENANCE

Coordination of work that involves people entering the Auxiliary or Fuel Handling Buildings of Unit II must be centered around one person knowledgeable in all areas involving decontamination, operation, maintenance, and construction as well as the potentials for hazards that are associated with each entry. Current radiation and contamination surveys of all areas to be decontaminated are necessary in order to limit radiation exposures and the possibility of cross contamination of clean areas.

A list of areas in which construction is to be done will be provided to the Decontamination Group Leader by construction on the afternoon prior to the work activity.

Internal decontamination of equipment should be in phase with the building decontamination. This will result in lower radiation exposures as well as reducing recleaning resulting from equipment leaks, tank overflows, etc.

Maintenance of instrumentation and equipment should continue on an established routine to assure proper performance of all equipment.

Daily Decontamination staff meetings held for the purpose of planning decontamination work should include Health Physics, maintenance, operation and construction in order to coordinate the overall plant effort. Representatives should be appointed to gather this information daily.

The distribution of all plant procedures effecting the decontamination effort and changes in existing procedures should include the Decontamination Group Leader.

LOGISTICS

The logistical support needed for the decontamination work consists of coordination of manpower, equipment, protective clothing, decontamination chemicals, water management, etc. Planning should be such that delays in the critical path are minimal.

Decontamination manpower will consist of three 15 to 30 man shifts. This will allow three shift operation with an optimal number of workers. Protective clothing requirements will be about three changes per man per shift and two to three sets per entry per man for a total of 180 to 540 sets per day. Health Physics will define the exact requirements for each entry. Met-Ed stores will be responsible for ordering protective clothing.

Special equipment for the decontamination (hydrolasers, wet/dry vacuums, etc.) will be co-ordinated by the Decontamination Group leader or his designated representative. This Group will also monitor chemical usage. The qualification of additional decontamination chemicals (in addition to water and Radiac wash) is a further responsibility of the Decontamination Group with Assistance from the Technical Functional Group.

DECONTAMINATION ORIENTATION

All personnel brought to TMI to perform decontamination services will participate in all Health Physics training given by Met-Ed that is required to satisfy radiological control indoctrination requirements. In order to be knowledgeable of decontamination techniques presently being employed and in order to minimize the potential of cross contamination additional orientation will be given to personnel assigned to the decontamination team.

The orientation will include both theoretical and practical aspects of health physics and decontamination. The orientation will include a question and answer session of H.P. training, functioning in a radiation area and radiation protection procedures. The practical part of the orientation should include dressing out in anticontamination clothing, entry into the mockup of a contaminated area, familiarization with decontamination equipment and techniques, exiting from contaminated areas, and bagging and removal of material from work areas.

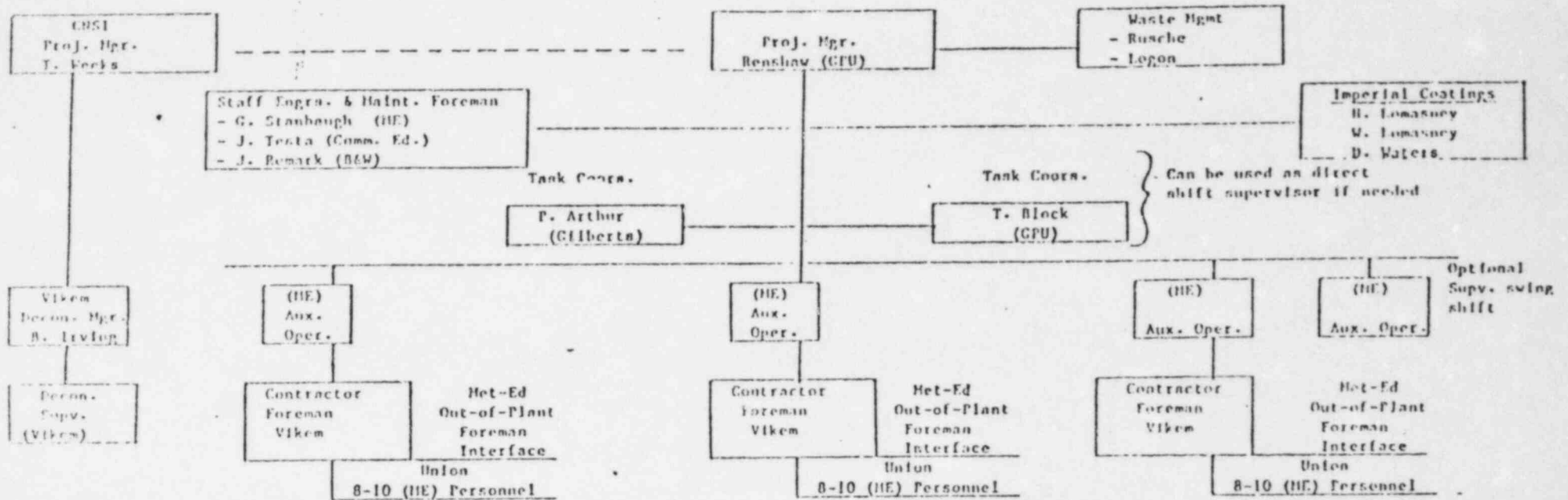
This orientation is designed to serve several purposes. Among them are:

- 1) To instruct Decontamination workers in the basic fundamentals of radiation safety and contamination control.
- 2) To instill confidence in the decontamination workers.
- 3) To increase time utilization and worker productivity and limit radiation exposure.
- 4) To generate pride in being a member of the TMI Decontamination Team.

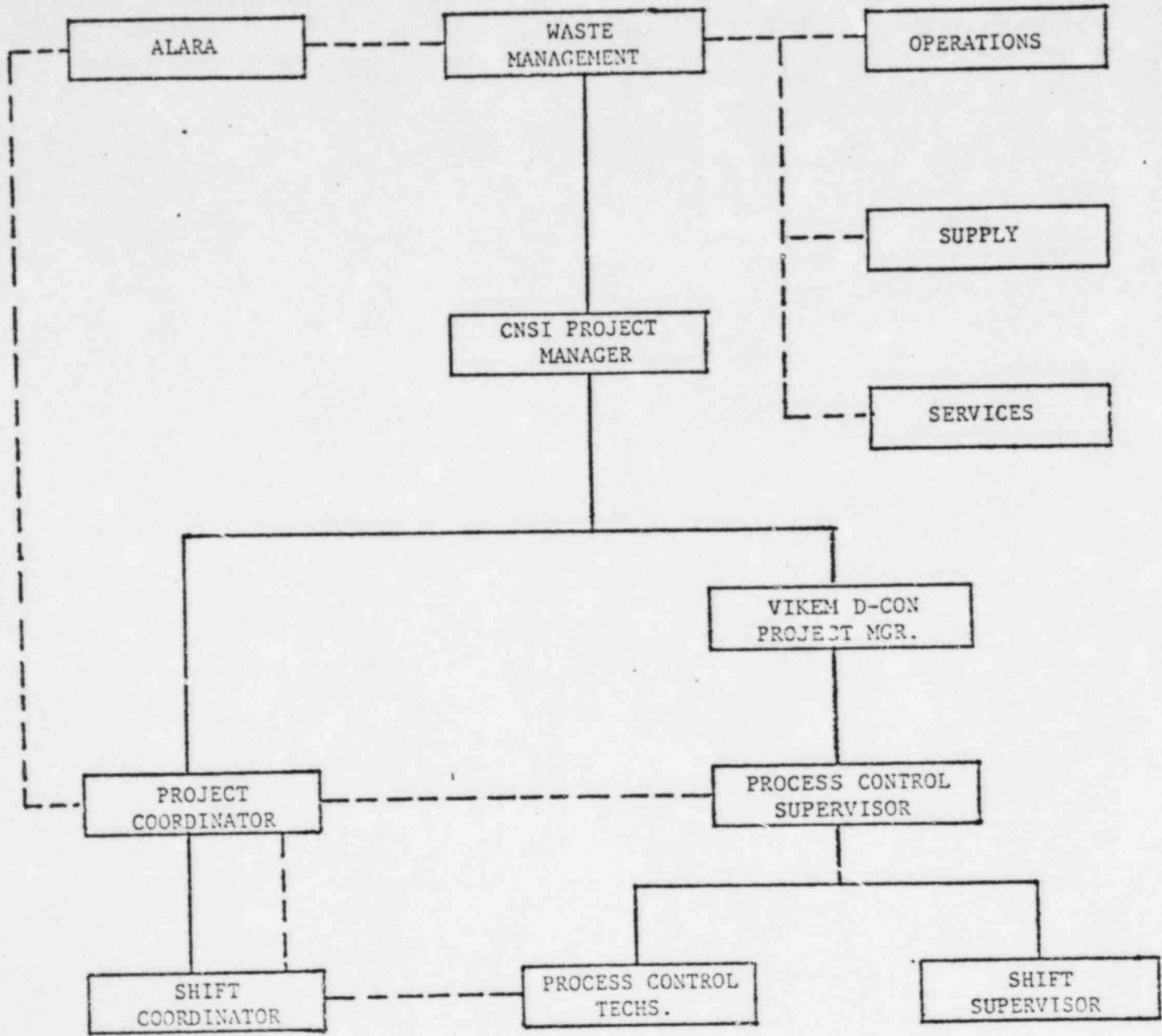
The orientation program will be continuously updated to introduce the decontamination techniques presently being employed on site and to describe information pertaining to the current situation in the Auxiliary and Fuel Handling Building. An outline of the Decontamination Orientation Program is presented in Appendix B.

APPENDIX A

DECONTAMINATION GROUP
 PER
 Meeting with H. Robidoux
 5/22/79



page 9c
 D. J. Fick
 05/30/79



APPENDIX B
DECONTAMINATION TEAM
ORIENTATION

Stage I - Classroom

A. Review of RWP training

The thrust of this portion is to ensure the trainee has a firm grasp of the basic concepts of radiation and contamination: In Knowledge there is a loss of fear of the unknown.

1. Radiation - Dose and dose rate
Time - Distance - Shielding for dose reduction
2. Contamination
Radioactive material where it is not wanted
DPM - CPM

B. Functioning in a radiation area

Discussion of features to be aware of in the building which can be detrimental to your health.

1. Cubicles
Tanks, filters, etc.
2. Pipe elbows, valves, sumps, drains
Potential hot spots
3. Hot spot stickers, lead blanket, bricks
Indication of attempts at shielding
4. Personal responsibility for ALARA
Where do I stand?
Can I sit here?
What's through that door?
Why is it my turn again?
Why can't I just go over and push that barrel?

C. Overview of the decontamination effort

A generalized discussion of the reasons for decontamination of the building with emphasis on the importance of the effort to the Recovery of TMI II. Points to be considered include:

1. Easing of the potential dangers.
2. Positive publicity
3. Relaxing dressup requirements for workers engaged in the recovery effort.

D. Radiation Protection procedures

1. Dress requirements
 - a. Respirators - All types. Why they are needed, their function problems associated with working in respirators.
 - b. Taping and sealing clothing
 - c. Undress procedures - How to avoid becoming contaminated
2. Step-off pad procedures

An explanation of the purpose of SOP, how to use them properly.
3. Prevention of recontamination after decontamination

Placement of SOP, roping areas, shoe cover changes
4. The function of HP personnel
 - Teach
 - Advise
 - Protect
 - Discover and Inform

Stage II - Application

This phase of the training will be a "hands on" situation under controlled conditions to familiarize the workers with methods and procedures now in effect at TMI II.

- A. Dress

Each man will be dressed in the protective clothing necessary for the operation.
- B. Entry into the work area
 - RWP requirements
 - SOP use
- C. Decon technique
 - Familiarization with equipment
 - Operation of equipment
 - Scrub and vac
 - Masolinn Wipedown
 - Small object decon
 - desludging

- D. Exit from the work area
 - Undressing - Avoiding contamination of person
 - SOP use
 - RWP requirements
- E. Removal of material from work area
 - Contamination checks
 - Bag and double bag
 - Tagging and marking
 - Disposal

Stage III - Critique

The final phase of the training, where questions and comments will be aired and dealt with. A summary of the day's activities and a review of salurit points will be given. Errors of omission and commission during Stage II will be discussed, and a final attempt to install pride in the effort will be made.

OVERVIEW

This program is designed to serve several purposes among them are:

1. To teach the men concepts necessary to smooth functioning under radiation and contamination conditions.
2. To instill confidence in the supervisory people.
3. To allay fear of the unknown.
4. To generate pride in being a part of the effort to revive TMI II.

To this end the training program is designed to focus on those areas which are pertinent to the effort of decontaminating the facility. Specific references to existing conditions constitute the backbone of the presentation. The practical portion of the program will be taught by those members of the decon team having actual experience in the areas to be cleaned. Through this, elimination of surprises during the actual operation will be attained, producing a smoother, more productive effort.

DECONTAMINATION SCHEDULE(Aux. Bldg. Fuel Handling Bldg. and
Diesel Gen. Rooms)

DATE _____

Elevation 280'

AREA	PRIORITY	NEAR TERM OBJECTIVE
Filter Clean Up Area		Condition 1
Gas Stripper Area		"
Condensate Tank Area		"
Valve Room WEL F3R Aux Sump WDLT-5	A	"
Evap. Condensate Test Tank Area	A	"
Decay Heat Vaults		"
South East Stairs		Condition 2
Corridor	A	"
North East Stairs and General Area		"
Decay Heat Removal Equip. Pit (258 elev.)	A	Condition 1
Aux Sump Area		"

Condition No. 1 = <100,000 DPM

Condition No. 2 - <10,000 DPM

DECONTAMINATION SCHEDULE
 (Aux. Bldg. Fuel Handling Bldg. and
 Diesel Gen. Rooms)

DATE _____

Elevation 280'

AREA	PRIORITY	NEAR TERM OBJECTIVE
Access Corridor		Condition 1
Oil Drum Storage		"
Reclaimed Boric Acid Area		"
Neutralizer Tank Area		"
Instrument Mtg F-7 Area		"
Normal Cooling Water Pumps Area		"
Valve Room		"
South Monorail and Ladder Area		"
MUP-1C Room		"
MUP-1B Room		"
MUP-1A Room		"
Spent Resin Tank Area		"
Waste Disposal Liquid Valve Room	A	"
Hold Up Tank Area		"
Waste Transfer Pump Area	A	"

 Condition No. 1 = <100,000 DPM

Condition No. 2 = <10,000 DPM

DATE _____

Elevation 305'

DECONTAMINATION SCHEDULE(Aux. Bldg. Fuel Handling Bldg. and
Diesel Gen. Rooms)

AREA	PRIORITY	NEAR TERM OBJECTIVE
Corridor at Entrance to End Valve Rm.		Condition 1
Seal Return Area		"
Spent Fuel Cooler Area	A	"
Make Up and Purification Demin Area		"
Waste Gas Tank Area WDGT 1-B		"
Waste Gas Tank Area WDG-T-1A		"
Misc. Waste WDLT-2 and Valve Room	A	"
Discharge and Mezzanine Valve Rm. Area	A	"
Concentrated Liquid Waste Area		"
Corridor to Chain at Valve Rm.		Condition 2
Rad Waste Control Panel (Clean Access)	A	"
Sub Stations and Motor Control Centers	A	"
Valve Room (Across from S.F. Filters & Demins)	A	"

Condition No. 1 = >100,000 DPM

Condition No. 2 = >10,000 DPM

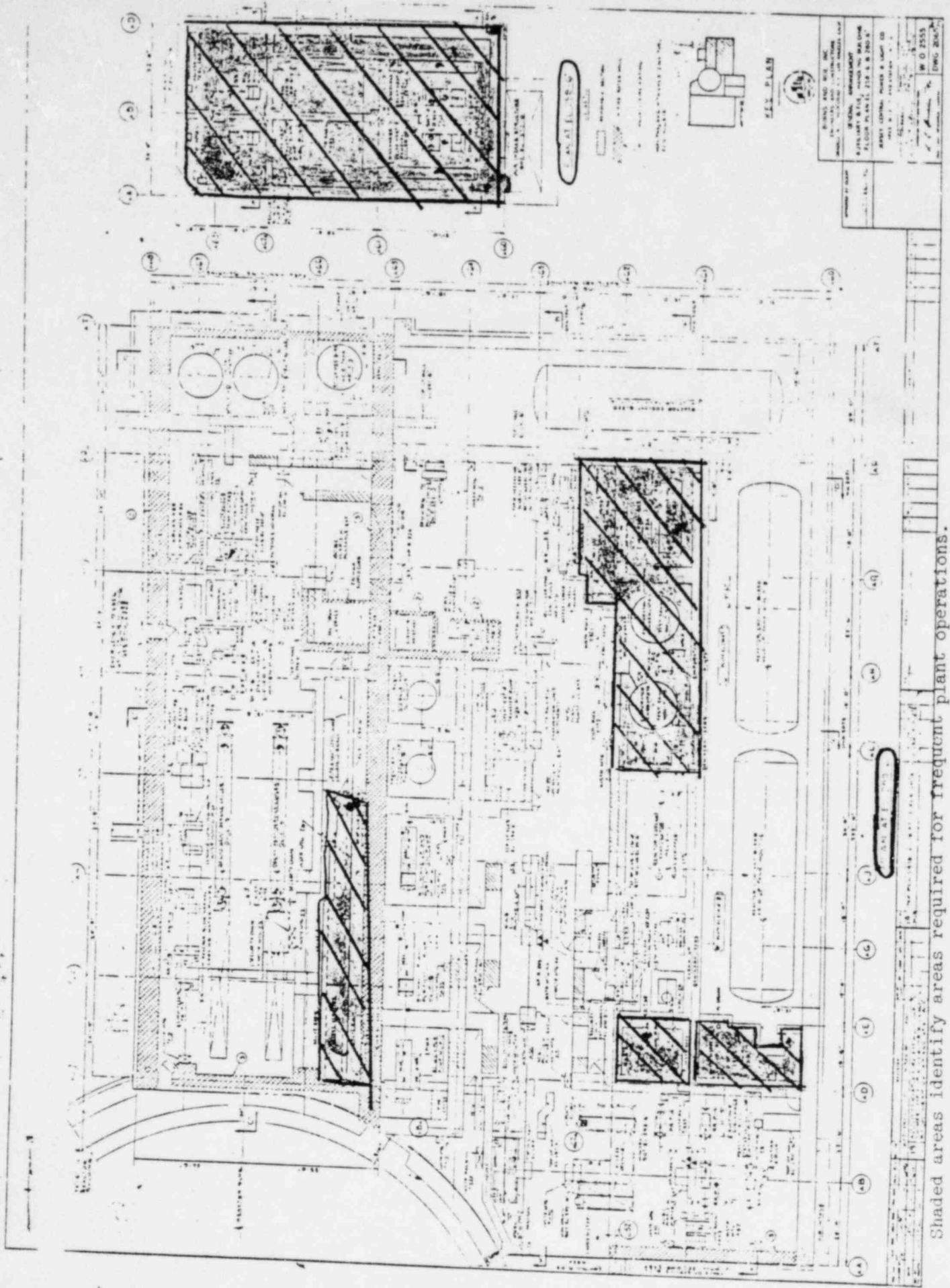
DECONTAMINATION SCHEDULE
(Aux. Bldg. Fuel Handling Bldg. and
Diesel Gen. Rooms)

DATE _____

Elevation 328'

AREA	PRIORITY	NEAR TERM OBJECTIVE
South East Stairs and General Area		
Fuel Handling Exhaust Area		
Fan and Monorail Area		
Caustic Tank and Mixing Area	A	
Concentrated Waste WDS-T-2		
Platform Elevation 337'		
Sub Station and Motor Control Areas	A	
Engineered Safety Switch Gear Centers	A	

Condition No. 1 = >100,000 DPM

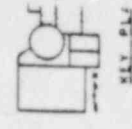


Shaded areas identify areas required for frequent plant operations.

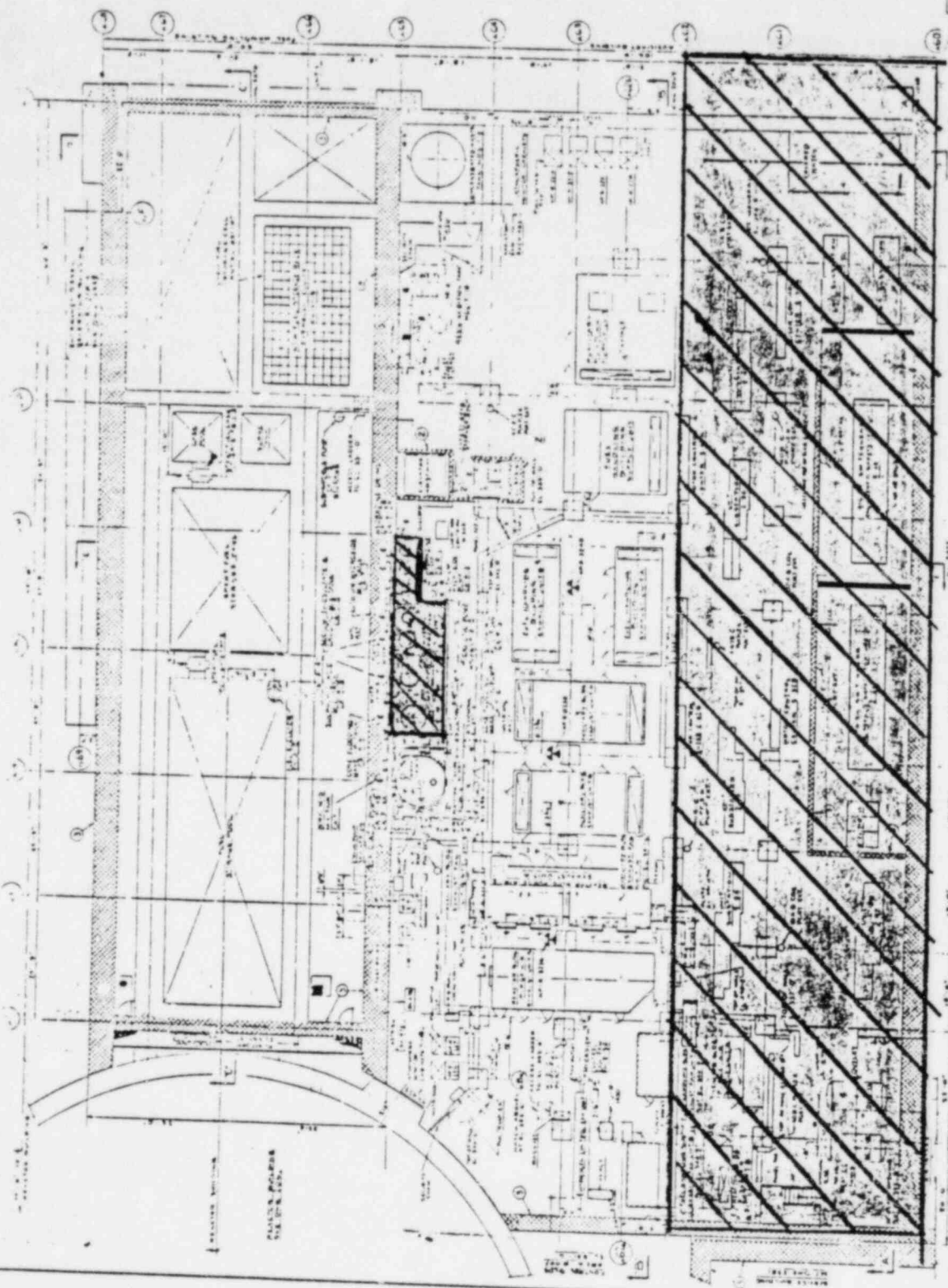
MAP 1

LEGEND

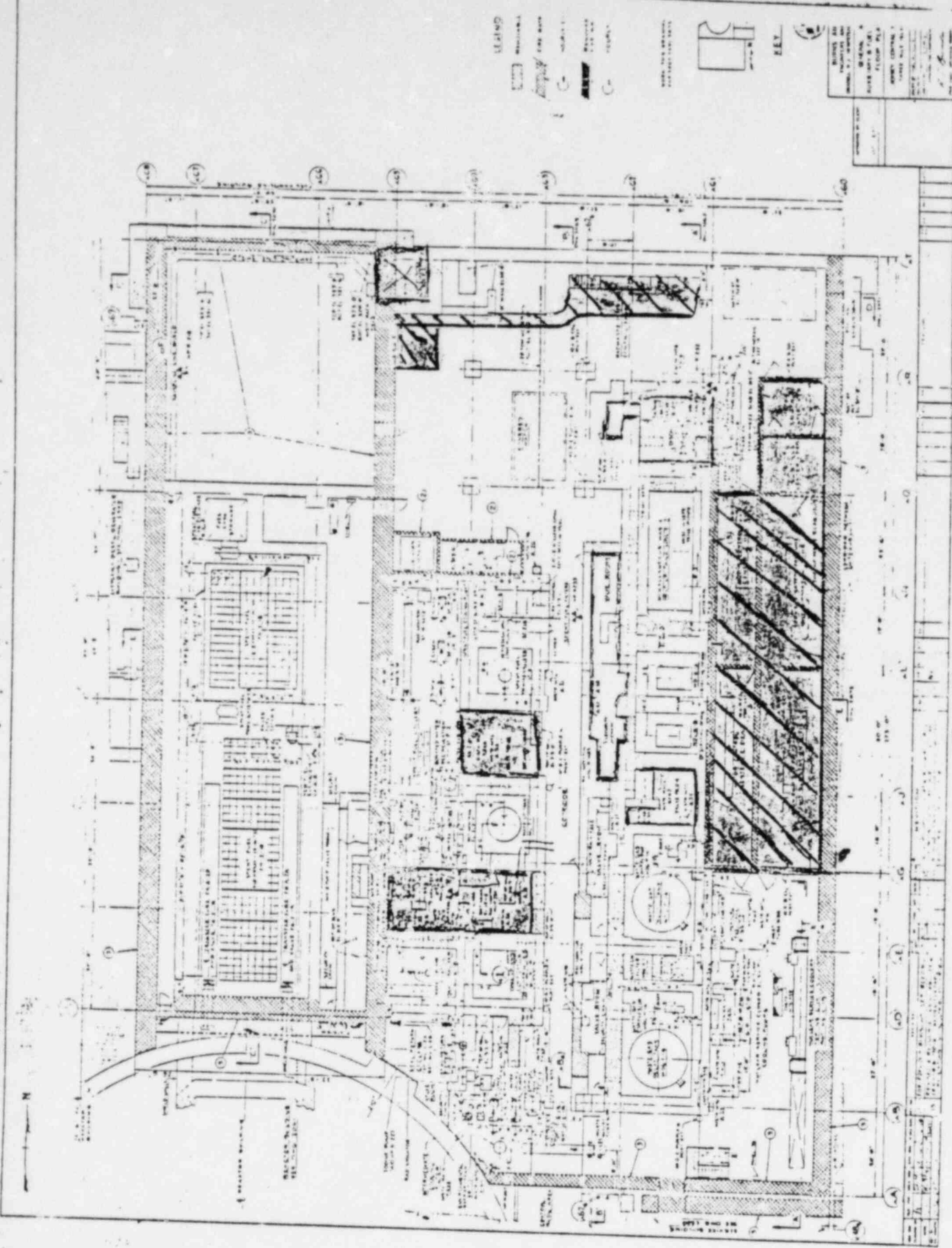
- RESEARCH LAB
- WORK AREA
- OFFICE
- STORAGE
- REST ROOM
- TOILET
- SHOWERS
- LOCKER ROOM
- TRUCK
- TRUCK TRAILER



PLANS AND BOX
 DRAWINGS AND CONT.
 DRAWING NO. 1
 DATE: 10/1/54
 SCALE: AS SHOWN
 DRAWN BY: J. H. [unclear]
 CHECKED BY: [unclear]



Shaded areas identify areas required for Equipment operations.



Shaded areas identify areas required for frequent plant operations.

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APPENDIX D

DECONTAMINATION CHEMICALS/AGENTS
(AS OF JULY 17, 1979)

Approved

Water
Radiac Wash

Under Evaluation

Amway SA 8
Formula 1
Trisodium Phosphate
Foam
Naval Jelly
Nutek
DC 13
NSC 690
EDTA
Dessicant
Ammonium Citrate
Citric Acid
Bentonite
Pumice

This list will be expanded as necessary if evaluation of other decontamination chemicals becomes desirable.