USING A REGULATORY MATRIX TO IDENTIFY REQUIREMENTS AND EVALUATE PROJECT COMPLIANCE

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ABSTRACT

Among the early tasks in the siting, design, licensing, construction and operation of a low-level radioactive and mixed waste disposal facility are (1) developing the criteria for site selection, (2) defining the process for identifying the candidate sites for detailed characterization, (3) developing the site characterization plan, and (4) conducting the regulatory analyses to support geological and environmental investigations, engineering studies, and license application. Moreover, the latter is a task which remains a major activity throughout the life of the project.

A major concern of a large, complex project is the cost and schedule impact of failing to secure the approvals required to perform the activities. For some actions, the preparation of an application and the approval process may delay the project for months. In order to meet the schedule imposed by the Low-Level Waste Policy Act, US Ecology, Bechtel and the State of Nebraska have developed and continue to refine a regulatory matrix which identifies all approvals, reviews, and permits from state, local, and federal agencies for the various activities in each phase of the project; e.g., site characterization. The matrix provides a cursory overview of agency involvement and serves as the Table of Contents to the document which summarizes the requirements and strategy to achieve regulatory compliance.

The matrix provides several advantages for all participants: US Ecology, Bechtel and the State of Nebraska. First the structured approach reduces the likelihood that a major permit or approval will be overlooked. Second, it provides the documentation that USE/BNI have considered carefully all aspects of the project in order to comply with all regulations and requirements. Third, the matrix provides the state with both a road map of the regulatory requirements of the project and the details on the strategies to comply. The latter, thereby, provides the State with a method to evaluate compliance with all rules and regulations.

INTRODUCTION

An early task in the siting, design, licensing, construction and operation of the Central Interstate Compact (CIC) Low-Level Radioactive and Mixed (LLRM) Waste Disposal Facility is development of the process of regulatory review and analysis. Therefore, the team of U.S. Ecology (USE) and Bechtel National Inc. (BNI) upon award of the contract by the CIC Commission began the process of establishing regulatory interfaces with the Nebraska Department of Environmental Control (NDEC). Moreover, regulatory review and analyses are tasks which continue through the life of the project. Among the varied results which these analyses support are:

- Development of criteria for site selection,
- Development of criteria for detailed characterization of the candidate sites,
- Identification of performance objectives for the waste disposal facility during operations and after closure.
- Development of design criteria,
- Conduct of engineering trade studies,
- Identification of permits and approvals required to perform an activity,
- Preparation of applications for permits,
- Development of strategies to demonstrate and evaluate regulatory compliance,
- Design of facility,
- Design of engineered barriers,
- Development of operating standards,
- Development of environmental monitoring program for pre-operations, construction, operation, closure and post-closure.

Within the past year, continuing regulatory analyses for the project have supported either the full or partial development of the preceding items.

Each of these items is composed of numerous activities and components; in order to secure the approval by a lead agency for one of the activities, the concurrence of either several sections within an agency or several agencies may be required. Because of the complexity of the task of regulatory definition for a project such as the CIC LLRM Waste Disposal Facility, there is a need to develop a system to organize the various agency actions versus the project activity and purpose. The method developed by the project is to construct a matrix of agencies vs activities for various phases of the project: (1) site characterization; (2) design; (3) construction and (4) operations. Figure 1: Identification of Agencies with Review and Approval Responsibilities for Permit and License Application present the results of the

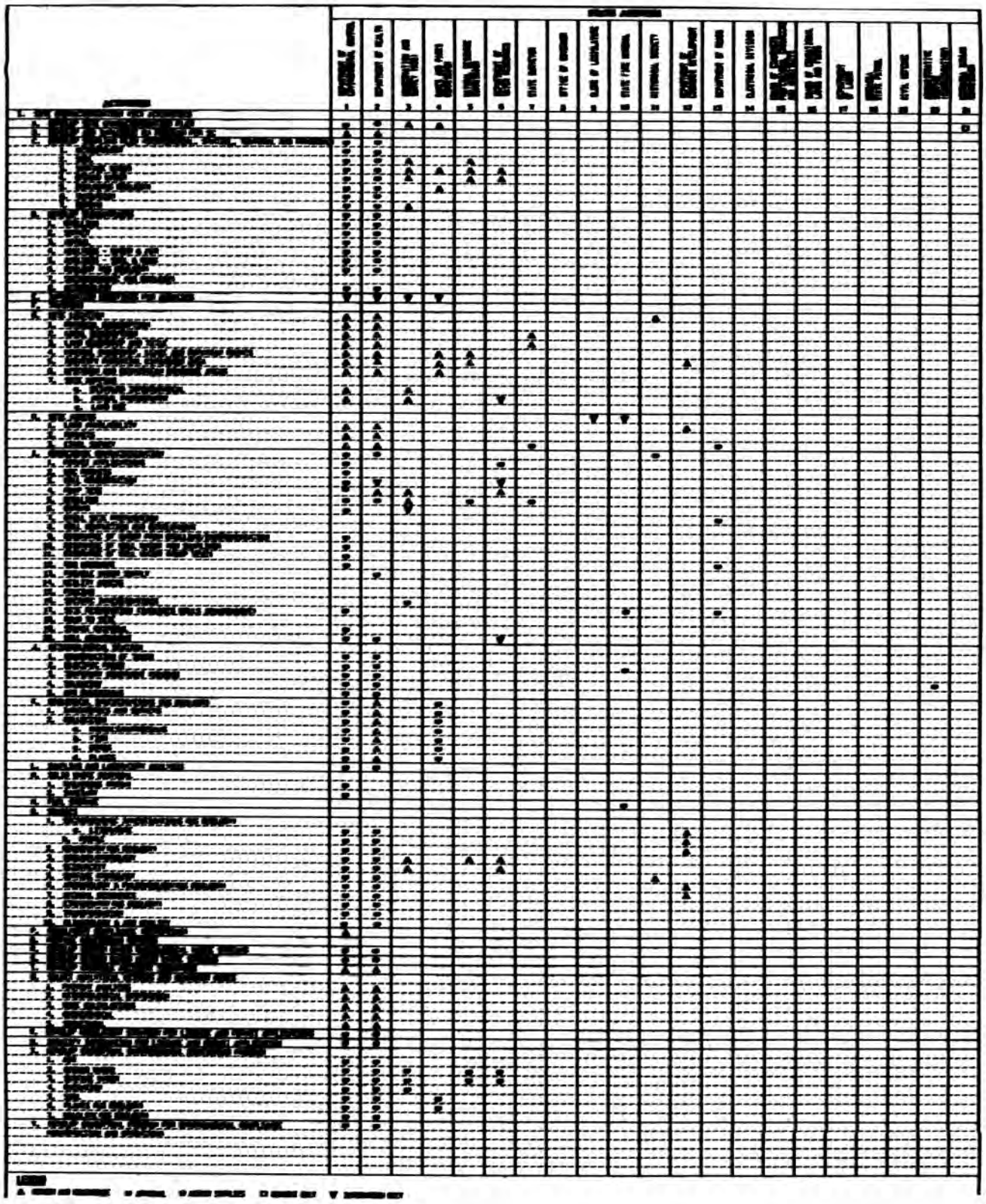

Fig. 1. Identification of Agencies with Review and Approval Responsibilities for Permit and License Application.

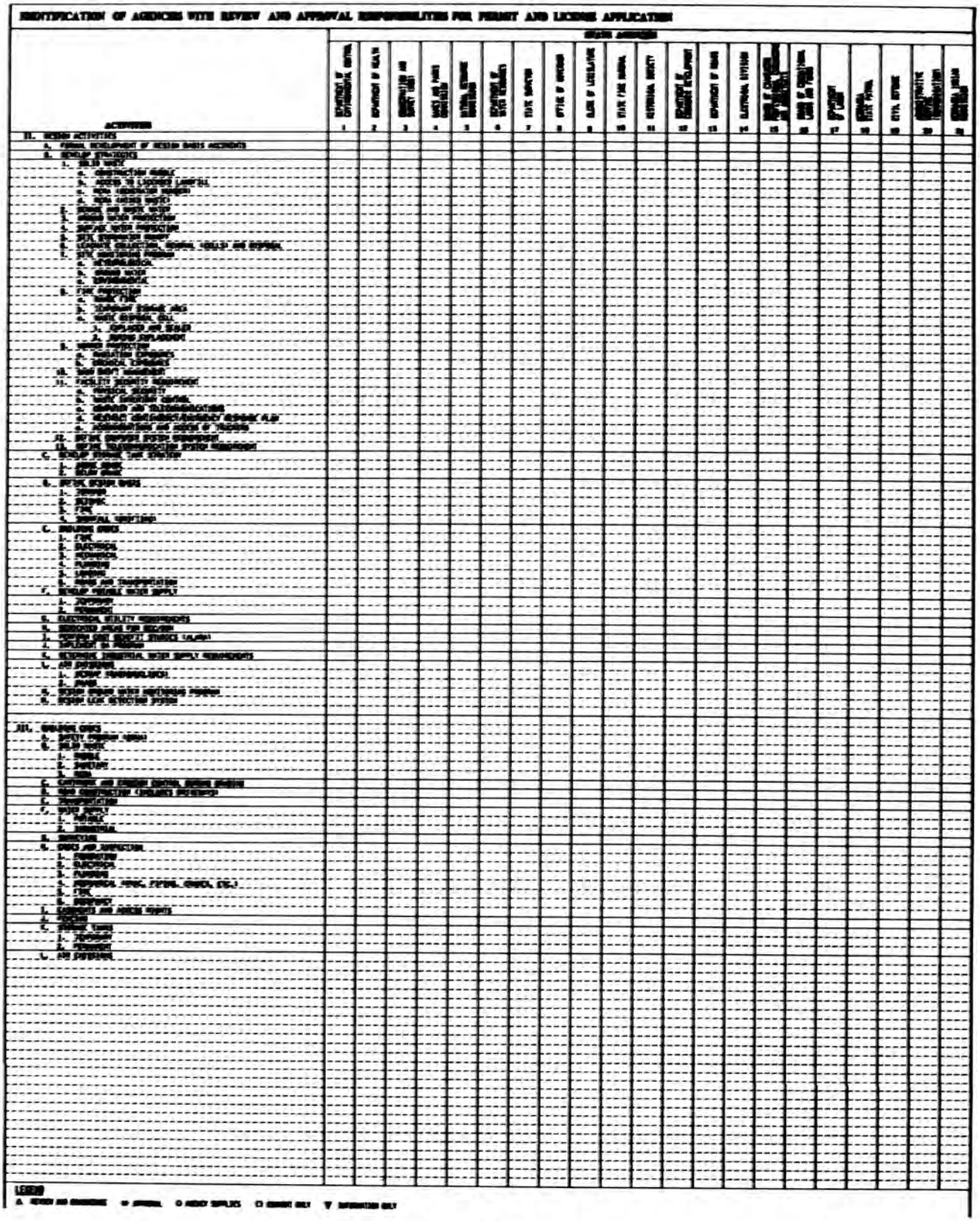

Fig. 1, Cont'd

IDENTIFICATION OF AGENCIES WITH REVIEW AND APPROVAL RESPONSIBILITIES FOR PERMIT AND LICENSE APPLICATION

ACTIVITIES	STATE AGENCIES																					
	DEPARTMENT OF ENVIRONMENTAL CONTROL 1	DEPARTMENT OF HEALTH 2	CONSERVATION AND SURVEY (IGS) 3	GAMES AND PARKS COMMISSION 4	NATURAL RESOURCE COMMISSION 5	DEPARTMENT OF WATER RESOURCES 6	STATE SOMETHING 7	OFFICE OF SOMETHING 8	CLERK OF LEGISLATURE 9	STATE FIRE MARSHAL 10	HISTORICAL SOCIETY 11	DEPARTMENT OF ECONOMIC DEVELOPMENT 12	DEPARTMENT OF ROADS 13	ELECTRICAL DIVISION 14	BOARD OF EXAMINERS PROFESSIONAL ENGINEERS AND ARCHITECTS 15	BOARD OF EDUCATIONAL LANDS AND FUNDS 16	DEPARTMENT OF LABOR 17	NEBRASKA STATE PATROL 18	CIVIL DEFENSE 19	ADMINISTRATIVE SERVICE (COMMUNICATIONS) 20	NEBRASKA JUDICIAL COMMISSION 21
IV. OPERATIONAL ACTIVITIES																						
A. SAFETY PROGRAM																						
1. OSHA																						
2. RADIATION																						
3. STORM HAZARDS																						
a. TORNADO																						
b. BLIZZARD																						
B. DEVELOP OPERATIONAL STANDARDS																						
C. DEVELOP TECHNICAL SPECIFICATIONS																						
D. OFFICE BUILDING																						
E. SEWAGE																						
F. SURFACE IMPOUNDMENT (STORM WATER RUNOFF)																						
G. WATER SUPPLY																						
1. POTABLE																						
2. INDUSTRIAL																						
H. STORAGE TANKS																						
1. ABOVE GRADE																						
2. BELOW GRADE																						
I. ENVIRONMENTAL MONITORING PROGRAM																						
1. AIR																						
2. GROUND WATER																						
3. SURFACE WATER																						
4. RADIATION																						
5. SOIL																						
6. PLANTS																						
7. WILDLIFE																						
J. REFACTORING FACILITY																						
K. TRUCK WASHDOWN/DECONTAMINATION																						
L. MIXED WASTE CELL																						
M. SECURITY PROGRAM																						
1. PHYSICAL																						
2. WASTE INVENTORY CONTROL																						
3. TELECOMMUNICATIONS SYSTEM																						
4. COMPUTER SYSTEM																						
N. HAZARDOUS WASTE																						
O. TRANSPORTATION																						
1. RADIATION SURVEY OF INCOMING																						
2. REPORTING AND RESPONSE OF ACCIDENTS																						
3. INSPECTION																						
a. MANIFEST																						
b. LOAD																						
c. OTHER																						
P. OPERATIONAL HEALTH PHYSICS																						
1. NORMAL OPERATIONS																						
2. OFF-NORMAL OPERATIONS																						
3. ACCIDENT CONDITIONS																						
4. FACILITY ALARM PROGRAM																						
Q. RESPONSE PLANS																						
1. FIRE (BARR, OFFICE, FACILITY)																						
2. MEDICAL																						
a. RADIOLOGICAL																						
b. NON-RADIOLOGICAL																						
R. ADMINISTRATIVE PROCEDURES																						
1. FEE SCHEDULE																						
2. MANIFEST SYSTEM																						
3. SURCHARGES/PENALTIES																						
4. ENVIRONMENTAL COMPLIANCE/MONITORING REPORTS																						
S. TELECOMMUNICATIONS SYSTEM																						
T. COMPUTER SYSTEM																						
U. CONSTRUCTION (CELLS)																						
1. SAFETY																						
a. OSHA																						
b. RADIATION																						
2. SPECIFICATION FOR MATERIALS																						
3. QA PROGRAM FOR CONSTRUCTION MATERIALS																						
V. QA PROGRAM FOR OPERATIONS																						

LEGEND
Δ REVIEW AND CONCURRENCE ● APPROVAL ○ AGENCY SUPPLIES □ COMMENT ONLY ▼ INFORMATION ONLY

Fig. 1, Cont'd

analyses in graphical form. This structure has been named informally the "Regulatory Matrix."

This organization is useful in defining the interrelationships within the State of Nebraska because many of the agency reviews and concurrences which are required to support an approval or granting of a permit are not identified in the state rules or regulations. Nevertheless, there is a formal system for review of applications for permits and departures from rules; the pathway and issues for consideration are defined by those with responsibility to review and write the departures and permits. Only through conversations with the various agencies and sections within the agencies can these responsibilities be established. After the cycle of reviews and concurrences which are required to support the lead agency approval is established, the project contacted each review agency and section to determine what their environmental responsibilities and concerns were so that the various applications and notifications could address them. It is expected that such an approach will reduce the time required for either review of permit applications by the agencies or to rewrite a portion of the application to conform to agency protocol.

The graphical representation of the Regulatory Matrix serves as an index to a regulatory analysis and identification document which summarizes any agency approvals, reviews, notifications, etc. which are required for an activity. For example, the matrix element for Site Characterization (See Fig. 2) refers to the text:

Activity: I,I.5 Geoscience Characterization, Drilling

Agency: 1 Department of Environmental Control

indicates that the major regulations which cover this activity are NDEC Title 135: "Rules and Regulations for Mineral Exploration Holes" and a joint regulation of NDEC and the Nebraska Department of Health (NDOH) Title 178: "Regulations Governing Water Well Construction, Pump Installation and Water Well Abandonment Standards".

Title 135 covers the permitting of wells and bore holes used for geological investigations. Among the requirements are: (1) identification of the permit holder; (2) legal description of the area for site characterization; (3) identification of the surface owner(s) of the site; (4) demonstration of financial accountability by the permit holder and technical planning for both plugging and abandonment of wells and bore holes; (5) collection of fees associated with the processing and administration of the permit; (6) standards for environmental restoration of drill site upon completion of site characterization activities; (7) documentation and transfer of geologic and geophysical information to appropriate state agency if required by the permit and (8) preparation of a plat or map which identifies the location of bore holes and wells along with their survey coordinates.

The joint regulation, NDEC/NDOH Title 178, is concerned with well head protection. It contains requirements related to the construction of wells, certification of well drillers, licensing of water well contractors and pump installers, and licensing of site supervisors for drilling. The summary information provides the project with a checklist to prepare the application for a permit under Title 135, to plan site restoration, and to terminate activities and complete the documentation of activities related to drilling, plugging and abandonment and notification of the state.

The graphical nature of the Regulatory Matrix provides the project with the additional assurance that despite either a change in personnel or a substantial delay between the time of the regulatory analyses and the initiation of the activity, it is possible to define the requirements and either their regulatory bases or agreements with the agency. Moreover, statutory and regulatory changes and changes in policy within an agency can be reflected in both the Regulatory Matrix and the supporting documentation with minimal effort. Following the identification of the candidate sites in Nebraska, a review of the matrix indicated an early activity which had been neglected inadvertently in planning for site mobilization. The immediate identification of the problem prevented both any impact upon project schedule and possible adverse publicity because of a failure to secure either a concurrence or approval.

During the various phases of the project, certain agencies will be more involved in review and approvals than other agencies. For example, during site characterization local and federal agencies will have minimal responsibilities but their involvement will increase substantially during the construction and operation phases. Completion of the matrix will give a better understanding of the regulatory process for this project and is likely to provide general guidance on the regulatory process for projects in general.

The Regulatory Matrix allows the project to demonstrate that the project has complied with the rules and regulations of state, local and federal agencies and current interpretations of the regulations within the agency. For a highly visible project, demonstration of regulatory compliance is not only desireable; but it is essential.

For the Low Level Radioactive Waste Division in NDEC and the Radiological Health Division in NDOH, the Regulatory Matrix provides an understanding of the approach that the project plans to pursue in order to conform to regulatory and agency requirements. These agencies are the leads and have the responsibility to ensure not only compliance with applicable state, local and federal regulations but to aid the CIC LLRM Waste Disposal Facility in complying with the schedule of the Low-Level Radioactive Waste Policy Act. Agency reviews allow the early identification of strategies and approaches that do not satisfy current approaches and thinking within the state. Thus, the approach of creating a matrix of activities versus the approvals, reviews, concurrences and notifications required to initiateand complete thsee activities provides the control and

protection to both the project and the State of Nebraska.

I,I,5; 1

DRILLING: NDEC

Title 135: Mineral Exploration Holes

1. Identification of permit holder
2. Demonstration of financial responsibility
3. Legal description of site
4. Identification of surface holder(s) for site
5. Collection of fees for processing and administering permit
6. Standards for environmental restoration of drill site
7. Transfer of geologic and geophysical information to appropriate state agency if required by permit
8. Preparation of a plat or map which identifies the location of bore holes and wells along with the survey coordinates
9. Registration of monitoring wells and bore holes with Department of Water Resources

Title 178: Water Well Construction [NDEC/NDOH]

1. Purpose: Well head protection
2. Requirements for well drillers certification
3. Requirements for licensing of water well contractor
4. Requirements for licensing of pump installers
5. Requirements for licensing of supervisor for drilling

Fig. 2: Summary Information on Nebraska Department of Environmental Control Requirements for Drilling during Site Characterization