



CLASS II HYDROCARBON STORAGE WELL PERMIT APPLICATION

MAILING ADDRESS:
 OFFICE OF CONSERVATION
 INJECTION & MINING DIVISION
 P.O. BOX 94275-CAPITOL STATION
 BATON ROUGE, LA 70804-9275

PHYSICAL ADDRESS:
 OFFICE OF CONSERVATION
 INJECTION & MINING DIVISION
 617 N. THIRD ST., 8TH FLOOR
 BATON ROUGE, LA 70802

UIC-2 HSW

PLEASE READ APPLICATION PROCEDURES

TYPE ONLY

1. APPLICATION TO (CHECK ONE):		<input type="checkbox"/> CONVERT BRINE EXTRACTION WELL TO STORAGE WELL	
		<input type="checkbox"/> DRILL NEW STORAGE WELL IN EXISTING CAVERN	
		<input type="checkbox"/> RE-PERMIT AN EXISTING STORAGE WELL/ CAVERN	
2. WELL TO BE USED FOR STORAGE OF: <input type="checkbox"/> NATURAL GAS <input type="checkbox"/> CRUDE OIL <input type="checkbox"/> LPG: _____ <input type="checkbox"/> OTHER HYDROCARBONS: _____			
3. OFFICE OF CONSERVATION ORDER NO. (IF APPLICABLE): _____			
4. OPERATOR'S NAME AND ADDRESS:		5. OPERATOR CODE:	
		6. PHONE:	FAX:
		E-MAIL:	
7. FACILITY NAME AND ADDRESS:		8. CONTACT NAME:	
		9. PHONE:	FAX:
		E-MAIL:	
10. PROPOSED WELL NAME AND NUMBER:		11. SERIAL NO. (CONVERSION OR RE-PERMIT ONLY)	

WELL LOCATION INFORMATION

12. SALT DOME (FIELD) NAME & CODE: ()	13. PARISH NAME & CODE: ()	14. SEC	TWP	RNG
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15. LEGAL LOCATION DESCRIPTION (FROM LOCATION PLAT):

16. LOCATION COORDINATES:

DATUM	GEOGRAPHIC COORDINATE SYSTEM				STATE PLANE ZONE: <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH			
NAD 1927	LAT: °	MIN	SEC	LONG: °	MIN	SEC	X:	Y:
NAD 1983	LAT: °	MIN	SEC	LONG: °	MIN	SEC	X:	Y:

WELL CASING/ CEMENT DATA

17. CASING SIZE (IN)	HOLE SIZE (IN)	CASING WEIGHT	DEPTH SET		SACKS CEMENT		CEMENT YIELD (FT ³ /SACK)		TOP OF CEMENT
			TOP (FT)	BOTTOM (FT)	LEAD	TAIL	LEAD	TAIL	

36. DOES THE PROPOSED ACTIVITY AT THE LOCATION DESCRIBED IN THIS APPLICATION VIOLATE LOCAL ZONING ORDINANCES?	<input type="checkbox"/> YES <input type="checkbox"/> NO
37. HAS THE PROPOSED WELL OR SALT CAVERN BEEN PLUGGED AND ABANDONED OR HAS THE SITE OF THE PROPOSED FACILITY BEEN RESTORED PURSUANT TO FUNDING THROUGH THE OILFIELD SITE RESTORATION FUND, LSA-R.S. 30:80 et seq (ACT 404 OF 1993)?	<input type="checkbox"/> YES <input type="checkbox"/> NO
38. IS THE PROPOSED WELL, SALT CAVERN, OR SURFACE FACILITY LOCATED ON INDIAN LANDS OR OTHER LANDS OWNED BY OR UNDER THE JURISDICTION OR PROTECTION OF THE FEDERAL GOVERNMENT?	<input type="checkbox"/> YES <input type="checkbox"/> NO
39. IS THE PROPOSED WELL, SALT CAVERN, OR SURFACE FACILITY LOCATED ON STATE WATER BOTTOMS OR OTHER LANDS OWNED BY OR UNDER JURISDICTION OF THE STATE OF LOUISIANA?	<input type="checkbox"/> YES <input type="checkbox"/> NO
40. IS ANY CONVENTIONAL MINING (DRY OR ROOM-AND-PILLAR) ACTIVITY OCCURRING OR HAS SUCH ACTIVITY OCCURRED WITHIN THE SALT STOCK REGARDLESS OF DISTANCE TO THE PROPOSED STORAGE CAVERN?	<input type="checkbox"/> YES <input type="checkbox"/> NO
41. IS THE MAXIMUM DIAMETER OF THE PROPOSED STORAGE CAVERN LESS THAN 100 FEET FROM THE PROPERTY BOUNDARY OF THIS APPLICANT?	<input type="checkbox"/> YES <input type="checkbox"/> NO
42. AS MEASURED IN ANY DIRECTION, ARE THE MAINIMUM DISTANCES BETWEEN THE WALLS OF THE PROPOSED STRAGE CAVERN AND ADJACENT SALT CAVERNS OR ANY MANMADE STRUCTURES WITHIN THE SALT STOCK LESS THAN 200 FEET?	<input type="checkbox"/> YES <input type="checkbox"/> NO
43. AS MEASURED IN ANY DIRECTION, ARE THE MINIMUM DISTANCES BETWEEN THE WALLS OF THE PROPOSED SALT CAVERN AND THE PERIPHERY OF THE SALT STOCK LESS THAN 300 FEET?	<input type="checkbox"/> YES <input type="checkbox"/> NO
44. HAS ANY PORTION OF THE PROPOSED SALT CAVERN COALESCED OR BEEN PROPOSED TO BE COALESCED WITH AN ADJACENT SALT CAVERN?	<input type="checkbox"/> YES <input type="checkbox"/> NO

AUTHORIZED AGENT

45. AGENT OR CONTACT AUTHORIZED TO ACT FOR THE OPERATOR DURING PROCESSING OF THIS APPLICATION.

THE SIGNATURE BY THE OPERATOR CERTIFYING THIS APPLICATION WILL AUTHORIZE THIS AGENT OR CONTACT TO SUBMIT ADDITIONAL INFORMATION AS REQUESTED AND TO GIVE ORAL STATEMENTS IN SUPPORT OF THIS APPLICATION.

NAME:

COMPANY:

ADDRESS:

PHONE:

E-MAIL:

WRITTEN CORRESPONDENCE SHOULD BE SENT TO (CHOOSE ONE): OPERATOR AUTHORIZED AGENT

CERTIFICATION BY OPERATOR

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my personal knowledge or inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

46. NAME (PRINT)	47. TITLE (PRINT)
48. SIGNATURE	49. DATE

**CLASS II HYDROCARBON STORAGE WELL PERMIT APPLICATION
APPLICATION PROCEDURES FOR
FORM UIC-2 HSW**

Note: This document can be obtained by:

1. Telephoning the Injection & Mining Division at 225-342-5515, Monday – Friday, 8:00 a.m. – 4:15 p.m.

2. By writing to the following address:

Louisiana Office of Conservation
Injection and Mining Division
PO Box 94275
Baton Rouge, LA 70804-9275

3. In person at the following address, Monday – Friday, 8:00 a.m. – 4:15 p.m.

Louisiana Office of Conservation
Injection and Mining Division
LaSalle Building
617 North 3rd Street, Room 817
Baton Rouge, LA 70802-5428

4. Downloading from the DNR Web Page at: <http://www.dnr.state.la.us/CONS/documents.ssi>.

INSTRUCTIONS

I. GENERAL

- A. The construction, conversion, or operation of a solution-mined salt cavern to store hydrocarbons shall not begin without obtaining written authorization (permit) from the Louisiana Office of Conservation, Injection and Mining Division.
- B. Applicants seeking to store hydrocarbons in a solution-mined salt cavern shall comply with Statewide Order No. 29-M (LAC 43:XVII.Chapter 3) and any other Orders of the Commissioner previously issued for the storage project or salt dome.
- C. All applicants shall submit one original and two copies of the complete application package to:

Mailing Address

Louisiana Office of Conservation
Injection and Mining Division
P.O. Box 94275
Baton Rouge, LA 70804-9275

Parcel Delivery Address

Louisiana Office of Conservation
Injection and Mining Division
LaSalle Building
617 North 3rd Street, Room 817
Baton Rouge, LA 70802-5428

- D. The Form UIC-2 HSW, Item No. 46-49, must be certified with an original signature from an associate of the proposed operating company. The associate may be an officer, manager, general partner, proprietor, operator of the well, field or facility, or any direct employee of the operating company employed in a decision-making role. The IMD will not accept an application signed by an agent or consultant of the operating company to certify the application.

II. THE PERMITTING PROCESS

- A. The applicant publishes a Notice of Intent to file an application (see Part IV, Attachment 18 instructions below).

- B. Upon receipt of the original application, the Injection and Mining Division (IMD) will forward an initial application review letter to the applicant acknowledging receipt of the application and the assignment of an Application Number.
- C. If needed, revisions to the application or explanation regarding information in the application will be requested by the IMD through a Notice of Deficiency as the application progresses through the review process. **Please include the Application Number on the upper right corner of each page of any revision to the application.** The Application Number can be found on your receipt letter referenced in Item II.B (above).
- D. Once the IMD determines the application is complete, a draft permit, fact sheet, or public notice may be prepared.
- E. Notwithstanding the requirements of LAC 43:XVII.301.B, a public hearing will be held if, on the basis of requests, there is a significant degree of public interest in the application. Additionally, the commissioner may hold a public hearing at his/her discretion, whenever a hearing might clarify one or more issues involved in the permit decision.
- F. A public notice of the application and/or public hearing will be issued and will allow at least 10 days for public comment.
- G. A permit decision shall be issued as soon as practicable after closure of the public comment period, including any public hearing.
- H. The permitting process is a two-step procedure:

Step 1: After the application is reviewed, found to be complete, and meets the requirements of Statewide Order 29-M (LAC 43:XVII.Chapter 3), a permit shall be issued. This permit shall allow the well to be drilled, completed, and tested, or to be converted and tested as described in the approved application, but not to be used for the storage of hydrocarbons.

Step 2: After completing Step 1 above, the applicant shall submit a completion report to the IMD for review. The report shall contain the Form WH-1 (Well History and Work Résumé Report), any other needed state reporting forms, a report detailing the well work done, mechanical integrity test data with interpretive results, wireline logs run, and any other data obtained during the completion of the permitted activity. If found adequate, a Permit-to-Inject letter authorizing the start of hydrocarbon storage will be issued. If not adequate, the IMD will inform the applicant what remedial action, if any, can be taken to obtain a Permit-to-Inject.

III. APPLICATION GUIDELINES:

- A. These procedures are intended to provide applicants with a checklist to assure the minimum required information is provided.
- B. The checklist may not be all inclusive, depending on the particulars of the hydrocarbon storage project.
- C. Supporting documentation shall be provided as attachments to the application. Label each attachment with the appropriate attachment number in the lower right-hand corner; example: "Attachment 2A".

IV. SUBMIT THE FOLLOWING INFORMATION IN THE FOLLOWING ORDER:

- **FORM UIC-2 HSW**

- One original and two copies of Form UIC-2 HSW. Item Nos. 46-49 on the form must be certified with an original signature from an associate of the proposed operating company. The associate may be an officer, manager, general partner, proprietor, operator of the well, field or facility, or any direct employee of the operating company employed in a decision-making role. The IMD will not accept an application signed by an agent or consultant of the operating company as certifying the application.
- All items must be answered or marked Not Applicable.

- **APPLICATION FOR PERMIT TO DRILL OR TO AMEND PERMIT TO DRILL FOR MINERALS**

- Two original Form MD-10-R (yellow card) for each new well to be drilled into an existing solution-mined salt cavern
- Two original Form MD-10-R-A (pink card) for each existing well to be converted to hydrocarbon storage
- Both forms have original signatures. The information provided on the forms must coincide with the information on the application (Form UIC-2 HSW)

- **FILING FEES**

- Applicable **non-refundable** filing fees per LAC 43:XIX.Chapter 7 as indicated below. Make checks payable to Office of Conservation.
- Application for Noncommercial Injection Well fee per LAC 43:XIX.703.A
- Application to Amend Permit to Drill - Injection or Other (pink card) fee per LAC 43:XIX.703.A
- Application for Public Hearing fee per LAC 43:XIX.703.A

- **ATTACHMENT 1 – Photocopy of Existing Order(s) of the Commissioner**

- A photocopy of any Order(s) issued to the Applicant by the Commissioner of Conservation establishing rules and regulations for the hydrocarbon storage project.

- **ATTACHMENT 2 – Location Plat**

- NEW DRILL** – include an original certified drilling location plat, labeled Attachment 2. The the Location Plat must contain geographic coordinates in GCS- Latitude, Longitude (NAD27 and NAD 83) and State Plane-X,Y (Lambert, NAD27 and NAD83) for the proposed storage well. At a minimum, the location plat must reflect a Class D Survey as defined by the Professional and Occupational Standards for Professional Engineers and Land Surveyors in LAC 46:LXI.2905.A.4. A Class D Survey requires a degree of accuracy to the nearest foot.
- WELL CONVERSION** – include the as-drilled location plat, labeled Attachment 2. It may be a photocopy if the correct State Plane-X,Y (Lambert, NAD27) coordinates are available in the DNR database (SONRIS). If State Plane-X,Y coordinates are missing or are incorrect in SONRIS, an original certified location plat must be submitted. This plat must meet the same requirements as those defined for a new drill stated above.

- **ATTACHMENT 3A – Area of Review Map**

- Area of Review (AOR) map labeled Attachment 3A. Except where noted below, the AOR is a fixed radius around the proposed well of no less than one-quarter mile (1,320 feet). The AOR for an area project permit is the project area plus a circumscribing area the width of which is no less than one-quarter mile (1,320 feet). The AOR map must identify the locations of the following:
 - The proposed storage well
 - All hydrocarbon producing wells
 - All disposal/injection wells
 - All shut-in wells
 - All plugged and abandoned wells
 - All dry holes
 - All freshwater wells (**this is a one-mile AOR radius**)

- All source water wells (for enhanced recovery)
- Include a legend to identify each well and to otherwise clarify the AOR map.

Except for water wells, only information of public record and any other pertinent information known to the applicant is required to be included on this map.

- **ATTACHMENT 3B – Area of Review Well List**

- An “Area of Review Well List” label Attachment 3B that identifies all wells in the AOR except freshwater wells. Use the enclosed Attachment 3B or you may make your own list, as long as the required information is included. Remember to label your list Attachment 3B. If no wells are found within the AOR indicate with “No Wells Found” on Attachment 3B.

- **ATTACHMENT 3C – Freshwater Well List**

- A “Freshwater Well List” labeled Attachment 3C identifying the water wells within the AOR. **The AOR for identifying water wells is a one-mile radius of the proposed hydrocarbon storage cavern well.** Each water well shall be identified by owner, type of well, and status of well. If unclear on the AOR map (Attachment 3A above), describe how each water well can be located in the field. Use the enclosed Attachment 3C or you may make your own list, as long as the required information is included. Remember to label your list Attachment 3C. If no water wells are found within the AOR, indicate with “No Wells Found” on Attachment 3C.

A DILIGENT SEARCH MUST BE ATTEMPTED TO LOCATE KNOWN WATER WELLS WITHIN THE AOR, which may include conducting a foot-search of the AOR and searching the Department of Transportation and Development’s (DOTD) database of Registered Water Wells in the state of Louisiana (<http://www.dotd.state.la.us/intermodal/wells/disclaimer.asp>).

- **ATTACHMENT 3D – DOTD Water Well Printout**

- Include a printout of the DOTD database search of the AOR water wells and label the list Attachment 3D.

- **ATTACHMENT 3E – Laboratory Analyses of Water Samples**

- Include a laboratory analyses of water samples from a representative number of water wells listed on Attachment 3C. The IMD should be contacted to discuss which water wells in the AOR should be sampled. Label the analysis from each water well “Attachment 3E”, “Attachment 3F”, “Attachment 3G”, etc. The laboratory analysis must be a signed original from a LDEQ LELAP accredited laboratory. A list of laboratories accredited by LDEQ can be found at <http://www.deq.louisiana.gov>. The analysis sheet(s) must identify the water well sampled, and, at a minimum, include measurement of:

- Chloride (mg/l)
- Total Dissolved Solids (mg/l)

Provide an explanation if samples are not obtainable from a well.

- **ATTACHMENT 4 – Surface Facility Diagram.**

The diagram must be of sufficient scale to be readable and labeled Attachment 4.

- A surface diagram of the storage facility that shows the following, where applicable:
 - Proposed well(s)
 - Existing wells
 - Water wells

- Pumps / Compressors
- Tanks
- Ponds
- Containment levees
- Piping entering, leaving, and within the facility
- Pertinent buildings
- Fenced Facility Boundary
- Access Roads
- Landmarks and other significant structures or features

● **ATTACHMENT 5 – Well Schematic**

- For a new well to be drilled into an existing salt cavern**, include the following attachments:
 - A schematic diagram of the proposed well with all well components properly labeled. Label the diagram Attachment 5A.
 - A detailed work prognosis describing the sequence of work to drill and complete the well, labeled Attachment 5B. **A cement bond log or other cement evaluation log or similarly approved log must be included to be run for each string of cemented casing, where practicable. If logs cannot be run, give specific reason(s) why.**
- For an existing well to be converted to hydrocarbon storage**, include the following attachments:
 - A schematic diagram of the well as it currently exists (before conversion to hydrocarbon storage) with all well components properly labeled. Label the diagram Attachment 5A.
 - A schematic diagram of the well as it is proposed to be completed after well conversion with all well components properly labeled. Label the diagram Attachment 5B.
 - A detailed work prognosis describing the sequence of work to convert the well, labeled Attachment 5C. If a cement bond log or other cement evaluation log was run prior to submission of the well conversion application, submit a copy of the log with the application.

The schematic diagrams above must match the corresponding information for well design presented on the Form UIC-2 HSW and, at a minimum and where applicable, show the following:

- Surface design:
 - Well head
 - Pressure gauges
 - Flow line diameters at wellhead
 - Monitoring equipment, if used
- Subsurface design:
 1. Hole (drill bit) diameters
 2. Casing Information:
 - All casing strings
 - Casing Outer Diameter

- Casing Weight (pounds per foot)
- Casing Grade
- Casing Setting Depths (top and bottom). Surface casing must extend below the lowermost USDW.

3. Cement Information:

- Type or class
- Number of sacks
- Cement yield
- Top of cement on each cemented casing (indicate whether calculated, logged, or to be logged)

4. Proposed cement squeeze(s), if any:

- Type or class
- Number of sacks
- Cement yield
- Calculated top of cement (to be logged)

5. Hanging String(s):

- Diameter
- Type or material
- Depth

6. Cavern Information:

- Initial drilled depth of well
- Depth of cavern roof
- Bottom of the cavern as determined by recent sonar survey or other means (specify)
- Cavern Diameter

● **ATTACHMENT 6 – Electric Logs**

- For a new well to be drilled into an existing salt cavern**, include complete electric logs from the closest well(s) to the proposed well location which show the lowermost underground source of drinking water (USDW) and all lithologic units to the bottom of the well, including caprock and salt. Electric logs of more than one well may be included, if necessary. A diligent search must be made to locate at least one electric log within one mile of the proposed well. If an electric log is not available, use a sheet of paper labeled, "Attachment 6" which reads, "No electric logs are available from wells within one mile of the proposed well location".
- For a re-permit or conversion of an existing well**, include a complete, duplicate of the original electric log of the proposed well or a photocopy of the complete electric log of the proposed well. If the lowermost USDW was not logged, include an electric log from a well within a one-mile radius that shows the lowermost USDW. Include copies of any other wireline logs previously run on the proposed well
- Mark the following on each electric log submitted:**
 - Well serial number;
 - Base of the lowermost Underground Source of Drinking Water (USDW);

- Top of caprock, if present; and
- Top of salt.

Note: The top of salt must be completely isolated by cement outside the casing. Cement bonding must be documented with a cement bond log or similarly approved cement evaluation log on the outer casing string prior to running the inner string of casing.

- **ATTACHMENT 7 – Sonar Survey**

- A copy of the most recent Sonar survey of the salt cavern

- **ATTACHMENT 8 – Well Cavern Mechanical Integrity Tests**

- A copy of the most recent mechanical integrity test performed on the proposed storage well and salt cavern along with an analysis of the test results.

- **ATTACHMENT 9 – Structure Map and Cross Section**

- A structure map of the top of the salt dome drawn from current data. Include the horizontal scale of the map.
- North-South and East-West vertical cross-sections showing the proposed storage cavern, surrounding salt caverns, other bore holes and wells, and any other manmade structures within the salt stock. Cross-sections should be oriented to indicate the closest approaches to surrounding salt caverns, bore holes, or wells. A sufficient number of wells within one mile of the proposed storage cavern should be included on the cross-sections to illustrate the geology of the area. The horizontal and vertical scales of the cross-sections must be included. Identify each well used on the cross-sections by listing the following on the cross-sections:
 - Well Operator Name
 - Well Name and Number
 - Well Serial Number
 - Well Status (Producing, Brine, Storage, Shut-in, etc.)
 - Perforated, injection, disposal, or storage interval (top and bottom)

- **ATTACHMENT 10 – Technical Report**

A technical report must accompany all hydrocarbon storage applications. The bulk of the application package by the prospective operator is the technical report submitted as a companion to the application form. This report should describe the proposed project as a whole which may include:

- Geological, hydrological, geomechanical, and geochemical evaluation of the specific salt stock to determine the cavern's suitability for storage, stability under the proposed operating conditions, and structural integrity in relation to adjacent cavern and/or salt periphery under the proposed operating conditions. The geologic evaluation should include, but should not be limited to:
 - Geologic history of salt movement;
 - Assessment of possible anomalous zones in the salt dome and the potential impact on the proposed well and or cavern;
 - Study of any deformation of the cap rock and the strata overlying the salt dome;
 - Investigation of the upper salt surface and adjacent areas involved with salt dissolution;
 - Evaluation of the cap rock formation and any non-vertical salt movement;
 - Salt Cavern Conversion Study of the proposed cavern, performed by a third party.

- Core Sampling: Includes specifications for obtaining subsurface cores, core analyses and laboratory test;
- Discussion of storage well and cavern operating requirements/procedures, including the minimum and maximum operating pressure gradients. Discussion must take into consideration the recommendations of the Salt Cavern Conversion Study.
- Plan for monitoring and disposing of fluid displaced from the cavern;
- Addressing any corrective action needs for wells or other structures within the Area-of-Review;
- Detailed plans and procedures addressing the overall operation of the hydrocarbon storage well, cavern, and facility. This may include:
 - Cavern configuration and capacity measurements over the life of the storage cavern;
 - Procedures required to perform remedial work and well re-completions;
 - Mechanical integrity pressure and leak testing over the life of the storage well and cavern;
 - Plans for monitoring an inactive cavern;
 - Closure and post closure requirements;
 - Record retention;
 - Well construction, completion, or conversion details;
 - Any additional information the applicant deems necessary to adequately address the operation of the specific hydrocarbon storage well, cavern, facility, or parts thereof.
- Safety procedures and equipment. This may include:
 - Discussion of the requirements of LAC XVII.301.D.5.b-g and §301.E.3;
 - An emergency action plan;
 - Explanation of the alarm systems;
 - Fire detection and suppression;
 - System test inspections;
 - Emergency Shutdown valves;
 - Valves and flowlines are rated for proposed operations;
 - Order 29-M Safety Inspection plan and schedule to meet the requirements of LAC XVII.301.E.1.a.iⅈ
- Surface facility design requirements with site diagrams having properly labeled features and components;
- Well construction, completion, or conversion details;

- **ATTACHMENT 11 – Contingency Plan**

- A contingency plan in the event of leakage of stored product or any cavern fluids out of the storage cavern environment, into underground sources of drinking water, onto the land surface, or catastrophic collapse of the salt formation.

- **ATTACHMENT 12 – Subsidence Monitoring Plan**

- Provide a plan to monitor ground subsidence at and in the vicinity of the storage cavern. The method and frequency of subsidence monitoring shall be included in the plan. The plan shall include submission of subsidence monitoring reports to the Office of Conservation.

● **ATTACHMENT 13 – Guidance: Closure Plan and Cost Estimate**

A closure plan and cost estimate (or revised closure plan and cost estimate) must be submitted to the Office of Conservation, in order to adequately evaluate the estimated cost to plug and abandon and close each storage well and cavern, facility, associated equipment, and return the site to as close as possible to its original condition. The closure plan and cost estimate must be prepared by an independent professional consultant and must not include any services or equipment provided by owners or partners of the facility or related sister companies. All work shall be performed by outside contractor(s) and must include the cost of overall professional project supervision and technical support. The salvage value of equipment cannot be considered in the cost estimate. The following minimum information must be included in the closure plan and cost estimate:

- A cover letter containing at least the following information:
 - Name and type of facility for which the closure plan is being submitted;
 - Well Serial Number(s) if assigned;
 - Facility location (include parish and nearest town or community);
 - Name, address and telephone number of third-party independent consultant responsible for the preparation of the closure plan;
 - If applicable, a brief description of changes or alterations made to the facility since the last closure plan was submitted.
- An itemized plugging and abandonment procedure (step-by-step prognosis) including, but not limited to:
 - The amount of casing(s) that will be cut and pulled;
 - Size and amount of hanging strings to be removed;
 - The amount, size, and depth of casing and any other materials to be left in the well;
 - The type, number, and depth placement of each plug and/or retainer including the elevation of the top and bottom of each plug;
 - The type, grade, and quantity of material to be used for each squeeze, plug, retainer, etc.;
 - The method of placement of plugs; and
 - Any proposed tests or measurements, including wireline logging, to be done before or during abandonment of the storage well and cavern;
- A schematic diagram of the storage well and cavern as presently or proposed to be completed.
- A schematic diagram of the storage well and cavern after plugging and abandonment procedures are completed.
- A proposed or current surface facility diagram showing the locations of all above ground structures.
- A proposed or current piping and instrumentation diagram (P&ID) of tank batteries on the premises. The diagram should identify the size and contents of the piping, the direction of fluid flow, and show all tanks (capacity, physical dimensions and contents), pumps, valves, safety devices, and instruments (pressure gauges, level indicators, etc.). The P&ID should be updated as needed to reflect any changes or alterations.
- Estimated costs to be incurred for all well plug and abandonment, facility closure, equipment and debris removal, and site restoration activities, including but not limited to:
 - Rig time;

- Rental tools;
 - Mud / brine costs;
 - Wireline costs;
 - Cement and retainers;
 - Cutting and removing casings (including hanging strings);
 - Welding including welding a one-half inch steel plate on top of the casing inscribed with the well's serial number;
 - Removal, including trucking costs, and disposal of any and all wastes (liquid or solid) or other material to an off-site disposal facility (assume storage vessels are full). Disposal costs should be price charged to generator;
 - Cleaning and gas-free certification of storage vessels;
 - Dismantling and removing all storage vessels, piping, pumps, concrete, any and all related surface equipment and debris. Salvage value, up to the cost of removal, is allowed on storage vessels only and if the facility owner has clear title to the property;
 - Site restoration activities such as digging, backfilling, grading and seeding;
 - Onsite supervision by an outside contractor of all closure activities. This amount shall be the greater of \$1,000 or 5% of the total estimated cost of closure.
- A summary page itemizing each closure activity with its associated cost. These costs should be totaled and clearly identified as the total closure cost. Any supporting bids or estimates from outside contractors should be attached. The costs and description of services to be performed by outside contractors should match those activities itemized in the summary.
 - Refer to applicable closure costs and guidelines for any disposal wells used at the facility.
 - The obligation to implement the closure plan survives the termination of a permit or the cessation of hydrocarbon storage activities. The closure plan and cost estimate must include provisions for closure acceptable to the commissioner and must be designed to reflect the costs to the Office of Conservation to complete the approved closure.

- **ATTACHMENT 14 – Financial Responsibility**

- Provide a statement on how the applicant proposes to comply with financial responsibility requirements for closing the storage well, cavern, and storage facility. Financial documentation shall be a Letter of Credit, Bond, Certificate of Deposit, or other financial instrument acceptable to the Office of Conservation. The funds to be available shall not be less than the amount identified in the closure plan and cost estimate.

NOTE: When submitting the storage well application, do not submit an instrument of financial responsibility. If the storage application is approved, the Office of Conservation will inform the applicant of the appropriate time to submit the instrument of financial responsibility.

- **ATTACHMENT 15 – Adjacent Landowners**

- Provide a list of all landowners adjacent to the proposed project area. The list must include the landowner's name and mailing address.

- **ATTACHMENT 16 – Well History and Work Resume Report (Form WH-1)**

- WELL CONVERSION or RE-PERMIT:** a photocopy of each Well History and Work Resume Report (Form WH-1) for the well as previously filed with the Office of Conservation.

- NEW WELL:** a photocopy of each Well History and Work Resume Report (Form WH-1) for the well as previously filed with the Office of Conservation. This is only applicable when the well being permitted is a reentry of a well that has been plugged and abandoned. If so, submit the Form WH-1 for the plugged and abandoned well.

- **ATTACHMENT 17 – Constitutional Considerations – “IT Decision”**

- See the attached documentation.

- **ATTACHMENT 18 – Notice of Intent to file Application**

- The applicant shall publish a Notice of Intent to file an application in the legal advertisement section of the official state journal and the official parish journal of the parish in which the proposed activity is to occur. The official state journal is The Advocate in Baton Rouge. A list of the official parish journals may be obtained from the website of the Louisiana Secretary of State’s Office, Publications Division at <http://www.sec.state.la.us>. You will be billed directly by each newspaper for the advertisement.

- The Notice of Intent shall be published one time, at least 30 days but no more than 180 days, before filing the application. The applicant shall publish a new Notice of Intent if the application is not received by the Office of Conservation within the filing period. Acceptable wording for the Notice of Intent is attached. Please check your notice for accuracy of well applicant, well serial number, well name and number, section, township, and range, etc., before submitting for publication. If the information is not correct, the publication will not be acceptable to the Office of Conservation.

- Each newspaper will send you an original, notarized “Proof of Publication”, which you will label Attachment 18, and include as part of the application. If the Proof of Publication is not received when the application is forwarded to the Office of Conservation, please include a tear-sheet from each newspaper and submit them labeled Attachment 18 with the application. The original, notarized Proof of Publication may be sent later provided you write the Application No. on the Attachment 18. The applicant must submit the original, notarized Proof of Publication of the Notice of Intent before the application will be deemed complete.

NOTE: Please consult with the Office of Conservation, Injection and Mining Division on Public Notice requirements if you plan on drilling a new saltwater disposal well or converting an existing well to saltwater disposal in association with the salt cavern storage project.

Once the Office of Conservation deems the application as complete, a notice of the application and of a public hearing on the application shall be published in the legal advertisement section of the official state journal and the official parish journal of the parish in which the proposed activity is to occur. The notices shall be published at least 10 days before the date of any public hearing.

AREA OF REVIEW WELL LIST

OPERATOR CODE	WELL NAME & NO.	SERIAL NUMBER	WELL STATUS*	TOTAL DEPTH (FT)	PERFORATED OR COMPLETED INTERVAL (FT).	
						TO
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*Well Status: Active- Injection (09), Active- Producing (10), Unable to Locate (28), Dry & Abandoned (29), P&A (30), etc.

FRESHWATER WELL LIST

A DILIGENT SEARCH WAS MADE TO LOCATE ALL FRESHWATER WELLS WITHIN A 1/4 MILE RADIUS OF THE PROPOSED WELL AND NO WELLS WERE LOCATED.

A DILIGENT SEARCH WAS MADE TO LOCATE ALL FRESHWATER WELLS WITHIN A 1/4 MILE RADIUS OF THE PROPOSED WELL AND THE FOLLOWING WELLS WERE LOCATED.

OWNER	WELL NAME	TYPE*	STATUS**	TOTAL DEPTH (FT)	LOCATION

*Type of Well: PUBLIC SUPPLY, DOMESTIC (supplies one or a few homes), INDUSTRIAL (including commercial), LIVESTOCK, IRRIGATION (including catfish & crawfish farming), MONITORING, RIG SUPPLY, HEAT PUMP SUPPLY, OBSERVATION (by a qualified agency or company), AQUIFER DEWATERING, RECOVERY (of contaminants), other (describe).

**Status of Well: ACTIVE (used at least once a month), STANDBY, INACTIVE (but useable with minor work or effort), ABANDONED (but not plugged).

ADJACENT LANDOWNERS

LANDOWNER(S)	CONTACT NAME	ADDRESS	CITY	STATE	ZIP CODE	LOCATION RELATIVE TO PROJECT

OFFICE OF CONSERVATION
INJECTION & MINING DIVISION

(ATTACH ADDITIONAL LISTS IF NEEDED)

UIC-2 HSW APPLICATION
ATTACHMENT 15 - ADJACENT LAND OWNERS

CONSTITUTIONAL CONSIDERATIONS: "IT DECISION" QUESTIONS

Louisiana Constitutional Article IX, §1, of the Louisiana Constitution imposes a duty of environmental protection on all State agencies and officials which require a balancing process in which environmental costs and benefits must be given careful consideration along with economic, social and other factors. The balancing process was required of State agencies by *Save Ourselves, Inc., et al. vs, the Louisiana Environmental Control Commission, et al.* 452 So.2d 1152 (La. 1984), hereafter "IT Decision".

The "IT Decision" involved a hazardous waste permit under the State's Hazardous Waste Management Plan consistent with the federal Resource Conservation and Recovery Act (RCRA). To meet its obligation under the "IT Decision", the Louisiana Department of Environmental Quality (LDEQ) prepared a list of questions which addresses what LDEQ deemed necessary to make permit decisions. The main questions touch upon certain issues and considerations which would be applicable to Office of Conservation waste permit decisions, although we are not administering a RCRA authorized program.

In order to satisfy the constitutional requirements, the Office of Conservation must conduct the 'balancing process' utilizing the information and data which will form part of the record supporting the decision on your application to permit your proposed activity. As the applicant for an injection well permit, it is necessary for you to provide such information as will be required to evaluate your application considering the "IT Decision". We suggest your staff review the court case to determine what information you believe must be provided.

You must furnish this Office with such information in adequate detail together with sufficient justification and supporting data to allow us to fulfill our constitutional obligation. Your furnishing of this information is above and beyond the requirements of Statewide Order No. 29-N-1 (LAC 43:XVII, Subpart 1). As such, your permit application prepared pursuant to that Statewide Order is not considered deficient because of these overriding constitutional requirements. Your prompt response to the "IT Decision" questions is in your best interest. If we cannot satisfactorily address our constitutional obligations we may be unable to grant your application.

The following list of questions are those prepared by the LDEQ and should be used as guidance when preparing a response to the "IT Decision". Although the questions focus on waste issues, the intent of the questions was to have the applicant consider the potential impacts of the proposed project on human health and the environment. When considering each of the questions, please formulate a response relative to the proposed project. Please, restate the questions before providing your response.

- A. Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible?**
(This question requires the permittee to identify adverse environmental effects, both potential and real.)
- B. Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?**
(This question requires the permittee to perform a cost-benefit analysis, or at least a quantitative indication of the economic benefits and a qualitative description of the negative impacts expected from the permittee's operation. The later should come from the answer to question No. 1 above.)
- C. Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing nonenvironmental benefits?**
(This question requires the permittee to demonstrate having considered alternate technologies.)
- D. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing nonenvironmental benefits?**
(This is the questions that deal directly with citing criteria.)
- E. Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing nonenvironmental benefits?**
(This question requires the permittee to demonstrate having considered the most stringent techniques for reducing or more efficiently handling waste.)

**NOTICE OF INTENT
OFFICE OF CONSERVATION
INJECTION AND MINING DIVISION**

In accordance with the laws of the State of Louisiana and the particular reference to the provisions of La R.S. 30:4, and the provisions of Statewide Order No. 29-B (LAC 43:XIX.Subpart 1) and 29-M (LAC 43:XVII.Subpart 3) as amended and adopted by the Office of Conservation of the State of Louisiana,

(Company Name)

(Address)

(City, State Zip)

(Phone)

will be applying to the Office of Conservation, Injection and Mining Division for a permit to store **(Product Type)** in a solution-mined salt cavern in the **(Salt Dome Name)** salt dome.

The well is proposed to be in Section **(Section No.)**, Township **(Township)**, Range **(Range)**, **(Field Name)** Field, **(Parish Name)** Parish, Louisiana. The proposed well is identified as the **(Well Name)** Well No. **(Well No.)**, Serial Number **(for Conversions and Repermits Only)**.

The top of the storage cavern is proposed to be at **(Top of Cavern)** feet with its base at **(Bottom of Cavern)** feet.

Once submitted, the application will be available for inspection from 8:00 a.m. to 4:15 p.m., Monday through Friday in the Injection and Mining Division Office, Rm. 817, LaSalle Building, 617 North Third Street, Baton Rouge, LA.

Interested parties may request to receive notice when the application is submitted, be included on the public notice or public hearing mailing list, or address other public participation related questions by contacting the Injection and Mining Division by calling (225) 342-5515, by faxing (225) 242-3441, by e-mailing injection-mining@la.gov, or by mailing Office of Conservation, Injection and Mining Division, P.O. Box 94275, Baton Rouge, LA 70804-9275.

When corresponding, please reference the name of the applicant, the well name and number, the well serial number, and the salt dome.