



BOBBY JINDAL
GOVERNOR

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

STEPHEN CHUSTZ
INTERIM SECRETARY
JAMES H. WELSH
COMMISSIONER OF CONSERVATION

FROM: JAMES H. WELSH, COMMISSIONER OF CONSERVATION
TO: ALL OPERATORS-OF-RECORD OF SOLUTION-MINED SALT CAVERNS
RE: DIRECTIVE ON SALT CAVERN LOCATIONS IN RELATION TO PERIPHERY OF SALT STOCK
DATE: JANUARY 30, 2013

MEMORANDUM

In order to ensure the accuracy of previous interpretations of the location of solution-mined salt caverns in relation to periphery of salt stock and pursuant to the authority granted to the Commissioner of Conservation in the Minerals, Oil, and Gas and Environmental Quality law, La. R.S. 30:1, et seq., and more specifically La. R.S. 30:4 and the rules promulgated pursuant thereto, you are hereby directed to provide the information required by the following directive to the Office of Conservation by no later than Monday, March 18, 2013.

1. All operators-of-record of solution-mined salt caverns shall demonstrate the proximity of the outer walls of their respective salt caverns to the periphery of the salt stock by providing an updated top-of-salt/periphery-of-salt structure contour map ("Map") drawn on a scale no smaller than 1 inch to 500 feet, based on the most up-to-date subsurface data available to the operator from techniques which may include, but are not limited to, 2-D seismic, 3-D seismic, vertical seismic profiles, or well-bore data interpretation. The horizontal configuration of the salt cavern should be shown on the structure contour map and reflect the cavern's maximum lateral extent as determined by the most recent sonar caliper survey. With the Map, provide a narrative detailing the basis for determining the periphery of the salt stock depicted on the map.

2. All operators-of-record of solution-mined salt caverns whose salt cavern walls are within 500 feet of the periphery of the salt stock at their closest approach to the salt stock, as depicted on the Map, shall in addition to providing Conservation with the Map and narrative, provide vertical cross-sections of the salt caverns showing their outline and position within the salt stock and position in relation to the periphery of the salt stock for the entire vertical length of the

cavern. Cross-sections of the salt caverns should be oriented to indicate the closest approach of the salt cavern wall to the periphery of the salt stock. The outline of the salt cavern should be based on the most recent sonar caliper survey. Operators shall provide data, collection methods and rationale supporting the representation of the periphery of the salt stock to the Office of Conservation.

3. All operators-of-record of solution-mined salt caverns unable to demonstrate through the provisions of paragraph 2 of this directive a minimum separation of 300 feet between the periphery of the salt stock and the closest approach of any cavern for which they operate must provide to the Office of Conservation:

a. i. confirmation of the current structural stability of the cavern, through methods which may include, but are not limited to: sonar caliper surveys, vertical seismic profiles, mechanical integrity tests, and/or subsidence surveys for the affected facility; a combination of these methods shall be provided if appropriate; OR

ii. a plan to confirm current structural stability of the cavern through testing/monitoring methods including, but not limited to: sonar caliper surveys, vertical seismic profiles, mechanical integrity tests, and/or subsidence surveys of the applicable facility, a combination of methods shall be proposed where appropriate.

b. In addition to the provisions of 3a above, provide a plan for ongoing monitoring of structural stability of the cavern through methods which may include, but are not limited to: sonar caliper surveys, vertical seismic profiles, micro-seismic monitoring, and/or continuous cavern pressure data monitoring, a combination of methods shall be proposed where appropriate.

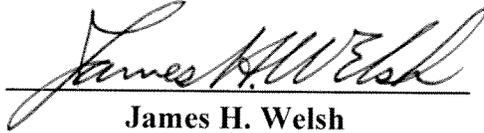
4. All operators-of-record of solution-mined salt caverns that have been plugged and abandoned previous to issuance of this directive and which cannot be demonstrated through the provisions of paragraph 2 of this directive to be separated by at least 300 feet from the periphery of the salt stock shall provide to the Office of Conservation the most recent sonar caliper surveys and vertical seismic profiles, conducted during the operational lifespan of the cavern, and a plan to both confirm the current and monitor for the future structural stability of the cavern consistent with the provisions of paragraph 3.

5. This Directive is applicable to all operators-of-record of salt caverns for salt solution mining or storage service, regardless of whether the salt

cavern is in active service, is inactive, is temporarily abandoned, or is plugged and abandoned.

6. This Directive is applicable to all applicants with pending applications filed with this office to create a new salt cavern or convert an existing salt cavern for continuing use. For purposes of this directive, applicants shall show the location of the proposed cavern(s) or existing cavern(s).

BY:

A handwritten signature in cursive script, reading "James H. Welsh", is written over a horizontal line.

James H. Welsh

AR Commissioner of Conservation