Global Divers & Contractors Inc. recently completed a dive at depths of 1,075 feet, a record for Global Divers. Such a feat, certainly, but some of the company's more interesting jobs take place in only 30 feet of water. They are, however, performed in a nuclear reactor.

The nuclear division of Global Divers operates in power plants throughout the country to repair and conduct modifications on nuclear reactors. Reactors contain heated water that creates steam to drive turbines, which in turn generate electricity. The source of heat in the reactors emanates from controlled radioactive fission, and after long periods of exposure, repairs are needed.

At this point, divers become necessary to perform the corrections. Aside from the obvious potential danger, the work is also highly specialized. "In nuclear work, divers have to be welders," says Ron Johnson, a Global Diver engineer.

Of course, the danger of radiation exposure affects how the work is done. The federal government sets standards on the amount of radiation that a diver may absorb during a dive. According to Johnson, though, most utility companies follow their own criteria, which is tougher than the limits issued by the government.

The levels of radiation are quite low, says Johnson, and the amounts a person can absorb are limited within a three-month period, as well as annually. An instrument called a dosimeter measures the amount of radiative absorption. Johnson says the three-month level averages the same doses that an airline pilot, exposed to minute traces at higher levels of the atmosphere, receives during two round-trip flights between California and New York.

The water surrounding nuclear reactors provides most of the protection for the divers.

SURPRISINGLY, DIVERS ON NUCLEAR REACTOR SITES WEAR NO MORE protection than a dry suit and a lead-lined helmet. "The rest of the protection is provided by the water that surrounds them," Johnson says. In industry terms, 18 inches of water is roughly equivalent to one inch of lead in shielding capacities. However, the personnel who assist in the dive from above the surface are outfitted with gear that acts as a buffer to the radioactive emissions.

As dangerous as the work sounds, there are those who prefer to do nuclear dives exclusively. The safety aspect allows ample leisure time. Absorption standards confine the number of jobs to only about five a year, ranging in duration from two to three weeks.

And then there's the money. Although Johnson declined to discuss specific dollar amounts, he did concur that the figure is high. In what might be considered as something of an understatement, Johnson comments, "They are well paid."

Other inducements include the fact that the water is warm in nuclear reactors, it's never deeper than 30 feet, and there are no extended periods of confinement or offshore duty. With such a specialized endeavor, most of the experts in this area are scattered throughout a number of Southern states, instead of being concentrated solely in Lafayette, says Johnson.

Global Divers began branching into the nuclear field six to eight years ago, and though there is competition now, Global Divers was a pioneer in the industry. "I'd say Global was one of the first in this business of using welder divers under a controlled program of scheduled repairs and modifications to nuclear reactors," says Johnson.

Initially, Global Divers was approached by a power company, he says, and this encounter precipitated the venture into the relatively new field. Fortunately for Global Divers, the trend toward nuclear work coincided with the downturn of the oil industry, but Johnson says the two were not directly related. "It [nuclear work] did not develop as an alternate source of income. It developed as an additional business area," he says.

GLOBAL DIVERS TOOK A NUMBER OF OTHER STEPS AS EARLY AS 1981 to ensure that certain criteria that befell other companies during the ensuing lean years. "The downturn in the oil industry, just bluntly put, caused a lot of diving enterprises to perish. Global Divers implemented every force of economy that was available to them in order to survive," says Johnson.

There were salary and staff reductions. "Through the combination, we managed to survive," Johnson says. "Everyone was asked to work longer hours with greater efficiency to increase productivity, and we accepted work at less than attractive rates in some instances."

Johnson credits Bill Dor, Global Divers' founder, owner and chief executive officer, with keeping the company afloat and developing it into a major force since then. His streamlining efforts began before most other folks saw the handwriting on the wall, and such foresight was instrumental, says Johnson.

Since it was begun in 1964, the company has grown to 150 employees. Two acquisitions that were casualties of the plunging oil economy have contributed significant personnel and equipment to the operation. Sea-Con, based in New Iberia, and Sante Fe Diving, of Houma, were obtained within the last five years. Global currently has offices in Houma, New Iberia, Houston and Lafayette, which is the company headquarters.

Curiously, neither Johnson nor Dorre dive professionally, but they are intimately versed on the details and mechanics of the maneuvers. They are also always on the lookout for good divers. "Global Divers is quite healthy, and we could certainly use more experienced people," says Johnson.

The recruiting process is limiting by its very nature. Graduates of diving training schools are one source, as are Navy veterans. No governmental regulations exist to monitor civilian divers. Even swimming abilities are not required, although increasingly, more divers are becoming

The water surrounding nuclear reactors provides most of the protection for the divers.
experienced swimmers, says John-
son. Global closely follows the guide-
lines established by the U.S. Navy. "Global adheres to regulations and
safety procedures established by the
U.S. Navy," says Johnson. "The
Navy doesn't recognize any official
connection, but our people stay in
touch with them, and adopt any of
their changes in procedure." 

For this reason, Global requires
long training periods before allowing
anyone to become a diver. A poten-
tial aspirant must first work as a
tender, which is basically a diver's
helper. After two to five years of this
experience above water, two or more
supervisors must approve the
trainee's abilities before he can join
the elite ranks of those below the sur-
face.

Every diver must also attend re-
fresher courses that are sponsored by
Global at least once every six months.
"Each company is responsible for in-
suring that the people it employs as
divers are physically and psycholog-
ically prepared for the work," says
Johnson.

**Psychological Factors Can Become Prominent During**

Saturation periods, which are used in
deep dives, usually of 250 feet or
more. Such depths bring about pres-
surization problems, which limit the
amount of time a diver can spend on
the bottom, thus making the comple-
tion of a job difficult and time-con-
suming.

To avoid this complication, a pres-
sure vessel is utilized on the surface,
and divers live under these conditions
through the duration of the job. The
vessel exposes them to the same pres-
sure as that of the depth they will
work in. "By not having to de-
compress until a job is over, he can
work for longer periods at lower
depths," Johnson says.

While under saturation, two-man
teams take turns every eight hours in
a diving bell. This pressurized device
lowers the crew to the predetermined
site to complete the assigned tasks.
One diver always stays in the bell to
maintain communication from
above, and to monitor his partner in
the event of any danger.

There are no physical drawbacks
to the procedure, says Johnson. The
divers under constant pressurization
feel entirely normal, but the circum-
stances can lead to severe boredom,
since saturation can occur for as long
as 30 days. For obvious reasons,
those with confinement problems or
claustrophobic tendencies are not
ideal candidates for saturation dives.

Most of the work that divers per-
form offshore deals with pipeline
construction, and requires a know-
ledge of general industrial rigging.
Welding experience is also helpful,
says Johnson.

The record dive that Global re-
cently completed was in connection
with the Conoco Joliet project, a
pipeline connection in the Green
Canyon Block 184 field. It took six
divers 15 days and 42 bell runs to
complete the work.

The career is strictly for the young.
Global policy dictates that no one
over 38 can be a diver. "Historically,
the older divers will have more prob-
lems than the younger diver,” says Johnson. “Age will bring its limitations. We don’t want to risk a person’s limitations by asking him to dive when there are other useful jobs to be performed on the surface.”

Normally, an ex-diver assumes a supervisory position when his days in the depths are over.

Aside from offshore and nuclear dives, there are the odd requests for Global’s services that materialize in various parts of the country. Recently a city in Georgia contacted the company to fix a pipeline leak in a freshwater lake. There’s also the occasional request for services to inspect bridges across bodies of water.

Currently, there are no Global operations outside of the U.S. It’s not a possibility that has been dismissed, though. “It’s under continual review,” says Johnson. “We are looking for the right opportunity.”