

Brockway Engineering
MEMO

SUBJECT: Lance Funk Permit Analysis
35-14240, 35-14241, 35-14242, 35-14243, 35-14244
DATE: March 21, 2012
FROM: Greg Sullivan
Brockway Engineering

It is proposed to utilize the consumptive industrial water rights 35-14014 and 35-14015 to mitigate for the five new irrigation permits. Water rights 35-14014 and 35-14015 are currently owned by Southern Idaho Energy and historically provided 6153.8 afa of consumptive water to the FMC facility in Pocatello.

The approach to apply for new water right permit applications and to utilize 35-14014 and 35-14015 as mitigation water for the new permits was presented at a meeting at the IDWR State office in Boise, Idaho. In attendance were Jeff Peppersack, Pam Skaggs, Monica VanBussum, Lance Funk, John Simpson, Charles E. Brockway and Greg Sullivan. At this meeting, it was decided that Lance Funk would apply for new permits for irrigation use from ground water. Water rights 35-14014 and 35-14015 are industrial water rights that are valid for 8.5 cfs and 5070 afa. These water rights were involved in transfer 75147. Transfer 75147 moved 8.5 cfs and 5070 afa from FMC at Pocatello to SIE near American Falls. The volume of these water rights was reduced in transfer 75147 from 6153.8 afa. The historical place of use was the old FMC fertilizer plant in Pocatello. The point of diversion for FMC is located in ESPA model cell 950118. The ESPA model analysis as requested by IDWR for Transfer 75147 combined the river reaches Near Blackfoot to Neeley and Neeley to Minidoka. This modeling analysis was accepted by IDWR. After the transfer was approved, both water rights were leased to the Water Supply Bank for an indefinite period and have not been used at the SIE property.

It was decided at the meeting that it would be acceptable to use the 6153.8 afa of industrial water right as mitigation from the FMC plant because this is the latest historical location of use under water rights 35-14014 and 35-14015. The 6153.8 afa is considered 100% consumptive.

The new permits will provide water to three different farm locations, Huse Farm, Burgemeister Farm and the NPVR Farm all owned by Lance and Lisa Funk. Three new permit applications and analysis were originally submitted to IDWR. At the request of IDWR, one of the permit applications was amended into three smaller permits due to wells on the Huse Farm not having a hydraulic connection to one another. IDWR (oral communication with Blake Jordon of the Idaho Falls IDWR office) agreed that additional ESPA model analysis was not necessary for the amended permit applications.

Table 1: Summary of Permit Applications and Mitigation

	CFS	Total Diverted AFA	Acres Irrigated	Mitigation Consumptive AFA	Snake River Mitigation Consumptive AFA
35-14240	3.4	674.8	168.7	460.6	91.9
35-14241	7.4	1476.4	369.1	1007.6	201.0
35-14242	2.4	478	119.5	326.2	65.1
35-14243	13.2	2636	659	1799.1	358.8
35-14244	11.3	2252	563	1537.0	306.5
Totals	37.7	7517.2	1879.3	5130.5	1023.3
				6153.8	

The ESPA model analysis for the original three permit applications was performed based on consumptive use of the irrigation water and net depletion of the aquifer. A value of 2.73 feet per acre for frequent cuttings of alfalfa at the American Falls 1 SW field station (Robinson and Allen, 2010) was used to estimate the proposed consumptive use of future crops to be irrigated. By doing this, the model analysis compares consumptive use volume of the mitigation water to consumptive use volume of the irrigation water. The aquifer will experience the same consumptive use withdrawal from irrigation use as the aquifer has historically experienced from industrial use because any excess pumping larger than the crop consumptive use returns to the aquifer.

Permit 35-14240 will have a POD located at Township 7 South Range 28 East Section 1 SWSWSE (ESPA Model cell 84090). Permit 35-14241 will have a POD located at Township 7 South Range 29 East Section 07 NWNWNE (ESPA Model cell 85091). Permit 35-14242 will have a POD located at Township 7 South Range 29 East Section 8 SWNESW (ESPA Model cell 86091)

The attached maps for 35-14240, 35-14241 and 35-14242 that identifies the POD locations and the proposed place of use for the irrigation of 168.7, 369.1 and 119.5 acres on the Huse Farm. The model analysis combines the Nr Blackfoot to Neeley and the Neeley to Minidoka River reaches. A consumptive use volume of 1794.4 afa was modeled for the TO wells representing these three permits and a consumptive use volume 1794.4 afa was modeled for the FROM well representing the mitigation volume from the FMC site.

In an effort to avoid any potential injury to surface water rights on the Snake River, an additional 358.0 afa of historical consumptive use of 35-14014 and 35-14015 at the FMC site is being offered as mitigation. A consumptive use volume of 1794.4 afa was modeled for the TO wells representing 35-14240, 35-14241 and 35-14242 and a combined consumptive use volume and mitigation volume of 2152.4 afa was modeled for the FROM well representing the mitigation volume from the FMC site. This mitigation results in an increase in reach gains of the Snake River. By offering this additional 358.0

afa for mitigation, any potential risk for injury on the Snake River due to the approval of Permits 35-14240, 35-14241 and 35-14242 will be avoided.

The ESPA model analysis indicates that no mitigation would be required for steady state pumping. The transient state analysis indicates that mitigation would be required. However, based on the "Mitigation Analysis 6-7-11 power point presentation" provided by IDWR, this model analysis fits the "2 Part Test Caveat". It is stated that "Mitigation during the transient state is not required, if mitigation is not required at steady state (last time step), and steady state depletions are greater than at any time during the transient state." The calculated effects of the model analysis show that the steady state values of depletion at the last time step are equal to the transient state maximum values of depletion after the transfer. Therefore, no mitigation is required for the transient state effects of this new permit.

Permit 35-14243 will have one POD located at Township 7 South Range 29 East Section 5 NENWNE (ESPA Model cell 84092). The well at this POD location was drilled in the winter of 2011. The attached map for Permit 35-14243 indicates the POD location and the proposed place of use. The model analysis combines the Nr Blackfoot to Neeley and the Neeley to Minidoka River reaches. A consumptive use volume of 1799.1 afa for irrigation of 659.0 acres was modeled for the TO well representing Permit 35-14243 and a consumptive use volume 1799.1 afa was modeled for the FROM well representing the mitigation volume from the FMC site. (See Table 1)

In an effort to avoid any potential injury on the Snake River, an additional 358.8 afa of historical consumptive use of 35-14014 and 35-14015 at the FMC site is being offered as mitigation. A consumptive use volume of 1799.1 afa was modeled for the TO well representing Permit 35-14243 and a combined consumptive use volume and mitigation volume of 2157.9 afa was modeled for the FROM well representing the mitigation volume from the FMC site. This mitigation results in an increase in reach gains of the Snake River. By offering this additional 358.8 afa for mitigation, any potential risk for injury on the Snake River due to the approval of Permit 35-14243 will be avoided.

The ESPA model analysis indicates that no mitigation would be required for steady state pumping. The transient state analysis indicates that mitigation would be required. However, based on the "Mitigation Analysis 6-7-11 power point presentation" provided by IDWR, this model analysis fits the "2 Part Test Caveat" and therefore no additional mitigation is required.

Permit 35-14244 will have one POD located at Township 7 South Range 29 East Section 34 NWNWNW (ESPA Model cell 84094). The well at this POD location was drilled in the spring of 2012 based on the approval of transfer 77025. The attached map for Permit 35-14244 indicates the POD location and the proposed place of use. The model analysis combines the Nr Blackfoot to Neeley and the Neeley to Minidoka river reaches. A consumptive use volume of 1537.0 afa for irrigation of 563.0 acres was modeled for the TO well representing Permit 35-14244 and a consumptive use volume 1537.0 afa was

modeled for the FROM well representing the mitigation volume from the FMC site. (see Table 1)

In an effort to avoid any potential injury on the Snake River, an additional 306.5 afa of historical consumptive use of 35-14014 and 35-14015 at the FMC site is being offered as mitigation. A consumptive use volume of 1537.0 afa was modeled for the TO well representing Permit 35-14244 and a combined consumptive use volume and mitigation volume of 1843.5 afa was modeled for the FROM well representing the mitigation volume from the FMC site. This mitigation results in an increase in reach gains of the Snake River. By offering this additional 306.5 afa for mitigation, any potential risk for injury on the Snake River due to the approval of Permit 35-14244 will be avoided.

The ESPA model analysis indicates that no mitigation would be required for steady state pumping. The transient state analysis indicates that mitigation would be required. However, based on the "Mitigation Analysis 6-7-11 power point presentation" provided by IDWR, this model analysis fits the "2 Part Test Caveat" and therefore no additional mitigation is required.

The new permits will be fully mitigated by the non-use of 35-14014 and 35-14015 that have priority dates of 3/2/1949 and 4/24/1951. The permits should be allowed to be utilized as long as the mitigation rights are not curtailed. If 35-14014 and 35-14015 are curtailed, then pumping under the permit would stop. If water rights 35-14014 and 35-14015 are removed from mitigation, it will be required to stop pumping of the permits or obtain another source of sufficient mitigation water to continue pumping.