



Barrington Area Council of Governments

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September 30, 2008

Ms. Phillis Johnson-Ball
Section of Environmental Analysis (SEA)
Surface Transportation Board (STB)
395 E Street, SW
Washington, DC 20423

REF: STB Finance Docket No. 35087

Dear Ms. Johnson-Ball and Members of the Surface Transportation Board:

I am writing in my capacity as the Executive Director of the Barrington Area Council of Governments (BACOG) about the Draft Environmental Impact Statement (DEIS) for the Canadian National Railway's (CN) proposed purchase of the EJ&E Railroad (EJ&E). BACOG serves the greater Barrington area, including the villages of Barrington, Barrington Hills, Deer Park, Lake Barrington, North Barrington, South Barrington, and Tower Lakes, plus Cuba and Barrington Townships. We believe the DEIS is deficient in a number of areas, and this letter will comment and focus on the area of groundwater resources in particular. Included in this letter is a report prepared by BACOG's consultant supporting our groundwater positions.

We submit the following comments:

1. Limitations on DEIS Scope. The scope of the DEIS lacks consideration of what is in the best interest of all the communities of the Chicago metropolitan region, and instead considers only the purpose and needs of the Applicants (CN). BACOG believes SEA and the STB within their regulatory charge may consider the transportation benefits of the Chicago Region Environmental and Transportation Efficiency (CREATE) Program, along with the CN proposal, and we urge you to do so as part of your final consideration.
2. Route 59 Mitigation Cost. Route 59 (Hough Street) in the Village of Barrington is the only crossing identified as meeting the requirement for mitigation. The DEIS states mitigation should be funded by a combination of entities, not by CN alone. The State of Illinois, the Village of Barrington and other governmental entities cannot commit more than a few of the needed dollars to the estimated \$50 million dollar cost of a single grade separation. Without the STB requiring CN to pay for all or nearly all of the cost of this mitigation, *it cannot happen*. Knowing this, the current DEIS statement as to sharing cost is an unreasonable and untenable position to put forward in the DEIS.
3. Failure to Identify Other Required Grade Separations. The DEIS fails to identify Route 14 (Northwest Highway), and County Line Road in the Village of Barrington as at-grade crossings that require mitigation. The DEIS fails to identify Penny Road in the Village of Barrington Hills as an at-grade crossing that requires mitigation. Queue lengths on County Line Road will block the south entrance to Barrington High School, and queue lengths on Penny Road will block Route 59 constituting a serious effect; please refer to the submittal from the Village of Barrington Hills for detailed information regarding engineering.
4. Safety Impacts. The DEIS methodology for assessing emergency response impacts is incomplete and fails to take into account important factors such as staffing levels at given times for impacted communities, limited personnel in certain communities, availability of through roads and alternative routes, and closest medical facility where there are medical teams and equipment -- which does in fact make a huge difference to whether a patient's life can be saved (it is not just the ambulance that matters, contrary to the DEIS).
5. Quiet Zones. There is inadequate consideration and protection of the entire regional quiet zone, established from Bartlett to Waukegan. Though the DEIS notes that CN must work with the Village of Barrington to maintain its quiet zone, it fails to require CN to work with any other communities to keep their quiet zones in FRA compliance.
6. Land Use. Does not consider predicted harmful effects on the community as a whole or on regional land use planning. A fourfold increase in train traffic on this rail line will split the Village of Barrington and a regional community into disconnected segments, causing shopping patterns, residential investment patterns, and regional school and other service districts to change in a harmful manner that is inconsistent with local and regional comprehensive plans. Changed patterns will result in changes to property values, investment, zoning and subdivision, subsequent building, and community

cohesion and character. There is not even an acknowledgement in the DEIS of these recognized and highly-predicted planning scenarios.

7. Socioeconomics. Does not adequately consider effects of the proposal on local property values, local economy and tax base, housing and housing investment, community cohesion, and other negative community aspects. There is no attempt in the DEIS to determine the number of homes within 250 feet of the rail line that would be impacted by the proposal or to calculate the potential property value loss in any way; the DEIS conclusion that there are minor, negligible effects if the transaction is approved seems completely unsubstantiated.
8. Biological Resources. Does not adequately consider the cumulative impacts of more trains, length of trains, increased noise and vibrations on threatened and endangered species and wildlife. Noise assessment methodology is outdated, and the threshold for consideration of mitigation for noise impacts has been criticized by the US Environmental Protection Agency.
9. Water Resources. Though the DEIS describes the water resources of the region, it does so broadly and it does not adequately describe the risks to groundwater from a potential spill of hazardous materials. The DEIS acknowledges that increases in freight rail traffic along the EJ&E rail line would have a corresponding increase in the risk of hazardous material spills, which could affect groundwater or surface water supply sources. It also acknowledges the several lakes and preserves within 1,000 feet of the line and in the direction of presumed near-surface groundwater flow (Cuba Marsh, the Spring Creek Valley Forest Preserve). It also acknowledges areas where shallow groundwater susceptibility is excessive, high or moderate, where domestic wells would have a higher likelihood of being affected by a spill (Rail Line Segments No. 14D, Barrington Hills, South Barrington). SEA's conclusions include that "*the risk of hazardous material spills into sensitive areas would increase*" and also that "*attempting to predict the specific location of a release, the type of release, and the fate and transport of the release is too speculative*". BACOG believes this conclusion is wholly inadequate. With the better information and mapping available today, with the funding devoted to this EIS, and with the heightened public and governmental awareness of the critical importance of groundwater as a public water supply in Illinois and this region, BACOG and the public demand a better response from our government than this. A fate and transport study is not so much speculative as it is involved, time-consuming and expensive.

Record and Documented Response. The DEIS notes that "train accidents resulting in the release of hazardous materials are extremely rare". BACOG reiterates that the Canadian safety record should be used in the EIS because the risk of a train accident and the risk of a hazmat spill would increase substantially if it were. The EIS should also require documentation for the Final EIS of CN's ability to respond in an appropriate, safe and timely manner to rail accidents that involve hazardous materials based on their safety record and existing documentation.

Need for Data. BACOG stands by its previous requests for groundwater studies (letter to the STB dated 5/30/08) including groundwater water levels and flow patterns, stormwater flow patterns in relation to recharge areas, behavior of hazardous materials in water, baseline water chemistry, well water sampling, and municipal liability for provision of infrastructure and public water.

The region has been fairly well-defined by the BACOG groundwater study. The biggest weakness in the study is the lack of accurate water level data; we rely on the historic record from well driller logs, where measurements were taken over many years, by different drillers, during different climatic and seasonal conditions. This data is not accurate enough to be used in a fate and transport analysis. For flow directions and flow velocities, accurate water levels are needed. Such a study cannot be performed without this data.

Catastrophic Conditions Possible. There are locations/conditions in the BACOG region where a hazardous materials spill could be catastrophic for the environment, for the shallow aquifer system, and for domestic wells. Such a location might be difficult to access, and the contaminate might remain on the site for longer than otherwise. It might drain into a stream or recharge area or be carried by stormwater. An example is the railroad right-of-way that runs adjacent to Poplar Creek in South Barrington for over a mile, through a critical recharge area (defined on BACOG map, previously submitted). During precipitation conditions and a train spill, a contaminant would have an immediate pathway to the shallow aquifers beneath the site. From there, it could (depending on the chemical) contaminate that aquifer unit, other wells in the immediate area, reach the basal aquifer. There is also the possibility of contamination of other parts of the aquifer to the east, by groundwater flow along the bedrock.

Catastrophic (Cost-Cap) Insurance. BACOG suggests the Applicant be required to obtain insurance against catastrophic conditions relating to groundwater contamination from a railroad car spill of hazardous materials and clean-up. A catastrophic spill might be defined by factors such as inaccessible area delaying clean-up/infiltration; spill located in recharge area/infiltration; spill location where groundwater levels are just below ground surface/infiltration; precipitation event carries contaminant through stormwater to recharge areas/infiltration; contaminants spread to nearby wells; contaminants spread along bedrock to other areas of the aquifer; and an extraordinary cost for the necessary clean-up required under such circumstances. Mitigation might require a policy of \$100M over 15 years for extensive clean-up efforts and/or for provision of public infrastructure and a municipal water supply.

Consultant Report. Attached to this letter is a report prepared by consultant, Kurt O. Thomsen, regarding contaminant pathways to groundwater in the BACOG area. This report was prepared for BACOG using BACOG's groundwater research data; maps were prepared by the BACOG office in consultation with Dr. Thomsen. The report further discusses the risk of transport of contaminants from spills by infiltration through recharge areas, by surface waters and stream flow, and by groundwater flow.

Further, we would note that train counts and train lengths provided by CN representatives in the media are different from those provided by CN in their proposal to the STB. As noted numerous times in agency meetings and correspondence, CN must be held accountable for providing true and accurate information because these numbers are the basis for your findings in the Final EIS.

Thank you for your consideration of these comments.

Sincerely yours,

A black rectangular box containing a white, handwritten signature that reads "Janet L. Agnoletti".

Janet L. Agnoletti
Executive Director

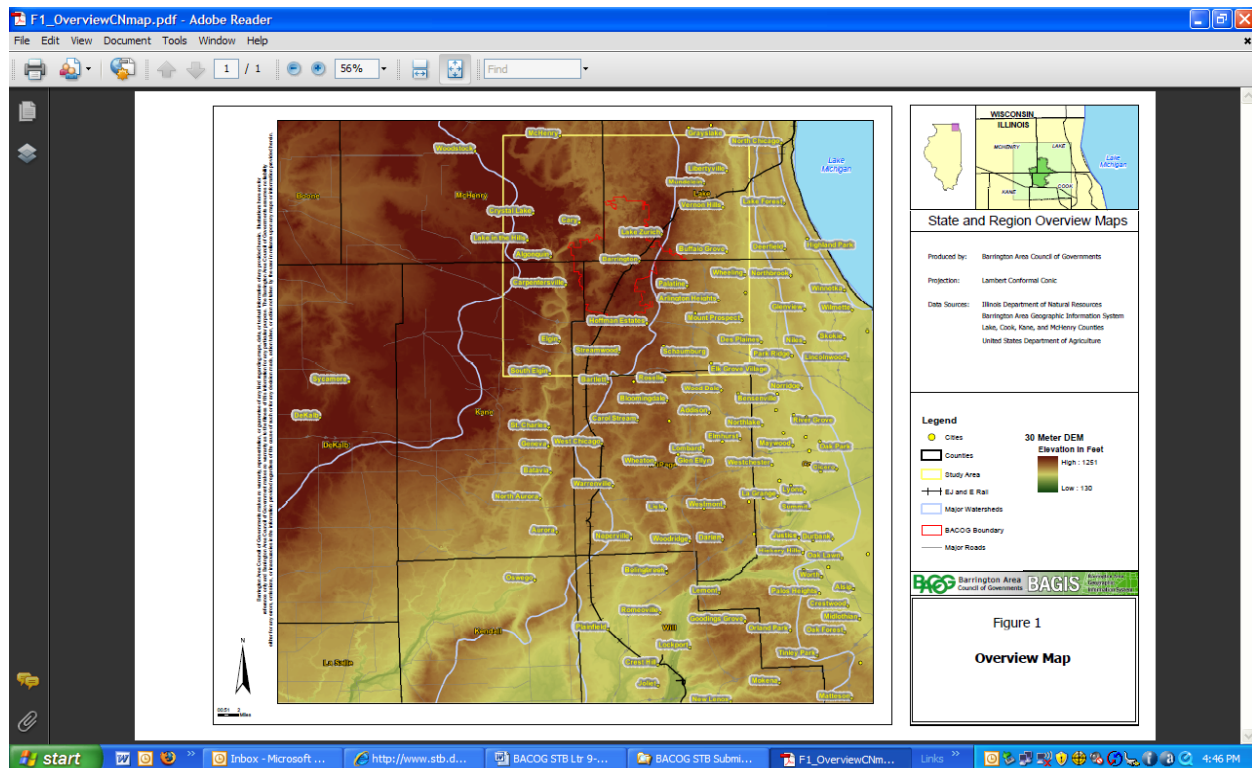
cc: Chairman and Members, BACOG Executive Board

Possible Pathways for Contaminants Resulting from a Railway Spill Reaching the Groundwater Water Supply in the BACOG Study Area

Kurt O. Thomsen, Ph.D., PG, CGWP
KOT Environmental Consulting, Inc.

The Canadian National Railroad (CN) is proposing to purchase the Elgin, Joliet and Eastern Railway Company (EJ&E) to obtain their right-of-way around Chicago. This right-of-way travels through areas of Illinois and Indiana that relies heavily on shallow glacial drift aquifers for water supply. CN's plans to increase the train traffic and the length of the trains passing through the area greatly increases the risk of a train accident with an associated chemical spill. The concern is that the contamination resulting from a spill will find its way into the groundwater water supply. This document identifies the possible pathways that contamination from a spill event may reach and contaminate the water supply; this water supply is the only water supply available to a large percentage of people who live in the area traversed by the railroad right-of-way.

The Barrington Area Council of Governments (BACOG) has been researching and defining groundwater conditions within a 600 square mile study area with the Village of Barrington at its center for several years. The study area contains a footprint of BACOG's nine community areas plus a 6-mile buffer. Figure 1 is a map of the northeastern portion of Illinois showing the location of the BACOG groundwater study area. The map also shows the location of the railroad right-of-way from the Waukegan area to where the right-of-way begins to turn eastward toward Indiana. The general topography of the area and the major rivers are also presented.



The EJ&E right-of-way travels south from Wisconsin into Illinois paralleling the shore of Lake Michigan until it reaches Waukegan where it turns southwest crossing the Chicago River. The route traverses a glacial moraine, crosses the eastern boundary of the BACOG study area and enters the Des Plaines River valley. It crosses the Des Plaines River between Libertyville and Vernon Hills just north of Route 60. The route continues across the Des Plaines River Valley and begins to cross the region's major north-south trending moraine. The route takes a more southern turn just west of Vernon Hills and crosses from the Des Plaines River watershed into the Fox River watershed in the Lake Zurich area. From here the route enters the BACOG footprint southwest of Lake Zurich. The route passes through the BACOG footprint to a point west of Streamwood, where the route turns south paralleling the Fox River, crosses the southern boundary of the study area west of Bartlett and continues to Plainfield. At Plainfield the route turns to the southeast toward Joliet where it turns east and continues on into Indiana.

The EJ&E right-of-way passes through areas having various degrees of susceptibility to spilled chemicals reaching the groundwater supply. This susceptibility ranges from areas of little susceptibility to areas of critical susceptibility. Contaminant pathways to the groundwater include direct infiltration, transport by surface waters and transport by groundwater. These pathways are identified in the following sections but require more study to ascertain details of the transport and the chemical fate mechanisms involved.

Transport by Infiltration

The most direct pathway for a spill contaminant to reach the groundwater is by infiltration through the surface soils and traveling vertically to the groundwater table. This is the pathway used by rainwater, snowmelt or other forms of precipitation to recharge an aquifer. Recharge areas that facilitate the rapid exchange of water between the surface and the groundwater are also the most susceptible to the transport of contaminants.

As part of their groundwater study, BACOG identified the recharge characteristics in the immediate area of the BACOG footprint including the area south to the study area boundary that contains the right-of-way (Figure 2). The recharge characteristics were divided into five categories ranging from “very poor recharge” to “critical recharge.” The categories were established based on the relative time it would take for infiltrating water to reach the water table and/or the uppermost aquifer unit. An aquifer unit was defined as a permeable unit having a minimum thickness of 10 feet. Relative travel times ranged from about one minute to 12 hours for critical recharge areas to as much as 87 years for the very poor recharge areas. The areas identified as critical recharge areas are areas that need to be protected from contaminant spills. Critical recharge areas are very sensitive and the fastest pathway for surface water to supply the shallow aquifer system. Important recharge areas are also of concern where relative times of travel range from 12 hours to 50 days. Because response times vary based on time of travel from a response team’s initial location and the accessibility of the spill location, a significant portion of the area classified as important recharge area would be susceptible to contaminant infiltration from a spill before a response team would reach the site.

Although the recharge characteristics for the entire BACOG study area are not defined, the area in the immediate Des Plaines River is expected to have recharge characteristics similar to those shown in Figure 2, but not as extensive. As mentioned above, the EJ&E right-of-way crosses the Des Plaines River valley in the vicinity of Libertyville and Vernon Hills. Any accidental spills in the area of the valley would have the potential to quickly enter the shallow groundwater regime.

After crossing the Des Plaines River valley, the right-of-way enters the BACOG footprint southwest of Lake Zurich and continues through the Village of Barrington before entering the Village of Barrington Hills. Along this portion of the right-of-way, the recharge characteristics are poor to very poor. Relative travel times in these recharge areas range from about 1.4 to about 87 years.

Once the right-of-way enters the Village of Barrington Hills, it enters the critical to moderate recharge areas and passes into mostly critical recharge areas as the right-of-way turns south and passes through the southern boundary of the BACOG study area. Relative travel times in these areas run from about one minute to 1.4 years.

A review of the general geology/hydrology of the area indicates that the critical to moderate recharge areas extend northward into Wisconsin and southward to the confluence with the Illinois River. The Illinois State Geological Survey (ISGS) recently completed a groundwater resource study of Kane County. One of the outcomes of this study was a preliminary contamination susceptibility map of the county (Dey, et.al., 2004). The map shows that the eastern boundary of Kane County is very susceptible to contamination. Kane County’s boundary

lies east of the Fox River and directly west of the EJ&E right-of-way. This supports the contention that significant recharge areas are associated with the Fox River and that the right-of-way traverses a very sensitive area from the Barrington Hills area down to a point around the Plainfield area.

Transport by Surface Waters

Figure 3 shows the network of streams and wetlands that are present in the BACOG study area. The EJ&E right-of-way passes through a number of sensitive watersheds and is near important wetlands. Contaminants from spills along the right-of-way have the potential of entering into the storm water drainage system and eventually finding their way into the local stream and wetland network. Groundwater discharge and recharge processes are associated with streams and wetlands. Groundwater and surface water elevations determine where recharge and discharge areas are located along a stream's path. Groundwater levels higher than surface water levels define areas of groundwater discharge to the surface. Reversing the water levels defines areas where groundwater is recharged by the surface water. Therefore, contaminants may be carried by streamflow to areas of recharge and enter the groundwater system at locations removed from the actual spill location.

The EJ&E right-of-way traverses the Chicago River watershed and the Indian Creek sub-watershed of the Des Plaines River watershed before crossing into the Fox River watershed. It also passes a number of wetlands located on top of the north/south trending glacial moraine. In the BACOG area, the right-of-way traverses the Flint Creek, Spring Creek and Poplar Creek sub-watersheds of the Fox River watershed. Each of these creeks is capable of transporting contaminants by streamflow through the sensitive recharge areas and local discharge areas before delivering them to the Fox River.

Not only is there potential for contaminants being recharged to the shallow groundwater system, but contaminants entering the Fox River have the potential of entering the water supplies used by the public. The municipalities of Elgin and Aurora pull water from the Fox River for a portion of their public-supplied water.

A particularly sensitive area to the effects of a chemical spill is located west of Streamwood where the right-of-way traverses a critical recharge area and is adjacent to Poplar Creek for about a mile.

Transport by Groundwater

Once contaminants enter the groundwater, they are transported by the groundwater in groundwater flow. Contaminants in the upper part of the groundwater system may be discharged back into the surface water. They also may be carried downward to the bottom of the system at the bedrock surface by vertical groundwater gradients. Vertical gradients are also at play between the bedrock and the overlying glacial material of the shallow groundwater system. This may result in movement of contaminants into the bedrock aquifer. Because the permeability of the overlying glacial drift is much greater than that of the bedrock, a groundwater flow pattern is

created at the bedrock surface that is driven by gravity and directed by the topography of the bedrock surface.

Figure 4 shows the groundwater flow pattern at the bedrock surface within the BACOG study area, overlain by the critical to moderate recharge areas. In the southwest corner of the study area, flow is directed to an extensive pre-glacial bedrock drainage system that flows in a southerly direction under the shallow aquifer system in Kane County. In general, however, the bedrock in the study area slopes downward towards the east. Bedrock high elevations range from 730 to 900 feet above mean sea level (AMSL) near the western boundary. The bedrock elevations near the eastern boundary range from 466 to 600 feet AMSL. The drift aquifer that lies just above the bedrock surface beneath most of the study area, sometimes referred to as the basal aquifer, is recharged by water that enters the system through the recharge areas shown in Figure 4. It is conceivable that contaminants that enter through the recharge area may flow through the aquifer above the bedrock surface in an easterly direction as shown in Figure 4, thereby contaminating the water supply of wells in areas to the east. The Village of Barrington has municipal wells drawing the public water supply from this portion of the aquifer; most of the residential population living on the glacial moraine in other municipalities, where properties have domestic wells, draw from this portion of the aquifer as well.

Reference

Dey, W.S., A.M. Davis, J.C. Sieving and B.B. Curry, 2004. Preliminary Map of Aquifer Sensitivity to Contamination, Kane County, Illinois. Illinois State Geological Survey, IPGM Kane-AS.