



# CITY OF RAPID CITY

Growth Management Department

300 Sixth Street

Rapid City, South Dakota 57701-2724

## MEMORANDUM

TO: Mayor Shaw and City Council

FROM: Marcia Elkins, Director  
Growth Management Department

DATE: February 2, 2005

RE: Travel Request for John Knight, Air Quality Specialist

Staff requests City Council approval of the travel request for John Knight, Air Quality Specialist, to attend software training in Asheville, NC. The software courses being taken are the PERMITS course which provides the end user with the initial training needed for air dispersion modeling and the AerMod-Prime course which will deal specifically with the ISCST3 program utilized for short range air dispersion modeling. The City of Rapid City currently utilizes the ISCST3 modeling program for air quality model purposes.

Total cost of the requested travel is estimated at \$1,937.00 and includes the following expenses:

\$660.00	Air Fare (depart 2/20/05; return 2/24/05)
\$76.00	Meals (breakfast and lunch provided by hotel and Bee-Line)
\$276.00	Lodging for four days
\$845.00	Registration @ 50% of total cost*
<u>\$80.00</u>	Shuttle/Taxi service from Airport to Hotel**
\$1,937.00	Total estimated cost of travel request

\* Government agencies that review and issue air permits receive a 50% discount on the tuition costs.

\*\* Bee-Line Training Center provides transportation from the hotel to the training center.

**Staff Recommendation:** Staff recommends approval of the travel request for John Knight, Air Quality Specialist, to attend the Bee-Line Software Training in Asheville, NC for the PERMITS and AerMod-Prime software classes from February 21, 2005 to February 23, 2005 in an estimated amount of \$1,937.00. As class sizes are limited, staff further recommends approval of the alternate class dates of April 4, 2005 to April 6, 2005 in the event the February classes are full.



**CITY OF RAPID CITY  
TRAVEL REQUEST**

Person requesting travel John Knight Department Growth Management #708

I hereby request permission to travel for the following purpose: (Give specific nature of business and interest of the City to justify cost involved.)

Software training for Air Quality - Permits and AerMod-Prime

List all other City employees, if any, making the trip for the same purpose: na

Place of meeting or destination: Asheville NC

Date of meeting February 21-23, 2005 Alternate Class Schedule: April 4-6, 2005

Date trip to begin 2-20-05 Date trip will end 2-24-05

Method of transportation requested air

Estimated transportation cost \$ 660.00

Meals 76.00

Lodging 4 days 276.00

Other costs - description Registration 845.00

shuttle/taxi (airport) 80.00

Total estimated cost of trip \$ 1937.00

Signed [Signature] Date [Signature] Date 1/26/05  
(person requesting travel) (Department Head)

When the cost of the trip will exceed \$500, per employee, this section must be signed.

In accordance with the provisions of Rapid City ordinances and travel regulations, consent is hereby given for travel as requested in the foregoing application. Maximum cost of trip authorized is \$ \_\_\_\_\_

Approved: \_\_\_\_\_ Date \_\_\_\_\_  
Mayor

When the cost of the trip will exceed \$1,500, per event, Council approval is required.

Approved by Common Council on \_\_\_\_\_ (Date)

Home

Software

- Free Trial
- CalPuff Lite NEW
- CalPuff Pro NEW
- Permitting Suite
- BEEST (AerMod, ISC3, Prime)
- Screen3
- 112(r) Suite
- Slab
- INPUFF2
- Educational Suite
- Other Programs

Training Courses

- PERMITS
- CalPuff
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- Advanced
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Company History

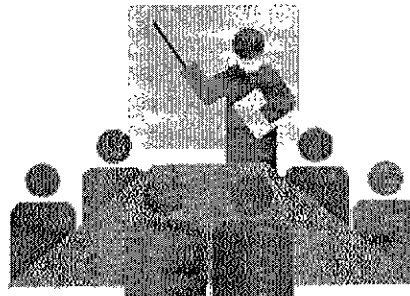
Info Request

Orders

2005 Training Schedule				
PERMITS	AerMod-Prime	Advanced	Practical CalPuff	Location
Feb. 21-22	Feb. 23		Feb. 24-25	Asheville, NC
April 4-5	April 6		April 7-8	Asheville, NC
June 20-21	June 22		June 23-24	Asheville, NC
Aug. 15-16	Aug. 17		Aug. 18-19	Asheville, NC
Oct. 3-4	Oct. 5		Oct. 6-7	Asheville, NC
Dec. 5-6	Dec. 7		Dec. 8-9	Asheville, NC
Asheville courses are held at our BEE-Line Training Center, transportation is provided from the River Ridge Comfort Inn (nearest motel), Buckstone Place Courtyard by Marriott, Tunnel Road Hampton Inn, and Tunnel Road Days Inn, About the Asheville area, Map				

### Course Registration

#### Training Courses



**Overview.** Hands-on modeling courses from the modeling experts. Our two-day PERMITS course is an introductory course for modeling for permit applications. Students should have a science or engineering background. This course features BEEST for Windows (ISCST3, ISC-Prime, AerMod) and SCREEN3 for Windows. For students familiar with the basics for modeling and who need specific training in modeling for long-range transport, complex terrain, and plume visibility, our Practical CalPuff Modeling course is designed for you. Our AerMod-Prime course is a one-day intensive examination of the new AerMod and ISC-Prime models. This course is designed for experienced modeler that need to start using these new models. Our 112(r) course is an intensive one-day course for worst-case release modeling and features SLAB for Windows and INPUFF2 for

*Windows.*

**Recommendations.** *PERMITS is designed for beginning modelers, or modelers with some experience who feel they may need some additional background and tips. If you attend PERMITS first, all but raw beginners should be able to follow the AerMod-Prime course or the Practical CalPuff course just fine. Finally, anyone responsible for 112(r) compliance should attend the 112(r) RMP Modeling course.*

**General Information.** *Courses are held at our offices in Asheville, unless otherwise indicated. We provide transportation to and from the courses for students staying at the following motels: River Ridge Comfort Inn, the Courtyard by Marriott, the Tunnel Road Hampton Inn and the Tunnel Road Days Inn. All courses start at 8:30 AM and end by 5:00 PM. A continental breakfast and lunch is provided. There are a lot of activities going on around the Asheville area. Check the Asheville web site for current activities.*

Buying the right modeling software is only half the battle. You've got to know what to put into the software to get the results you need. So maybe a modeling course is the answer. But you don't want a lot of theory; you need practical modeling training so you can go back to the office and get that big modeling project done.

If that sounds like what you're looking for in a modeling course, then look no further than BEE-Line Training's "Hands-On Modeling" courses. Our modeling courses focus on what you need to know to get your modeling done right the first time. Our expert training staff are real modelers, not theorists who haven't performed an actual modeling study in years. They will show you the basics, then provide extra hints and tips about modeling and modeling software that can only come from years of practical experience.

**"How To" Courses.** Our courses give you practical, "how-to" modeling knowledge, not lots of theory. Our goal is to prepare the student to perform an actual modeling project back at the office. Our teaching philosophy is such that the student should be able to model using any software version. BEE-Line Windows modeling software is used hands-on in all our courses to emphasize the topics discussed. Real modeling situations are presented for discussion and practice.

**Student Workbook and CD.** Each student receives a workbook containing a copy of the lecture slides.. You have room for your own notes, too. A CD with copies of all class exercises and all reference documents is included.

**Modern Equipment.** Each of the student computers is a 700 MHz system, with BEE-Line Software already installed. Modern teaching aids, such as a color computer projection system, are featured.

**Limited Enrollment.** We limit the class size to no more than twelve

guide and student workbook for this course. Tom founded BEE-Line Training over a decade ago.

***Richard A. Perry, Meteorologist, Dir. of Software Services***



Dick is the primary developer of BEEST for Windows and 112(r) Suite software. He developed the 112(r) RMP Modeling course, and you'll often find him teaching this course, as well. Since joining BEE in 1991, Mr. Perry has conducted many modeling studies, as well as software development and teaching.

**Multi-course Discount:** sign up for more than one course during the week, and receive a \$100 discount for each additional course! Call (828) 628-0636 to ask about multiple student discounts, and about our reasonably priced custom on-site training courses.

**Government Agency Discount:** if you work for a government agency that reviews and issues air permits, you will receive a 50% discount (other discounts are excluded).

**Refund policy:** Cancel 7 days prior to the course and receive a full refund, otherwise your course fee can be applied to any future course.

**Home****Software**

Free Trial  
 CalPuff Lite   
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**Training Courses**

PERMITS  
 CalPuff  
 AerMod-Prime  
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**Met Data****Terrain Data****Programming****User Support**

Updates  
 Notes

**Company History****Info Request****Orders****PERMITS**

**Modeling for State and Federal Permit Applications  
 Using BPIP/BPIP-Prime, AerMod, ISC-Prime & ISCST3**  
*Price \$995*

PERMITS is BEE-Line Training's introductory course in air modeling for permitting and other regulatory applications. Most modeling scenarios, from state permits to PSD modeling to risk assessments, use techniques taught in PERMITS. (See the Training Courses page for schedule and general course information.)

PERMITS has been a continuous highlight of BEE-Line training since 1986. Its popularity is reflected in the number of companies who regularly send their new modelers to "learn from the experts" at BEE-Line. Anyone from new modelers to somewhat more experienced modelers who want to brush up on their skills will benefit from PERMITS.

Like other BEE-Line courses, PERMITS teaches students practical modeling methods and strategies. We don't stress theory. After all, when that big modeling project looms, knowing how to organize, manage, and model the project is a lot more important than how to derive modeling equations!

In addition, we believe in the concept of "learning by doing." We intersperse lectures with hands-on exercises, allowing the student to immediately practice what has been discussed in class. We feel this approach works better than a "day of lecture, day of lab" type of class.

**Day One.** We introduce students to some of the basic concepts of modeling, fundamentals we believe are important for any modeler. These include the National Ambient Air Quality Standards, averaging periods, and how to compare model results with standards.

Then, we introduce some of the things the modeler will need to know for his or her project before the computer even gets switched on. This includes how to select and interpret meteorological data, and how to properly implement and set up GEP and building downwash data (BPIP & BPIP-Prime). We'll also review some of the modeling guidance and requirements for local states, often including presentations from the state or local agency's own modelers.

**Day Two.** We'll focus on actual models and modeling strategies, including the latest guidance from U.S. EPA. Current methods and guidance on "screening" modeling is presented, along with hands-on modeling with the SCREEN3 for Windows modeling software. We then dive into refined modeling strategies, including placing receptors, entering source data, and choosing model options. We also look at how to create high-quality graphics for use in your modeling report. All along, hands-on exercises help reinforce the subjects presented.

Finally, we wrap things up by "putting it all together." Our final modeling



exercise uses ISCST3, ISC-Prime and AerMod models and BEE-Line's BEEST for Windows enhanced user interface to these models.

By the end of PERMITS, students should be prepared to return to the office, and, with a little practice, perform most modeling studies on their own.

To summarize, PERMITS includes:

- Basics of computer modeling
- Fundamentals of modeling & air pollution meteorology
- Overview of state and federal modeling guidance
- GEP building downwash & BPIP, BPIP-Prime
- Screening techniques using SCREEN3
- Refined modeling with ISCST3, ISC-Prime & AerMod
- Receptor grid considerations and AerMap
- Graphics
- Hands-on exercises for BPIP/BPIP-Prime, AerMod, ISC-Prime & ISCST3

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Updates  
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**Company History****Info Request****Orders****AerMod-Prime****Learn How To Use AerMod and ISC-Prime***Price \$695*

AerMod-Prime is BEE-Line Training's intensive one-day course on how to use the new AerMod and ISC-Prime models. We cover some basic theory, but concentrate on the hands-on use of these models. (See the Training Courses page for schedule and general course information.)

This course is designed for students that are familiar with ISCST3 and have some understanding of modeling. We will be using the BEEST for Windows interface that incorporates AerMod, AerMet, AerMap, ISC-Prime, and BPIP-Prime, as well as ISCST3 and BPIP.

We will take an example ISCST3 modeling project and re-model using both AerMod and ISC-Prime, including importing all data and converting the met data for use with AerMod.

Like other BEE-Line courses, AerMod-Prime teaches students practical modeling methods and strategies. We don't stress theory. After all, when that big modeling project looms, knowing how to organize, manage, and model the project is a lot more important than how to derive modeling equations!

In addition, we believe in the concept of "learning by doing." We intersperse lectures with hands-on exercises, allowing the student to immediately practice what has been discussed in class. We feel this approach works better than a "day of lecture, day of lab" type of class.

By the end of AerMod-Prime, students should be able to perform modeling studies using AerMod and ISC-Prime.

To summarize, AerMod-Prime includes:

- Basic equations used by AerMod and ISC-Prime
- Comparison of AerMod, ISC-Prime and ISCST3
- Meteorology, met data and AerMet
- BPIP and BPIP-Prime
- Receptor considerations
- Complex Terrain, DEM and AerMap
- Graphics
- Hands-on exercises